

Kingdon's Multiple Streams Model and the Inclusion of Energy Title IX in the 2002 Farm Bill

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Executive Summary

Problem

For U.S. policymakers, ensuring the nation's energy security is essential not only to energy availability, but also to the country's environment, economy, public health, and general safety. Energy security forms the cornerstone of any country's economic development, and every business and household depends upon it. U.S. dependence on foreign oil for energy renders it vulnerable to conflicts and political instabilities in oil-producing countries, particularly those in the Middle East. Many stakeholders in diverse sectors of the economy—including energy, transportation, and industry—have advocated replacing traditional oil with alternative energy sources to reduce the nation's reliance on imported oil. The September 11, 2001 terrorist attacks ignited the United States' debates over energy security. This research addresses energy security as a means of cutting down oil imports from countries associated with terrorism (CBO, 2012). If efforts to ensure energy security are to succeed, we need to understand what makes successful policies successful—that is, how energy policies that do come into existence, manage to do so. One strategy for achieving energy security that has proven more feasible than others, and that has inspired the readiest consensus among politicians and policymakers, is the agricultural solution: specifically, the use of biofuels as an alternative energy source.

This master's project specifically analyzes how the policy process led to the inclusion of Energy Title IX, in the 2002 Farm Bill, the first-ever energy title in a Farm Bill. The title established both direct and indirect federal agriculture-based policies aimed at promoting biofuel feedstock production. These federal policies provided incentives that benefitted farms and rural economies while increasing biofuel feedstock production (Schnepf, 2008, 2011, 2013). Energy Title IX supported energy security by promoting the use of corn-based ethanol feedstock for biofuel production as an alternate source of energy, thereby cutting dependence on foreign oil. The energy title may be the most significant policy yet to be passed in support of U.S. energy security, yet the factors contributing to its passage remain little understood.

Significance

This study provides a greater understanding of how policy change occurs, when it occurs, and why it fails to occur when it does not occur. An understanding of the process of policy creation will ultimately enable policymakers to develop more effective policies to secure the US energy supply.

Research Question and Objectives

This master's project asks the following question: What policy processes between 1970 and 2002 lead to the inclusion of Energy Title IX in the 2002 Farm Bill for the use of corn-based ethanol feedstock for biofuel production in the US? The research study aims to investigate policy processes between 1970 and 2002 leading to the inclusion for the first time in U.S. history of an energy title in the 2002 Farm Bill for the use of corn-based ethanol feedstock for biofuel production in the U.S. as an alternate energy source.

Methods

Kingdon's (1984) Multiple Stream Framework was chosen for this analysis. Kingdon's Multiple Stream framework best explains how one specific policy solution, Energy Title IX, came to be included in the 2002 Farm Bill as a solution for U.S. energy security. The framework

for this discussion will investigate the policy processes through the convergence of problem, politics, and policy streams towards a window of opportunity for the inclusion of the first ever energy title in a farm bill in order to promote ethanol production to secure the nation's energy security.

Findings/results

With the election of President George Bush in 2000, the shock produced by September 11, and the election of Congress, all three streams in Kingdon's model—the problem, political, and policy streams—converged and created a window of opportunity for the creation of a comprehensive policy for U.S. energy security. That policy would take the form of Title IX of the 2002 Farm Bill, which promoted the use of ethanol over traditional oil products for the U.S. energy supply. The terrorist attacks on the United States contributed to both the problem and the political streams that led to the solution.

Conclusions

Kingdon's multiple streams framework offers the best explanation of how one specific policy solution (Sabatier 2007), the inclusion of Energy Title IX in the 2002 Farm Bill, was adopted to promote the use of corn-based ethanol feedstock for biofuel production in the United States as an alternate source of energy in order to replace traditional oil for U.S. energy security. Kingdon's multiple streams model explains how the three streams converged:

The problem stream, in which the problem of energy security captured the attention of the nation after the September 11 attacks,

The politics stream, in which the elections of both Congress and President Bush and the subsequent consensus building after the September attacks took away ideological differences between proposers and opposers, and

The policy stream, in which policy options emerged from both proposers and opposers in the politics streams to put the solution of biofuels on top of the national agenda and paved the way for the enactment of the 2002 Farm Bill to include Energy Title IX.

In addition, the multiple streams model also assisted us in understanding how the unpopular geographically biased policies of the 2002 Farm Bill encouraged the political streams to promote the use of ethanol as an alternate source of energy to replace oil in the United States.

Despite its limitations, Kingdon's multiple streams model is a powerful tool for analyzing the U.S. policy changes (Robinson & Eller 2010) that led to the inclusion of Title IX in the 2002 Farm Bill. The purpose of the title was to provide energy security by promoting the use of corn-based ethanol feedstock for biofuel production in the United States. The multiple streams model explains how the policy problem was constructed in three dimensions, and with solutions matched to the problems. The three streams—problem, policy, and politics—ultimately converged as a window of opportunity opened, making possible the emergence of an important new policy.

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Introduction

Problem

According to the Congressional Budget Office, energy security is "the flexibility to choose not to import oil from countries associated with terrorism or from countries that might seek to use their export of oil to influence international affairs" (CBO, 2012). For U.S. policymakers, ensuring the nation's energy security is essential not only to energy availability, but also to the country's environment, economy, public health, and general safety. Energy security forms the cornerstone of any country's economic development, and every business and household depends on it.

The issue of energy security is of particular concern in the U.S. because the nation is currently dependent on foreign oil; the more dependent a country is on other nations for energy, the less energy-secure it is (Bengtson, 2010, Choucri, 1977). U.S. dependence on foreign oil for energy (Figure 1) means that it is affected by conflicts and political instabilities in oil-producing countries, particularly those in the Middle East, which produces 32% of the world's total oil and holds 64% of the world's total oil reserves (EIA, 2011). Such conflicts, instabilities, and political unrest in oil-producing countries, and their geopolitical issues, coupled with a strong global demand for oil, all routinely create fluctuations in world oil prices and supply (Bengtson, 2010). In turn, these fluctuations lead to price increases for domestic oil products.

Today the United States consumes 20 million barrels of oil per day, with 14 million barrels (70%) used as fuel for transportation. Of this oil, 57% is imported (EIA, 2014). In 2010, 8.4 % of the U.S. gross domestic product was allocated to energy consumption (CBO, 2012). From 1950 to 2010, U.S. energy consumption increased from almost 40 quadrillion British

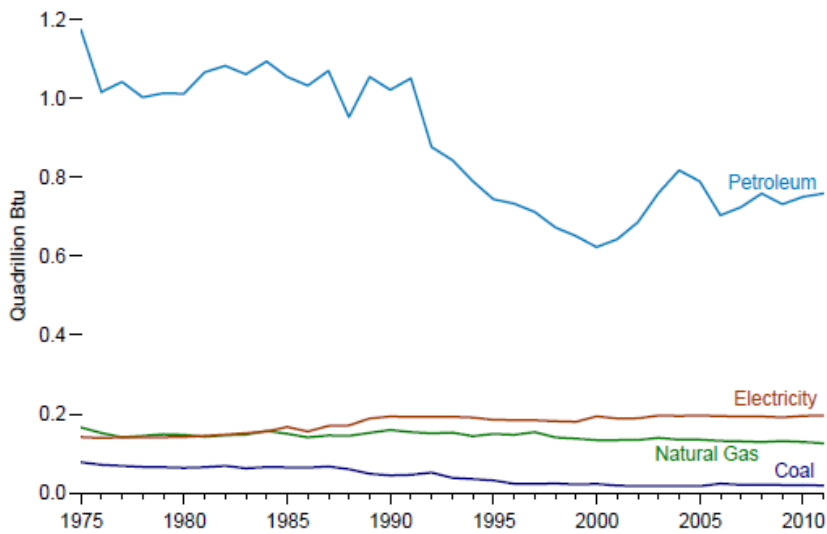


Figure 1. U.S. dependence on foreign oil. Source: U.S. Energy Information Administration Annual Energy Review, 2011.

thermal units (BTU) to almost 100 quadrillion BTU (EIA, 2011) (Figure 2). In the industrial sector, energy consumption went from 15 quadrillion BTU in 1950 to almost 32 quadrillion BTU in 2001, while the transportation sector experienced a steady increase in its energy

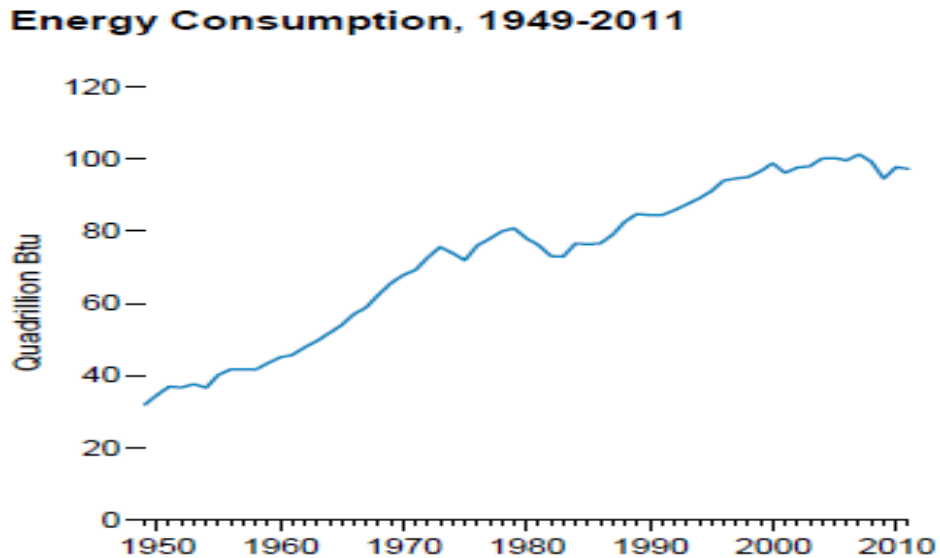


Figure 2. Energy consumption, 1949–2011. Source: U. S. Energy Information Administration Annual Energy Review, 2011.

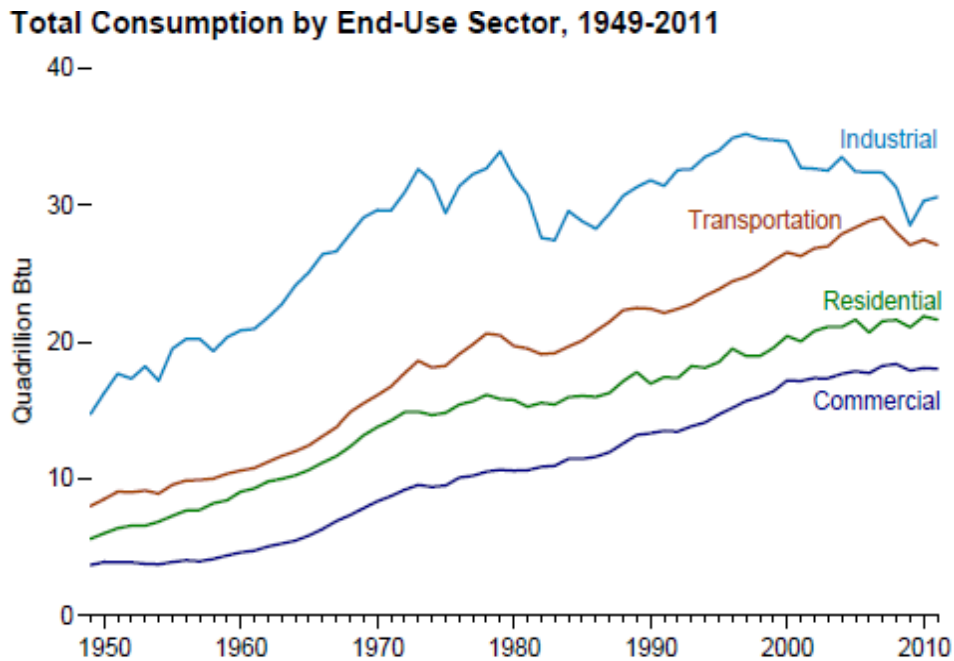


Figure 3. Total Consumption by end-use sector, 1949–2011.
 Source: U.S. Energy Information Administration Annual Energy Review, 2011.

consumption from 8 quadrillion BTU in 1950 to 28 quadrillion BTU in 2002 (EIA, 2011) (Figure 3).

In the context of the United States’ heavy energy usage and its extreme dependence on volatile foreign energy sources, members of Congress, other politicians, and policymakers have proposed various means of reducing U.S. dependence on foreign oil. Many stakeholders in diverse sectors of the economy—including energy, transportation, and industry—have advocated replacing traditional oil with alternative energy sources in order to reduce the nation’s reliance on imported oil, which went from 37 million barrels per day in 1975 to almost 58 million barrels per day in 2003 (Brown, Rewey, & Gagliano, 2003), as shown in Figure 4. One example of an alternative energy source is biofuels.

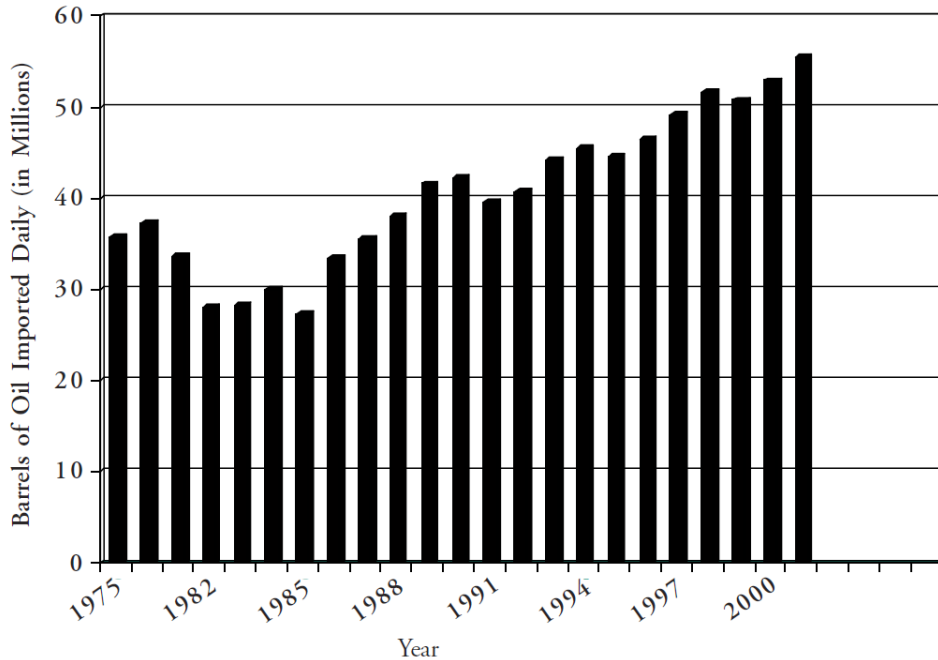


Figure 4. Barrels of oil imported daily, by year. Source: Brown, M., Rewey, C., & Gagliano, T. (2003). *Energy Security*. National Conference of State Legislatures, The Forum for America’s Ideas.

The present research examines energy security. The issue of energy security, and its connection to terrorism, became prominent in the United States during the 1970s energy crisis, when Arab countries imposed an oil embargo on the United States to retaliate for its support of Israel in the Yom Kippur War. The OPEC oil embargo cut U.S. oil imports completely off from the Middle East and created drastic oil price increases and rationing (Figure 5). However, none of these events led to a national agenda to formulate a consensus policy towards energy security (Choucri, 1977).

In addition to the 1973 Arab oil embargo, the 1990 Iraqi invasion of Kuwait and subsequent U.S. intervention also called for energy security debates. In both cases, the United States depended on foreign oil imports for economic and social development (Bengtson, 2010).

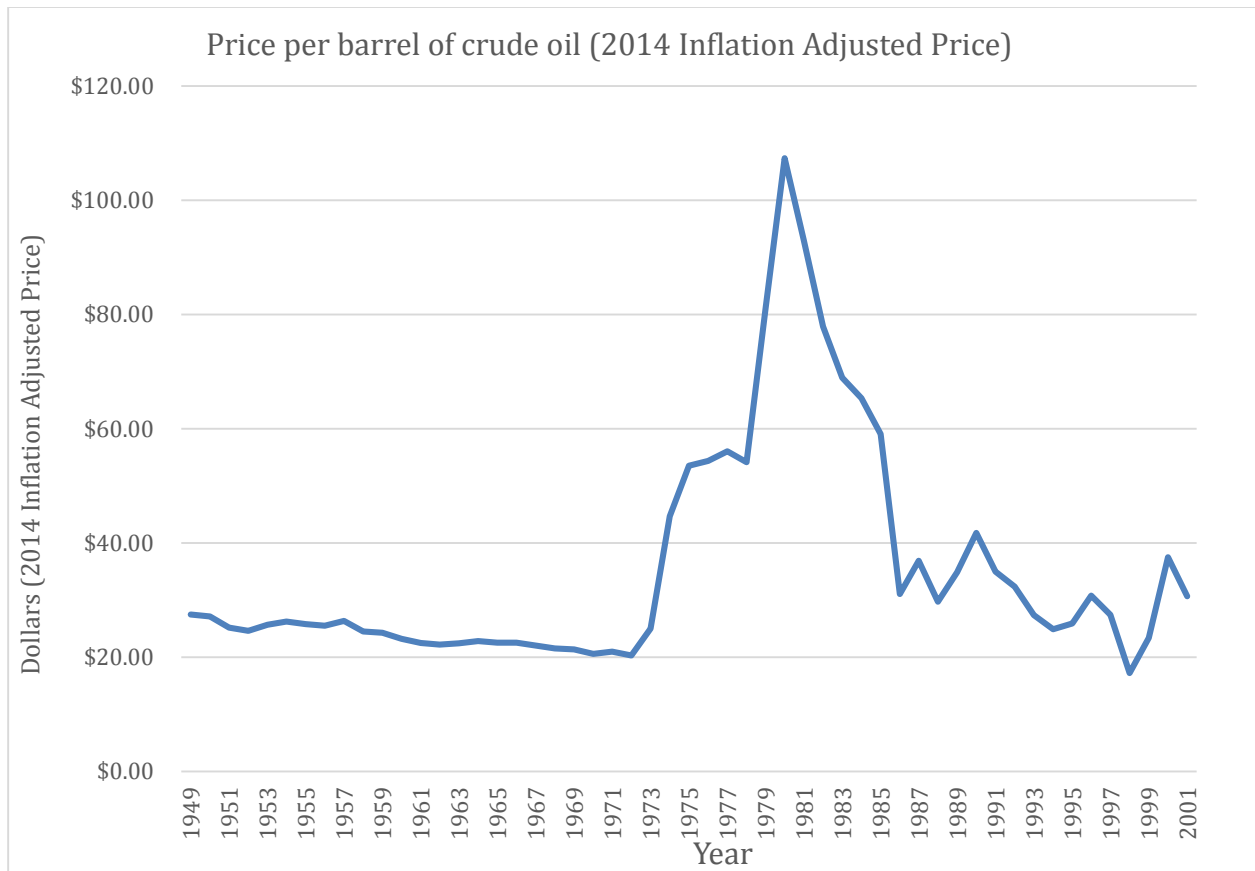


Figure 5. Price per barrel of crude oil. Source: Energy Information Administration, Annual Data 1949-2001. Retrieved from www.eia.doe.gov

For instance, in 2001, the United States imported 70% of the oil it consumed (EIA, 2010), as shown in Figure 6.

Many in the United States were awakened to the need for alternative energy sources on September 11, 2001, with the terrorist attacks on the World Trade Center and the Pentagon. The 19 attackers all originated in the Middle East, especially Saudi Arabia, with 15 attackers, and one each from United Arab Emirates, Lebanon, and Egypt. The attacks ignited the United States' debates over energy security for future American generations as captured in the 2002 Pew Research Center for the People & the Press opinion poll conducted by Princeton Survey Research Associates, and the September 2001 Wirthlin Worldwide opinion poll (Figures 7 and 8).

Percent of petroleum consumption from imports

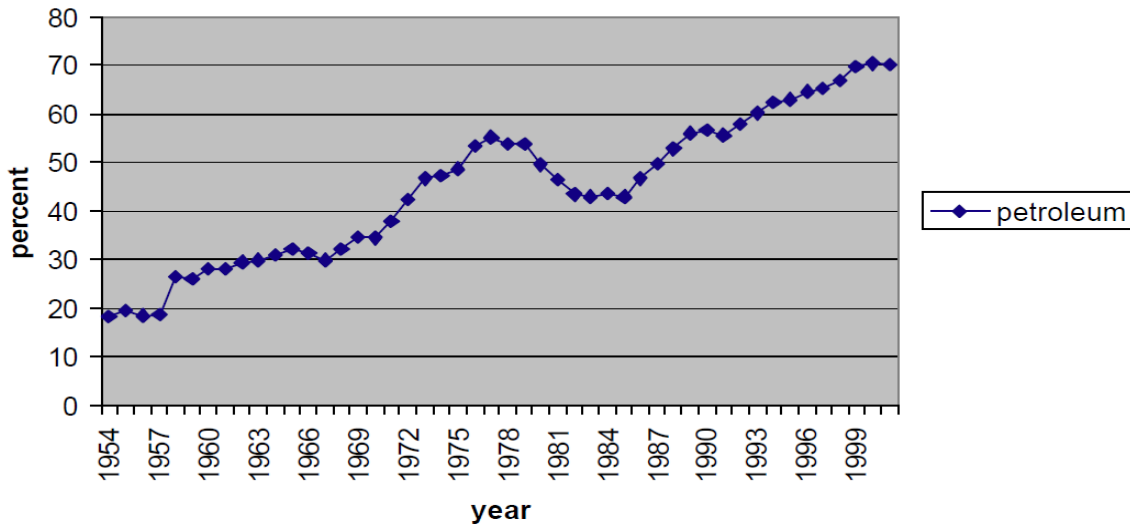


Figure 6. Percent of Oil consumption from imports. Source: Energy Information Administration, Annual Data 1949-2001. Retrieved from www.eia.doe.gov

“Right now, which one of the following do you think should be a more important priority for this country... protecting the environment or developing new sources of energy?”

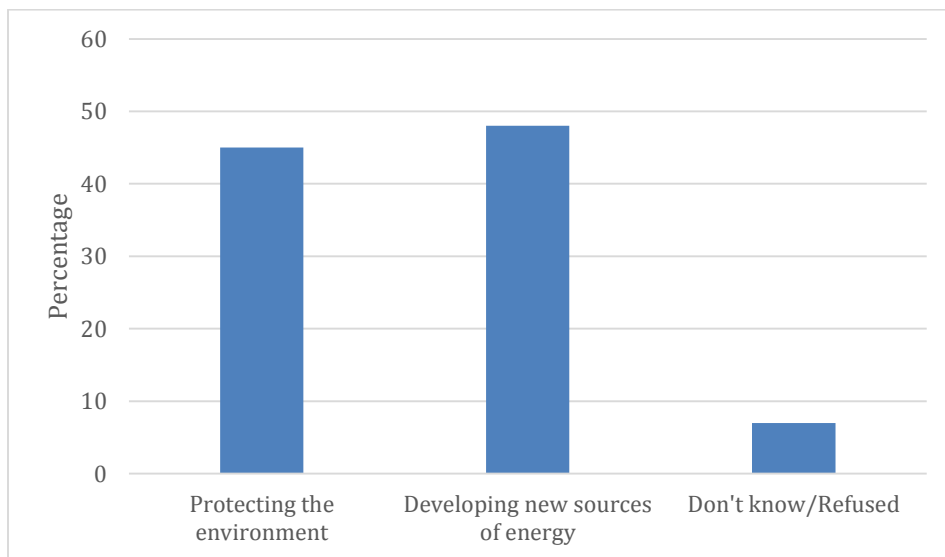


Figure 7. American’s perceptions of importance of energy security. (Source: Pew News Interest Index Poll, Feb, 2002)

“As you may or may not know, the United States Congress is currently debating enacting a comprehensive national energy plan for the country. I'd like to read you a list of some of the issues that people say are important reasons for developing a comprehensive national energy plan. After I read the entire list, please tell me which one you feel is the most important reason. The reasons are... ensuring a stable supply of energy for future generations of Americans, protecting our national security, maintaining Americans' quality of life, and supporting US economic growth”

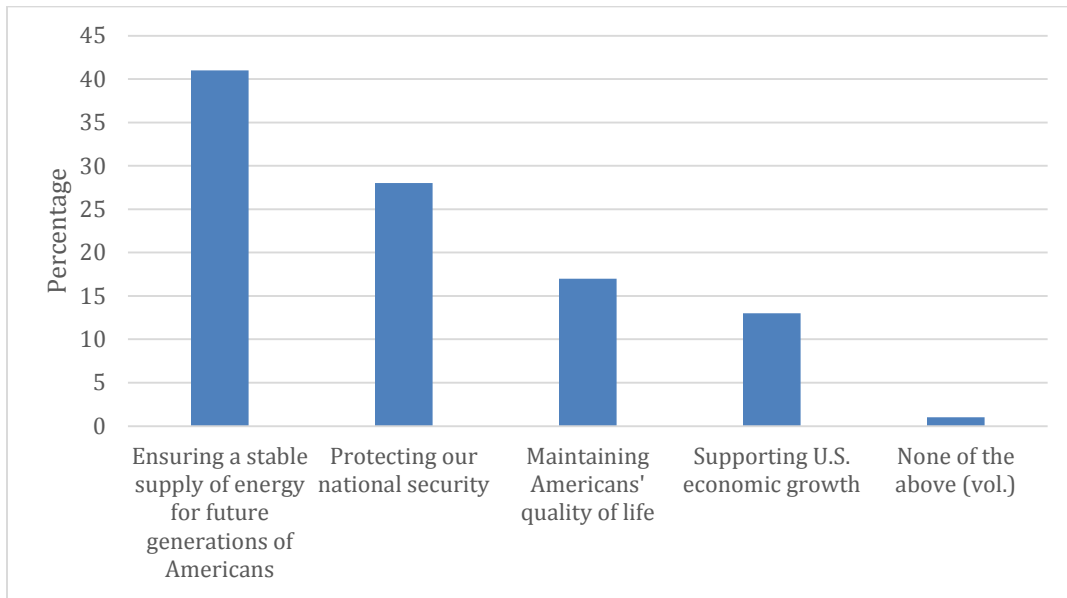


Figure 8: Source: Wirthlin Quorum Poll, Sep, 2001

With a total price tag of almost \$2 trillion, the September 11 attacks cost the United States between \$33 and \$36 billion in lost earnings, damage to property, as well as cleaning and restoration costs between 2001 and 2002, to say nothing of the loss of almost 3,000 lives, at the World Trade Center site alone (Bram, Orr & Rapaport, 2002). The damage to the Pentagon cost \$1 billion (IADS, 2003).

Despite the importance of energy security to the United States, many attempts to achieve it have failed over the past decades. For example, Presidents Nixon, Ford, and Carter all proposed energy security policies that, in the end, lacked the political and legislative consensus necessary to become law. In order for efforts to ensure energy security to succeed,

we need to understand what makes successful policies successful—that is, how energy policies that do come into existence manage to do so.

One strategy for achieving energy security that has proven more feasible than others, and that has inspired the readiest consensus among politicians and policymakers, is the agricultural solution: specifically, the use of biofuels as an alternative energy source. Between 1933 and 2002, a series of sixteen Farm Bills were passed to set policy on a variety of agricultural issues, such as price support mechanisms and supply control for farmers, changing farm supports to include food stamps, conservation and environmental programs to mitigate agricultural problems, nutrition programs such as the Supplemental Nutrition Assistance Program (SNAP), crop insurance and animal welfare, and other programs (Congress Quarterly, 1965; USDA, 1984; Douglas, Rasmussen & Baker, 1984). One section of the 2002 Farm Bills is directly relevant to the issue of energy security: Energy Title IX.

This master's project specifically addresses how the policy process led the 2002 Farm Bill to include Energy Title IX, the first-ever energy title in a Farm Bill. The 2002 Farm Bill passed Congress with a bipartisan majority of votes. The title established both direct and indirect federal agriculture-based policies aimed at promoting biofuel feedstock production. Direct policies such as tax credits helped to lower user biofuel costs, while the import tariffs protected domestic biofuel producers against any external competitors that engaged in cheaper ethanol production. In addition, the government also implemented additional, indirect policies: offering research grants to encourage the development of new technologies to boost the bioenergy sector, making loans to biofuel producers, and giving grants to local and national groups that were developing biofuel infrastructure (Schnepf, 2012). These federal policies

provided incentives that benefitted farms and rural economies while increasing biofuel feedstock production (Schnepf, 2008).

Perhaps the most important provisions of the 2002 Farm Bill to encourage the production of corn feedstock for biofuel were the ones related to the introduction of minimum usage requirements, which guaranteed a market for biofuels irrespective of their cost (Yacobucci, 2012; Schnepf, 2008, 2011), and the codification and extension of funding for the Bioenergy Program for Advanced Biofuels with a view to promoting the advancement of cellulosic biorefinery capacities (P.L. 107-171). Other programs under the 2002 Farm Bill included the Repowering Assistance Program, which worked to increase the efficiency of existing refineries; the Rural Energy for America Program (REAP), which promoted energy-efficiency and self-sufficiency in rural communities and businesses; and finally, the Biorefinery Assistance Program and the Forest Biomass for Energy Initiative, which provided alternative feedstock resources such as development and infrastructure assistance for the production, harvest, storage, and processing of cellulosic biomass feedstocks (Schnepf, 2008, 2011).

In short, the impetus for the 2002 Farm Bill's inclusion of Title IX was to secure U.S energy security by addressing the economic impediments to the production of energy from renewable resources (Schnepf, 2008, 2014). Energy Title IX supported energy security by promoting the use of corn-based ethanol feedstock for biofuel production as an alternate source of energy, thereby cutting dependence on foreign oil.

Research Question and Objective

The research question that this master project asks is: What are the policy processes between 1970 and 2002 leading to the inclusion of Energy Title IX in the 2002 Farm Bill for the use of corn-based ethanol feedstock for biofuel production in the US? This research study will

investigate policy processes between 1970 and 2002 leading to the inclusion of the first ever energy title in a farm bill in order to promote ethanol production to secure the nation's energy security

Significance

This study provides a greater understanding of how policy change occurs, when it occurs, and why it fails to occur when it does not occur. An understanding of the process of policy creation will ultimately enable policymakers to develop more effective policies.

Methods

Kingdon's Multiple Stream Framework is applied in this analysis. Kingdon's Multiple Stream framework was chosen over two other alternative models to explain how one specific policy solution, Energy Title IX, came to be included in the 2002 Farm Bill as a solution for the U.S. energy security. Kingdon's multiple streams are valuable for this analysis because they show

- a) how alternatives policies such as the inclusion of the Energy Title IX are selected,
- b) how the U.S policy process elements happen separately and in parallel, and
- c) how the agendas are set in Congress.

This framework has advantages over the two alternative models considered.

Alternative Models: Punctuated Equilibrium

One potential alternative model is the punctuated-equilibrium (PE) model developed by Baumgartner & Jones (1993). As Sabatier (2007) pointed out, punctuated equilibrium "argues that policymaking in the United States is characterized by long periods of incremental change punctuated by brief periods of major policy change" (p.9); True, et al., in Sabatier (2007), summarized the PE model when they said, "Punctuated-equilibrium theory seeks to explain a simple observation: political processes are generally characterized by stability and incrementalism, but occasionally they produce large-scale departures from the past. Stasis, rather than crisis, typically characterizes most policy areas, but crises do occur" (p.155), with useful features "in understanding public policymaking more generally" (p.158) that "focuses on the interaction of political institutions, interest mobilizations, and boundedly rational decisionmaking" (p.158). PE, as True, et al. in Sabatier (2007), again pointed out, "seems to be a

general characteristic of policymaking in the United States” (P.163) by helping us “to understand the dynamics of policy change in subsystems” (p.172). However, its principles have been more useful in the EU, because EU policy making has evolved around “a set of policy subsystems that are important in making policy” (p.173) and “ understanding relations among nations, such as in protracted interstate rivalries, the role of norms in international politics” (p.176).

Alternative models: Advocacy Coalitions Framework Approach

A second alternative would have been Sabatier’s advocacy coalitions framework approach, which, according to Sabatier (2007), focuses on "the interaction of advocacy coalitions—each consisting of actors from a variety of institutions who share a set of policy beliefs—within a policy subsystem." Edella Schlager, in Sabatier (2007), pointed out the deficiencies of said approach by saying that "advocacy coalitions theory does not attend to patterns of decisions or to particular policy adoptions; rather, it attempts to explain policy changes in a subsystem over a period of a decade or more identifying advocacy coalitions by 'focusing' on measuring belief systems, identifying policy subsystems, and identifying the mechanisms that promote policy change" (p. 298), with “participants who regularly seek to influence policy” (Sabatier and Weible 2007, p.192) through the use of various venues and resources (Weible 2007).

Kingdon’s Multiple Framework Approach

As a result of the limitations the punctuated equilibrium model and the advocacy coalition framework approach impose on the policy change process needed in this discussion, a multiple streams approach will be applied instead. Professor Emeritus John W. Kingdon of Michigan University, Political Science Department, in Agendas, Alternatives and Public Policies, (1984), analyzed US government agenda setting in Congress and later explained that "conditions become

defined as a problem when we come to believe that we should do something about them" (Kingdon 1995, p.109). He developed the Kingdon multiple stream framework, a very useful empirically based tool (Chow, 2014), which helps us to understand how policies decisions are made in an ambiguous environment (Turpin & Marais, 2004). Its strength to the project, as Chow (2014) outlines, it is three-fold: (a) how policymakers' attention is captured; b) how problems are formulated; and c) the problem-solution matching process, (p.53).

Kingdon's (1984) multiple streams approach consists of three streams which Larkin Jr. (2012) referred to as "three families of processes: "problem, politics, and policy" (Kingdon, 1984, 1995). Sabatier (2007) elaborated on the streams when he defined "[a problem stream] consisting of data about various problems and the proponents of various problem definitions; a policy stream involving the proponents of solutions to policy problems; and a politics stream consisting of elections and elected officials".

The streams flow independently and with separate dynamics and rules. Actors sometimes overlap (Sabatier, 2007, Kingdon, 2011). In particular, the policy stream, which consists of election results/officials, interest group demands, and public opinion (Kingdon, 1984, 1995), can lead to policy idea selection, rejection, and development (Kingdon, 1984, 1995, Chow, 2014). Under select circumstances, such as the advent of a focusing event, the three rivers merge, a window of opportunity opens, the issue gains attention on the national agenda, and policymakers find solutions in the policy stream (Kingdon, 2011). For example, when energy security became an issue for the US due to the level of national consumption, the 1970's Arab oil embargo, and the September 11, 2001 focusing event, a window of opportunity opened, and it became possible to include Energy Title IX in the 2002 Farm Bill to solve the energy security problem (Kingdon, 2003).

Cairney (2013) outlined the usefulness of multiple streams for this discussion when he said "US political systems magnify some of these problems: many people, with different perceptions and aims, are involved; and some actors (such as the President) may be effective at raising issues up the public and government agenda but not producing solutions".

Although many criticize the multiple streams approach for concentrating too much on agenda setting and divorcing policy formation and implementation from politics (March 1994, Olsen 1988), this approach is very flexible to work with, since it creates more room by focusing only on policy change, and, through its simplicity, it provides a "highly original, counterintuitive tool with which to construct and interpret reality" (Capano 2009).

In addition, Kingdon's model employs rationality and persuasion as a logic of political manipulation over other lenses (Zahariadis, 1998). Zahariadis, on "Multiple Streams Framework: Structure, Limitations, Prospects" in Sabatier (2007), indicated that the multiple streams approach "offers a fruitful way to explain how political systems and organizations make sense of an ambiguous world" and "explore how and under what conditions entrepreneurs manipulate the policy process, not only to pursue their own self-interest, but also to provide meaning to policy makers with problematic preferences".

However, Kingdon's multiple framework is not without weaknesses. The multiple framework does not extend beyond the alternative selection of the Energy Title IX inclusion into the 2002 Farm Bill and the agenda setting in the congress. In addition, King's multiple streams do not explain the implementation of Energy Title IX or the essential roles of very prominent actors who were crucial to the U.S policy formulation, such as the courts, that do not fit perfectly into this model.

But in Sabatier (2007), Zahariadis affirmed that the multiple streams approach "provides the better overall explanation because it explains more accurately a greater number of occurrences," and he again admitted that the multiple streams approach "systematically underexplains cooperative policy". Zahariadis in Sabatier (2007) continued adding to the usefulness of the multiple streams approach by indicating that it was "empirically based rather than assumption driven" and "addresses the issue of ideas in public policy" that Ruggie (1998) summarized as "It's not enough to be right; in the policy sciences, we also want to be right for the right reasons."(p.13).

Sabatier (2007) echoed the streams' coupling and independence when he said, in Kingdon's view, the streams normally operate independently of each other, except when a "window of opportunity" permits those who are ready to implement policies when conditions become favorable, known as policy entrepreneurs, to couple the various streams as illustrated in Figure 9.

However, for successful agenda setting, at least two of the streams must come together at a crucial moment, a focusing event, for a policy window to open. Thus, policy entrepreneurs are always active in both the problem and politics streams waiting for a window of opportunity to occur and be used before it closes (Kingdon, 1995 2003, 2011, Chow, 2014).

Although Kingdon's (1984) multiple streams model addresses policy making reality in the United States—and Howlett, McConnell & Perl (2014) point this out when they state that the model "overcomes any assumptions that the problem is always predetermined in the agenda-

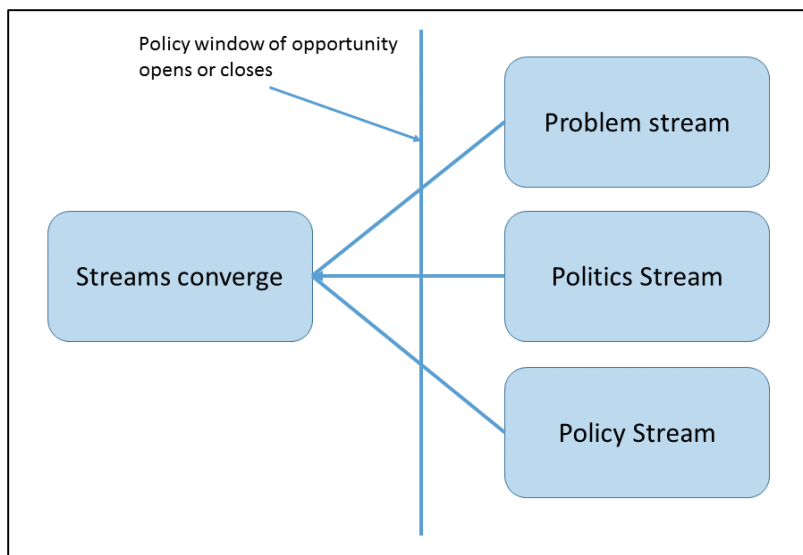


Figure 9: Based on Kingdon Original Model; Kingdon.1984, 1995, 2011).

Chow (2014) explains, "because of differences in culture, history, and political ideology" which, in turn, the advocacy coalition's framework addresses.

In addition, through stream development, the project will explain why policy entrepreneurs couldn't bring energy security issues to the national agenda until the 2002 Farm Bill, although energy had been discussed throughout the 1970s by policy makers. Ridde (2009) expresses this as "what determines the emergence of some ideas over others and investigates why certain ideas are used by government to formulate public policies and not others" (p.940) in order to understand the use of corn-based ethanol feedstock for biofuel production.

This discussion of the 2002 Farm Bill's energy title will therefore be analyzed with Kingdon's (1984, 1995, 2003, 2011) multiple streams approach. Zahariadis (2007) summarized the model's usefulness to this discussion when he indicated that the "multiple streams model is a lens, perspective or framework that explains how policies are made by national governments under conditions of ambiguity" (p. 65). Henstra (2015) also affirmed the multiple framework

usefulness to this study when he pointed out that Kingdon's multiple streams analysis helped as to identify energy security as "defined as problems, how and why problems become issues on the decision agenda, where feasible and acceptable policy proposals come from, and how decision-makers are persuaded to choose them"

Results

When we apply the multiple streams approach to the issue of U.S. energy security in general, we can see that the country's over-dependence on an imported source of energy (oil) first became a problem during the 1970s Arab oil embargo. The importance of energy security was made obvious to the Americans by the political instability in oil-producing countries, the international demand for oil products, and oil price geopolitics (Choucri, 1976). However, in the 1970s, although there was some policy consensus among policymakers on the need for energy security, there was no focusing event to force energy security onto the national agenda.

According to Kingdon (1995), focusing events or issues call attention to the problem (p.94-95), and these powerful symbols "catch on and have important focusing effects because they capture in a nutshell some sort of reality that people already sense in a vaguer, more diffuse way" (p.97-98). This discussion will use definitions of focusing events by Kingdon (1995): "events that call attention to problems," and Váně & Kalvas (2012): "catastrophic events, personal experience and symbols draw people's attention to issues related to the event" (p.6). The September 11, 2001 terrorist attacks were a focusing event. It set the agenda of Congress so that they cast the votes that created the window of opportunity for policymakers to include Energy Title IX in the 2002 Farm Bill (Kingdon, 2003), as shown in Figure 10. Energy Title IX promotes the use of ethanol as an alternate energy source from the traditional oil products for the U.S. energy supply.

The problem stream

The problem stream is made up of problems that need immediate government action (Kingdon, 2003). However, these problems come to the attention of the government through crises, events or indicators (Kingdon, 1984).

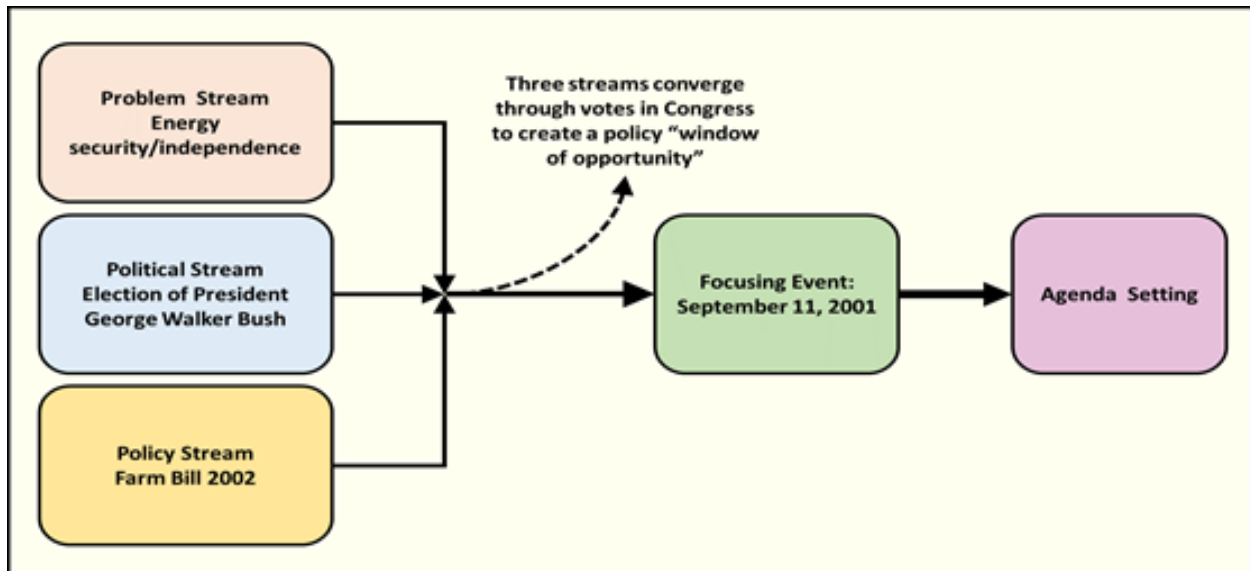


Figure 10. Kingdon’s model applied to inclusion of Energy Title IX in 2002 Farm Bill.

There were many indicators that energy security was a problem. Such indicators began in the 1970s with the Arab oil embargo that resulted in OPEC cutting the US oil imports completely off from the Middle East and led to the large oil price increases and rationing among Americans initiated by President Nixon (Choucri, 1976) (Figure 5), the realization of the historical increase of oil as a source of energy—from its initial 38% in 1950 to 45% in 1975, the resumption of oil price volatility in the 1970s and 1980s (Glover & Ratner, 2014), the instability in the Middle East, the nation’s daily consumption of 20 million barrels of oil and the 57% of total oil imports originating from countries (Middle East) perceived to be associated with terrorism (EIA, 2012).

Other prior events also contributed to setting the stage for the problem stream’s culmination in 2001. The industrial sector’s energy consumption went from 15 quadrillion BTU in 1950 to almost 32 quadrillion BTU in 2001, while the transportation sector experienced a steady increase in its energy consumption from 8 quadrillion BTU in 1950 to 28 quadrillion BTU

in 2002 (EIA, 2011) (Figure 3). The 1973 Arab Oil embargo on the United States pushed the nation's gross domestic product (GDP) earmarked for oil spending from 4.5% to 8.5%. All of this, coupled with the 1998 attacks on the U.S. Embassies in Kenya and Tanzania, and the general instability in global oil prices with 40% of US energy consumption coming from oil (Glover & Ratner, 2014), pointed to the need for energy independence. A survey conducted by the News/Washington Post Poll, in May, 2001, found that over 60% of Americans did think that there were energy security problems in the nation (Figure 11). Yet the U.S. government underestimated some of these indicators, such as attacks on American soil (Hamilton et al, 2004).

The idea that energy security was a problem was also heightened in the 1990s by the America Speaks out on Energy Survey, conducted by Sustainable Energy Coalition in 1998, in which 33 % of Americans wanted Congress to fund and engage in programs that would

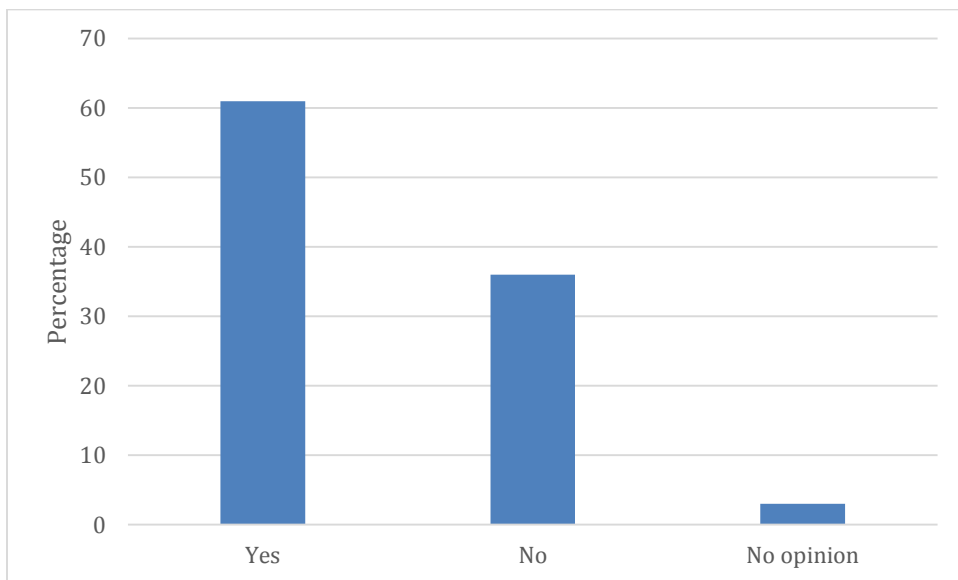


Figure 11: Source: News/Washington Post Poll, May, 2001)

promote research and development in renewable energy development for the enhancement of the nation’s energy security (Figure 12). In the same year, 1998, Market Strategies National Monitor Poll also conducted a national energy policy survey ordered by the federal government in order to set up a national plan to assure that the nation would have stable and sufficient, as well as reasonably priced, energy in the future, with 78% of Americans in favor of such a national energy policy (Figure 12).

Agricultural policies such as Farm Bills are driven by geographical interest or the geography of politics because they are based on the commodities market. However, this geographical interest began to shift to ideologically driven politics as it collided with urban area

“Congress is presently making decisions on whether to increase, decrease, or maintain funding levels in the next fiscal year for all programs and services supported by the federal government. Take the Department of Energy, for example. It has five spending areas for research and development that are under review. Which one of these programs, if any, do you think should receive the highest priority for funding...renewable energy--involving solar, wind, geothermal, biomass, and hydroelectric power, technologies to improve energy efficiency and conservation, natural gas, fossil fuels such as oil, gasoline, and coal, or nuclear power”

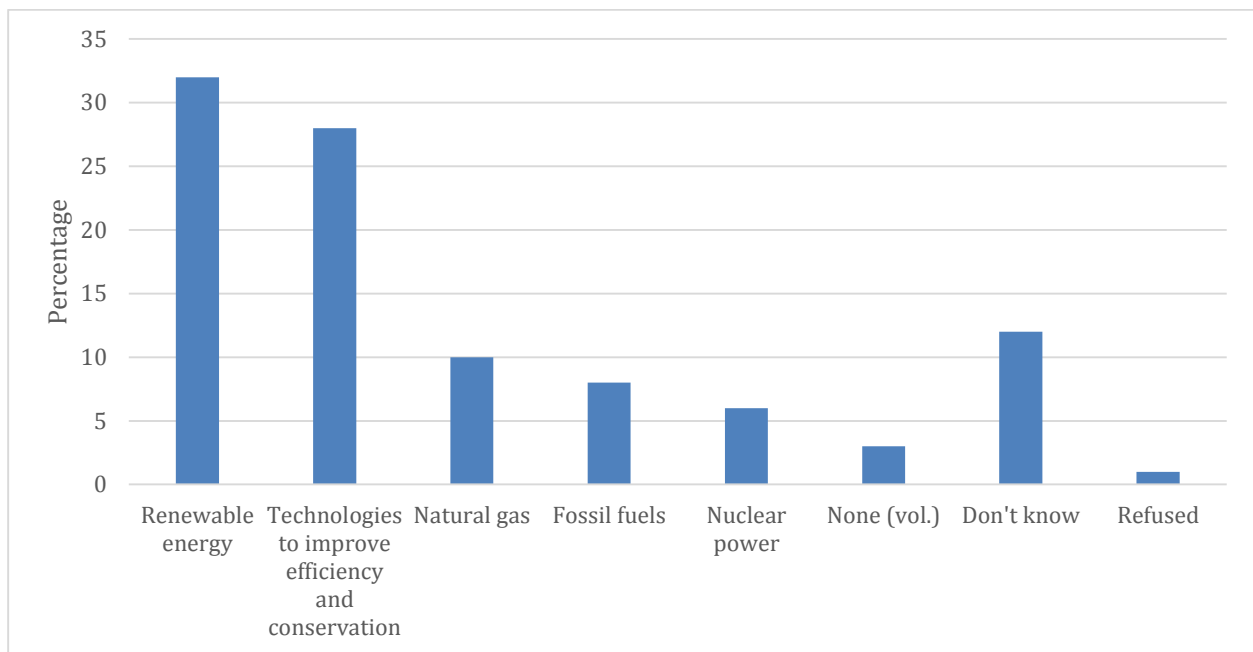


Figure 12: Source: America Speaks Out On Energy Survey, Apr., 1998

“Thinking about the next 25 years, how strongly do you believe that the United States needs the following things, using a zero to ten scale where ten means you believe very strongly that the US needs it, and zero means you don't believe the US needs it.)...A national energy policy directed by the Federal government that establishes a national plan to assure the US has a sufficient supply of reasonable priced energy for many years to come.”

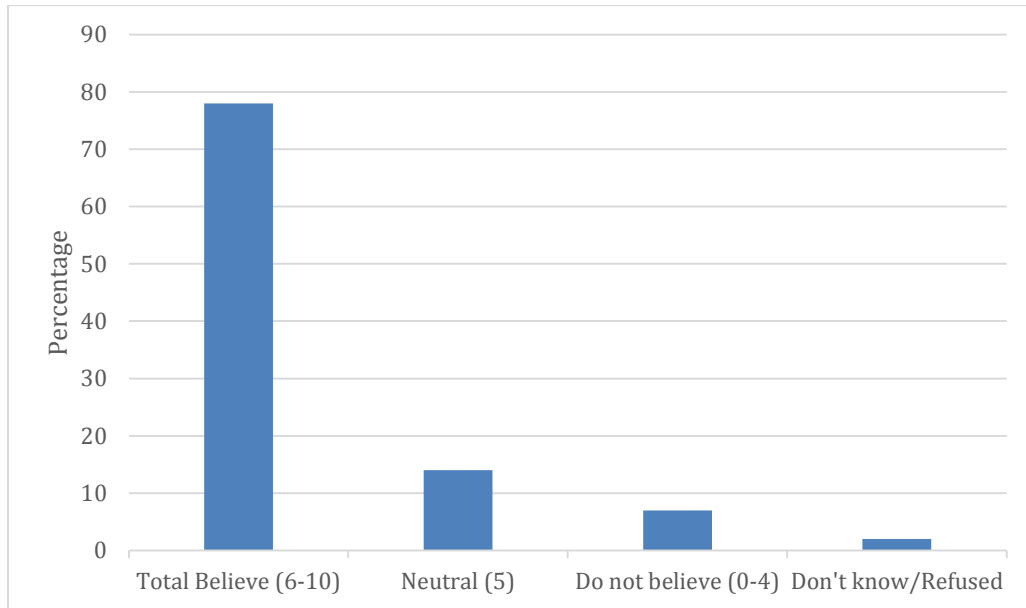


Figure 12: Source: Market Strategies National Monitor Poll, Mar, 1998.

politics (Schnepf, 2008, 2012, 2013). In the 1970s, Farm Bills, which had favored conservation programs since they were first enacted in 1933 (Figure 13), began to lean towards energy security—suggesting there was a problem in that area—but not as fully as what happened after the September 11 attacks. For instance, in 2002, Representative Ron Kind (D-WI), sponsor, and Representatives Sherwood (R-NY) and Wayne T. Gilchrest (R.MD), co-sponsors, acted as opposers by introducing a bill negating Farm Bill provisions that shifted grain subsidies to conservation (HR2726), in an attempt to make sure that the three streams did not converge at the focusing event.

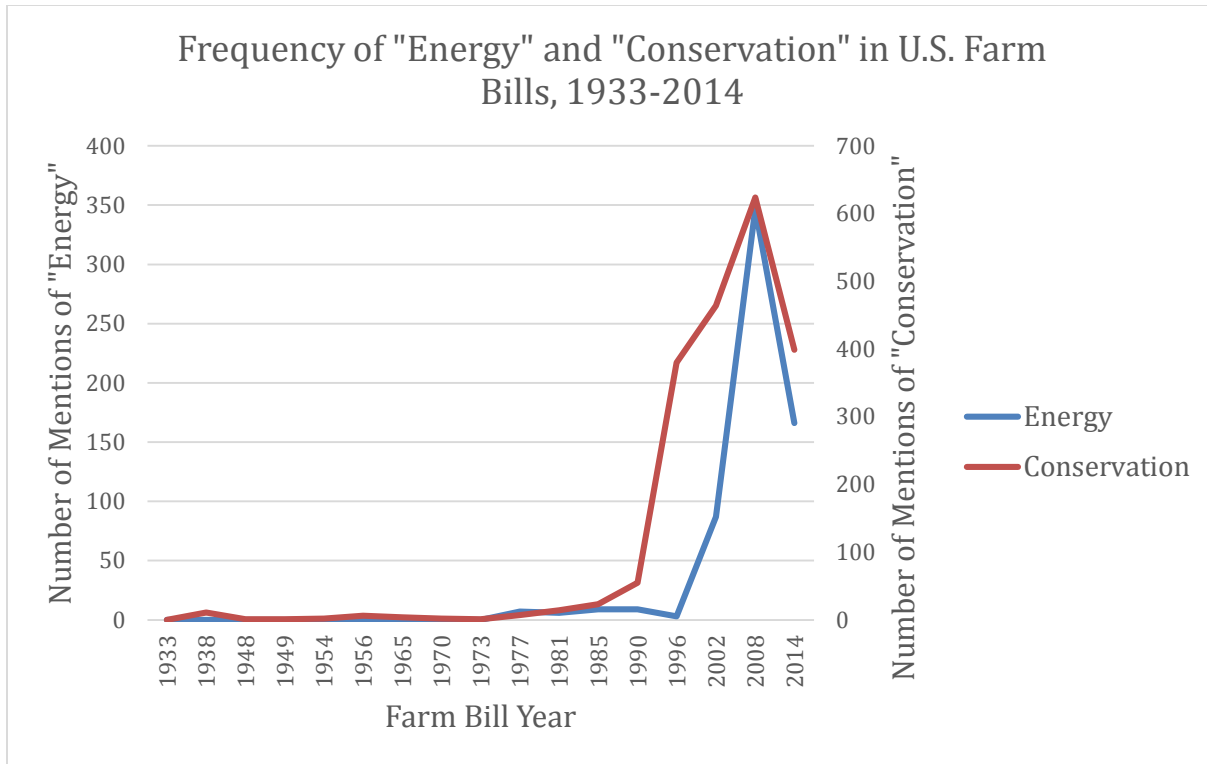


Figure 13: Source: Data from <http://nationalaglawcenter.org/farmbills/>

As the CBO (2012) explained, energy security is "having the flexibility to choose not to import oil from countries associated with terrorism or from countries that might seek to use their export of oil to influence international affairs". The terrorist attacks on American soil came with a price tag of almost \$2 trillion and between \$33 and \$36 billion in lost earnings and damage to property, as well as cleaning and restoration costs between 2001 and 2002, and the damage to the Pentagon costing \$1 billion (IADS, 2003), to say nothing of the loss of almost 3,000 lives at the World Trade Center site alone (Bram, Orr & Rapaport, 2002). These consequences concentrated Americans' attention on energy security from terrorist nations. Several opinion polls, such as one conducted by News/Wall Street Journal Poll in January, 2002, showed 68% of Americans asked the president to leave domestic issues and concentrate on dealing with terrorism (Figure 14)). As Zahariadis, in Sabatier (2007), put it,

“Which issue do you think President (George W.) Bush will pay more attention to this year (2002)—continuing the war on terrorism or dealing with domestic problems?”

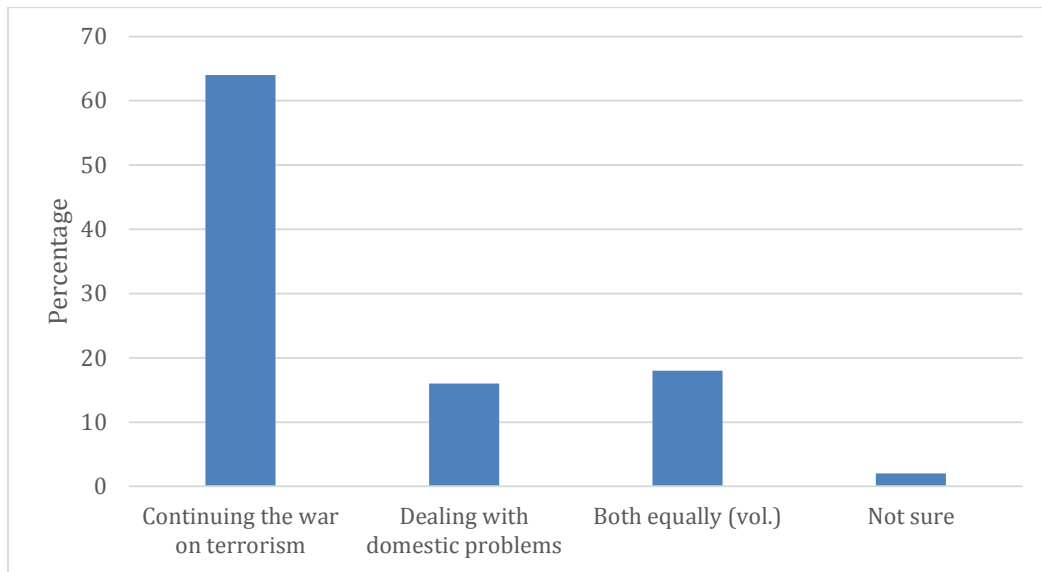


Figure 14: Source: News/Wall Street Journal Poll, Jan, 2002

energy security "conditions come to be defined as problems and consequently receive more attention than others" (Sabatier, 2007).

Another opinion poll, the May, 2002 Fox News/Opinion Dynamics Poll, conducted before the passage of the 2002 Farm Bill, indicated that 15% of Americans identified the energy security threat posed by terrorism to the US and called on both the President and Congress to act immediately on terrorism instead of the economy through the development and use of alternate energy sources. This opened the window of opportunity that policy entrepreneurs took take advantage of in order to place the energy security issue on the government agenda (Figure 15)

Not only the May, 2002 Fox News/Opinion Dynamics Poll, but also the NBC News/Wall Street Journal Poll in January, 2002, indicated that 45% of Americans still thought the United

“Of the following issues, which do you think is the most important for Congress and President Bush to be working on right now?...War on Terror, the economy, health care, homeland security, education, Social Security, taxes, energy issues”

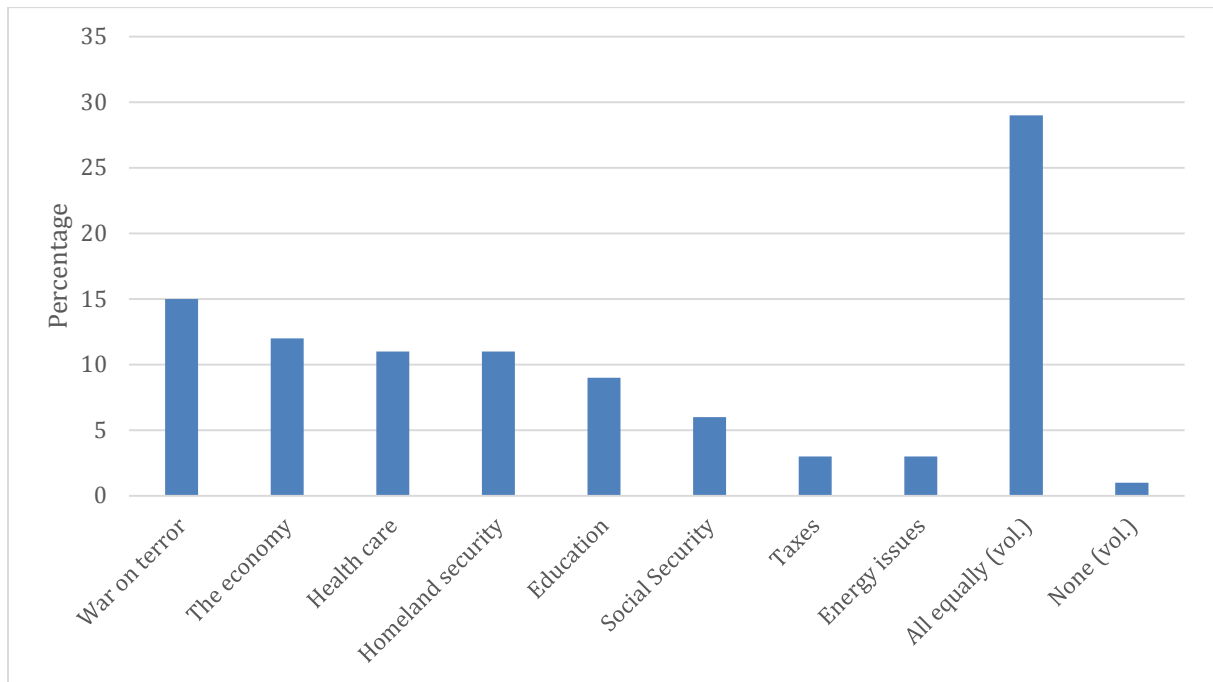


Figure15: Source: Fox News/Opinion Dynamics Poll, May, 2002)

States would be a target of major terrorist attacks at home or overseas, confirmed that energy security was a problem (Figure 16) and demanded energy security from terrorist countries (Figure 8) (Wirthlin Quorum Poll, Sep, 2001).

Zahariadis, in Sabatier (2007), also confirmed the problem of terrorism when he said that "no two windows open simultaneously. This implies that adjustments will be made in response to external problems, such as terrorism, while the politics stream remains constant; that is, both Republicans and Democrats view terrorism as a significant problem and are thus likely to react similarly".

The September 11 attacks on Americans in their own nation became the single focusing event that showed that the problem of terrorism the country faced was real for both Republicans

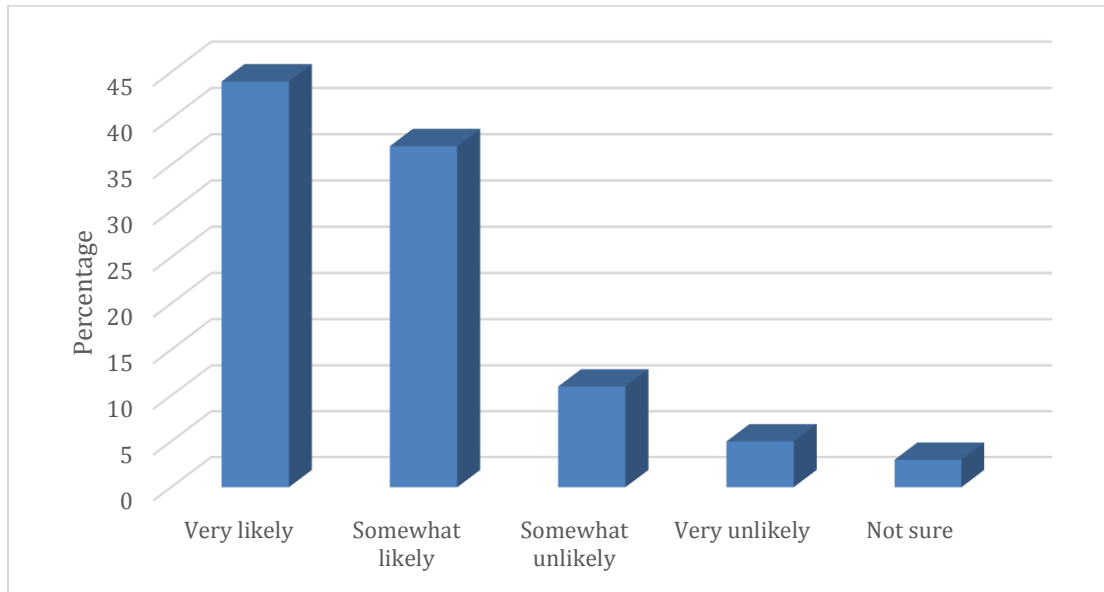


Figure 16: Source: NBC News/Wall Street Journal Poll, Jan, 2002

and Democrats in Congress (Sabatier, 2007). As Kingdon (2011) puts it, "Problems are often not self-evident by the indicators. They need a little push to get the attention of people in and around government. That push is sometimes provided by a focusing event". Thus, the September 11 focusing event drew attention to the problem of terrorism, and energy security policies were framed as part of the counter-terrorism effort. With the consensus on the problem in the politics stream waiting for a solution to attach to, policymakers seized the opportunity to immediately frame their solutions in terms of terrorism problems through the formulation and inclusion of the Title IX-Energy in the 2002 Farm Bill to cut down dependence on foreign import oils.

The political stream

The political stream that contributed to the inclusion of Energy Title IX in the 2002 Farm Bill had three facets: the 2000 congressional election, the 2000 presidential election, and the post-September 11 national mood. The 2000 congressional election, with 212 Democrats and 221 Republicans elected to the House of the Representatives and 50 Senators each from both Republican and Democrats to the Senate (McGillivray, Scammon & Cook, 2005), created a platform for a bipartisan approach to energy security issues. Although there was, as Brunner (2008) put it, "classic rivalry between economic and environmental interests", political ideologies converged on the issue of national energy security. The focusing event of September 11, which occurred a year after the election, would create the impetus for the radical policy change.

The national mood after September 11 further contributed to the political stream that made possible the inclusion of Energy Title IX in the 2002 Farm Bill. After September 11, Americans were fully convinced that there was a problem with energy dependence. While only 32% of the Americans in 1998 opted for an alternate energy supply as a way to have national energy security (America Speaks Out On Energy Survey, Apr., 1998) (Figure 11) a September 2001 Wirthlin Worldwide opinion poll conducted immediately after September 11 revealed that 42% of Americans demanded development of a new source of energy for the nation (Wirthlin Quorum Poll, Sep, 2001) (Figure 8). This was followed almost three months later by a November, 2001 Princeton Survey Research Associates/Newsweek Poll (Figure 19) in which 72% of Americans asked the government to develop alternative energy sources to Middle East oil to secure the nation's energy security (Princeton Survey Research Associates/Newsweek Poll, Nov., 2001). The attacks had re-focused the United States' attention on the need to cut its

dependence on foreign oil, especially oil from countries dominated by terrorism and bent on destroying the United States (Hamilton et al, 2004)

Public outrage after the attacks was captured in many public opinion polls, such as those conducted by the Nuclear Energy Institute in 2002, and upon the election of President Bush in 2000, calling on both the President and Congress to give priority to energy security (Figure 17.) People called on the President and both the Republican-controlled House and the Democrats to develop an energy policy independent of oil imports from the Middle East (see Figure 18) and created a consensus platform for both parties to formulate policy to enhance US energy security.

“In developing a national energy policy, should the president (George W. Bush) and Congress give high, medium, or low priority to each of the following goals?...Becoming less dependent on foreign energy”

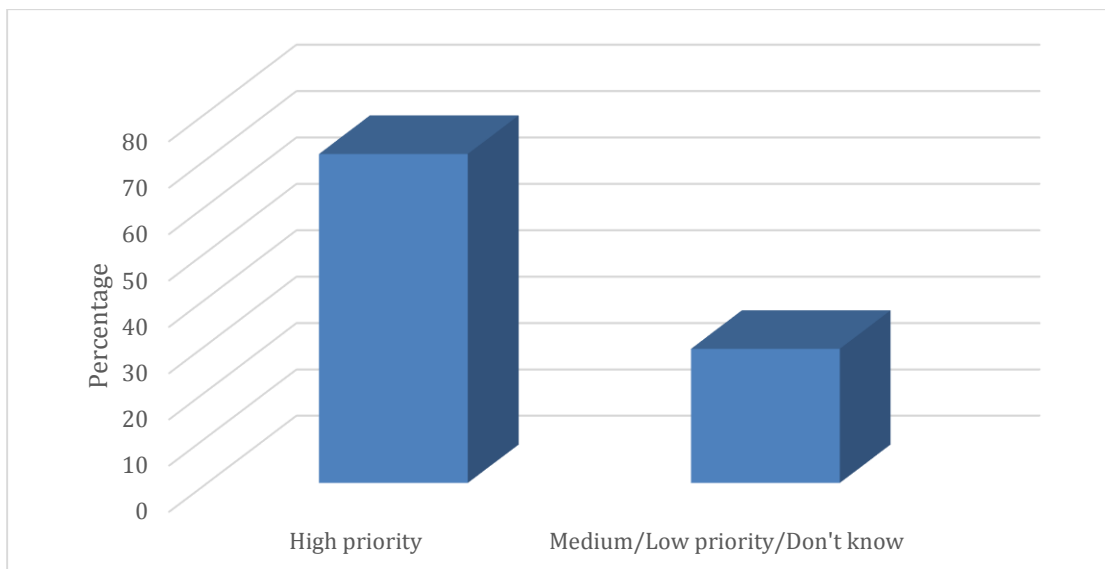
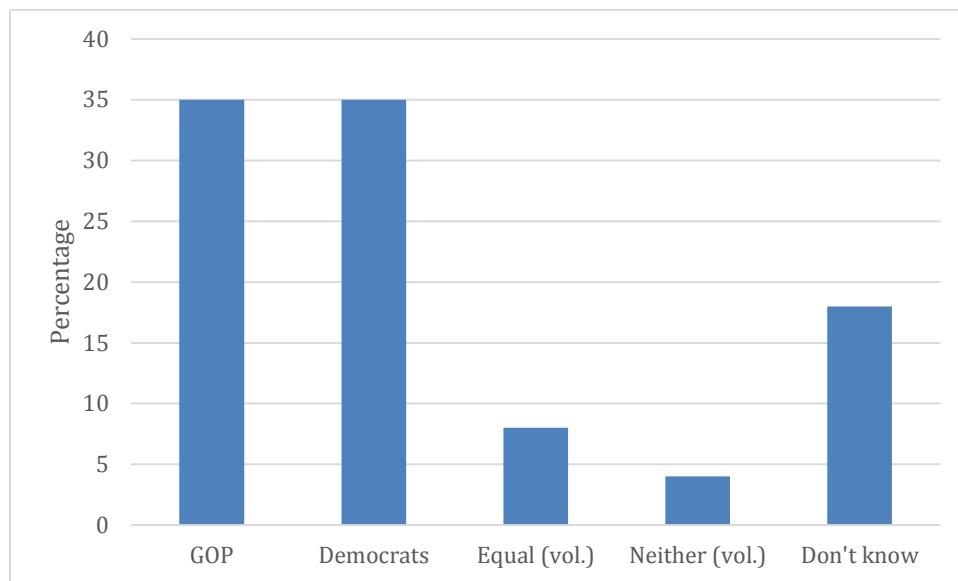


Figure 17. Americans' priority levels on energy security. (Source: Nuclear Energy Institute Poll, Feb, 2002.)

“(Do you think the Republicans in Congress or the Democrats in Congress would do a better job of dealing with each of the following issues and problems?) How about...energy policies”



Source: 18 Source: Fox News/Opinion Dynamics Poll, Jan, 2002)

Terrorism attacks on Americans were not new. From 1998 to 2001, there were many terrorist attacks on U.S. embassies in countries such as Tanzania and Kenya, but never on American soil. Therefore, the September 11 attacks were, in the words of the National Commission on Terrorist Attacks Upon the United States (2004), "A Shock, Not a Surprise" to Americans. The national mood after the September 11 attacks called for members of Congress from both parties to cooperate through the three streams to implement together a national energy security policy that would reduce the nation's dependence on oil imports from the Middle East, where the attack masterminds originated. The national mood, both within and outside government, created a general acceptance and shift towards energy security as demonstrated by the opinion polls described earlier. According to Kingdon (2011), public opinion can influence the political stream without being all-important: It "may set limits on the possibilities and may affect an agenda of subjects in a general way." However, "the general

public opinion is rarely well enough formed to directly affect an involved debate among policy specialists over which alternatives should be seriously considered" (p. 66).

The need for a comprehensive energy policy to enhance non-dependence on foreign oil was beginning to draw national attention, and these sentiments were echoed by many Americans. For example, Bengtson (2010) asked, "Is there anyone who still cannot see the connection between the flow of oil money into the Middle East and the flow of terrorism out of the Middle East?" Bengtson's argument was affirmed by an opinion poll conducted by the Princeton Survey Research Associates/Newsweek Poll in November 2001 on Energy/ the Mideast. Seventy-three percent of the respondents called on the government to develop alternative energy sources to Middle East oil (Figure 19).

“Which one of the following statements comes closer to your views on whether the US (United States) should make a major effort to develop new energy sources as an alternative to Middle East oil? It's worth doing to make our energy supplies less subject to the pressures of Middle East politics, or it's not worth doing because cutbacks in US oil business would weaken allied governments like Saudi Arabia and increase support for Islamic extremists in the Middle East.”

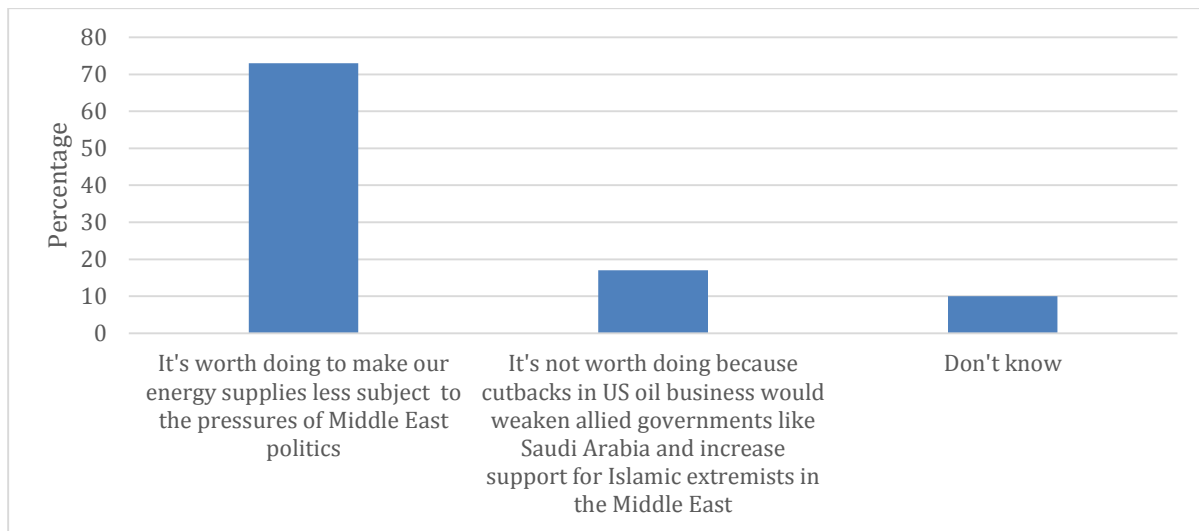


Figure 19. Americans' desire for an alternative to foreign oil, Nov. 2001. Source: Princeton Survey Research Associates/Newsweek Poll, Nov, 2001).

Many other opinion polls conducted immediately after the attack, for instance, a poll conducted by the Roper Center for Public Opinion Research between October 25 and November 10, inquired about Americans' perceptions of the problems with government's energy policies. The results suggested that Americans wanted the federal government to address the energy issues within the following 12 months, with 69% of the respondents considering the issue to be very important (see Figure 20).

Another opinion poll conducted by Princeton Survey Research Associates in November 2001, almost two months after the September 11 attacks, showed that 58% of Americans were willing to cut down their over-dependence on imported oil even if it meant paying another 10 cents in taxes on each gallon of gas they purchased, with the understanding that the tax would support research and development for other alternative energy sources (Figure 21).

“Would you say it is very important, somewhat important, not very important, or not at all important that the federal government address... energy issues in the next 12 months?”

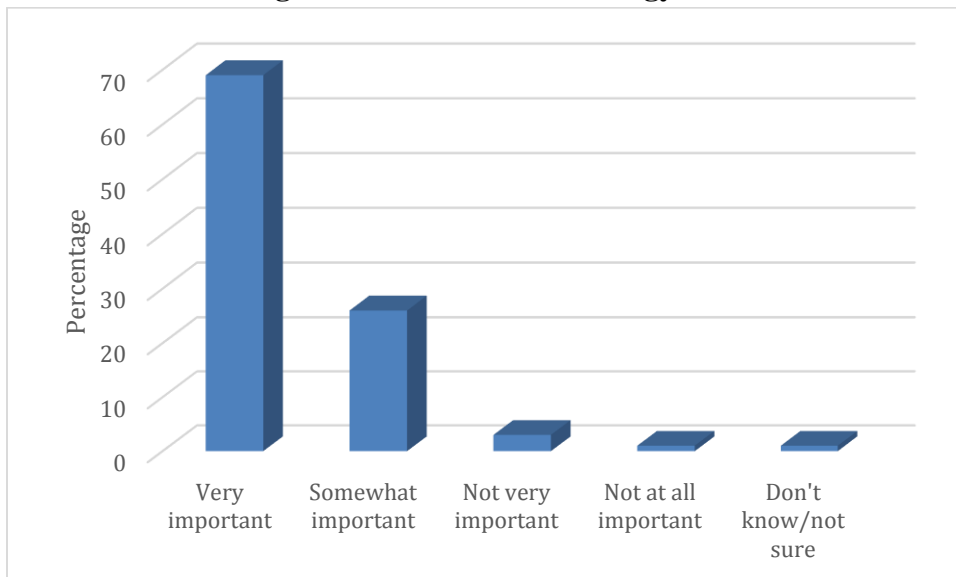


Figure 20. American's perception of the importance of federal government's addressing energy security within 12 months. Source: IPSOS-Reid Public Perspectives on Continental Energy Poll, Oct, 2001)

“In order to help reduce energy use and this country's dependence on oil as an energy source, which of the following, if any, would you personally be willing to do?) Would you be willing to... pay another 10 cents in taxes per gallon of gas, which would fund more research and development of alternative energy sources and encourage people to use less gas?”

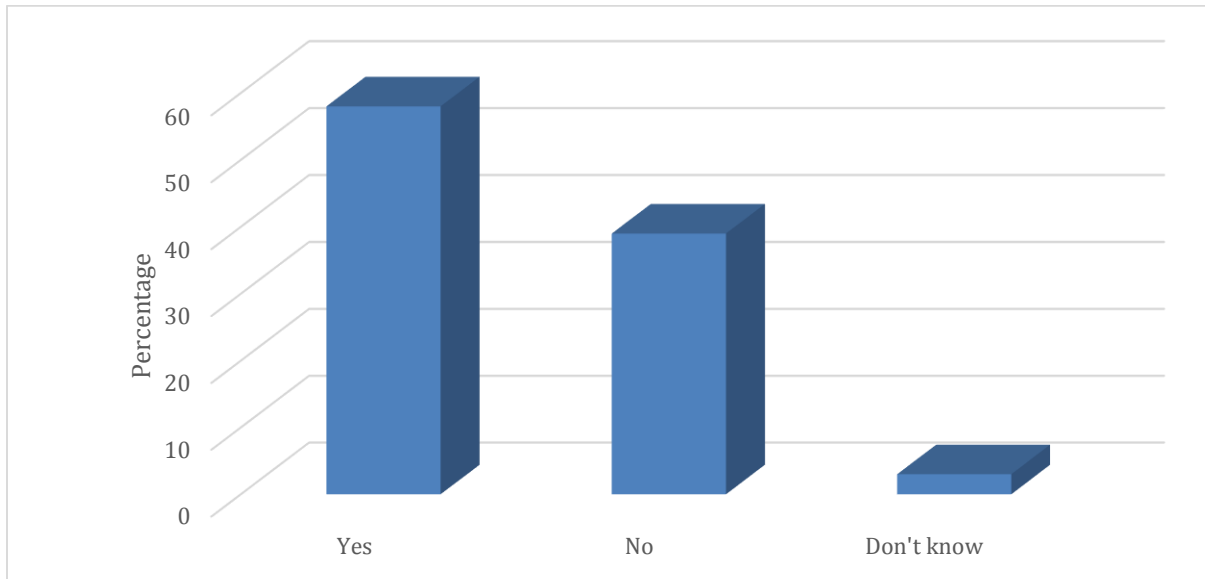


Figure 21. Americans’ willingness to pay taxes for energy security. Source: Princeton Survey Research Associates/Newsweek Poll, Nov, 2001

Not only were Americans willing to pay extra taxes to secure the nation’s energy independence, but they also favored proposals that would increase funding to develop alternative energy sources, as captured by the Princeton Survey Research Associates/Newsweek Poll in November 2001, in which 84% of the respondents favored such government proposals (Figure 22).

American agricultural policies are, however, geographically biased to the agricultural states, especially the Middle belt where vast amounts of corn are continually produced. This bias had never changed since the First Farm Bill, in 1933, and was confirmed in Congress Quarterly (1965) when it stated "the high-supports bloc consisted of a majority of Southern and Western Democrats and Republicans from heavy farm States (Minnesota, Wisconsin,

“As I read you some proposals to make this country less dependent on oil as an energy source, please tell me whether you favor or oppose each one. What about... increasing government funding for research and development of alternative energy sources like solar power, wind power, and fuel cells?”

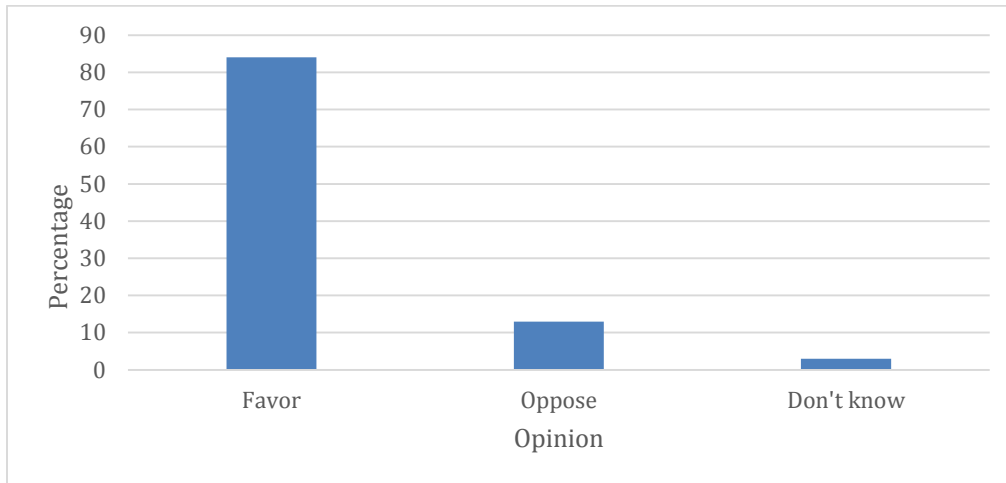


Figure 22. American’s desire for funding of alternative energy development. Source: Princeton Survey Research Associates/Newsweek Poll, Nov., 2001).

Michigan), Corn Belt and Plains (Iowa, downstate Illinois, Indiana, Nebraska, Kansas, Dakotas), and a fluctuating number of Northern urban Democrats." Figures 23 and 24 show US crop production by states with reference to the 2002 Farm Bill votes pattern (HR, 2646). While many Congressmen and -women opposed the bill because it favored neither their regions nor national equity, and demanded that bill provisions be extended to other food crops (HR, 2646), the bill, with its alternative of providing rural economy development, finally got a bipartisan approval. On the other hand, Zahariadis, on "Multiple Streams Framework: Structure, Limitations, Prospects" in Sabatier (2007) indicated that "solutions are developed, Kingdon argues, not simply on the basis of efficiency or power, but also on the basis of equity." As a result, many farm area Republicans favored the bill with support from farmers organization such as the American Farm Bureau Federation, the National Farmers Union, the National Corn

Growers Association, the Corn Farmers Coalition and the Iowa Corn Growers Association (HR, 2646), while others rejected the bill because of its inability to cover other crops produced in other states. However, Congress Quarterly (1965) explained the difficulty in understanding congressional voting patterns by stating that while it was "difficult to say with certainty why any individual Congressman voted for or against a particular measure, the voting patterns described above appear to have been influenced by three major factors: regional economic interests, the general philosophies of the Republican and Democratic parties on all matters—not just agriculture—and the positions of farm organizations strong in particular areas."

The votes on the 2002 Farm Bill could not really capture the three elements of regional economic interests, general philosophies of the Republican and Democratic parties and farm organization positions on all matters, but the convincing aspect of the bill was the eradication of

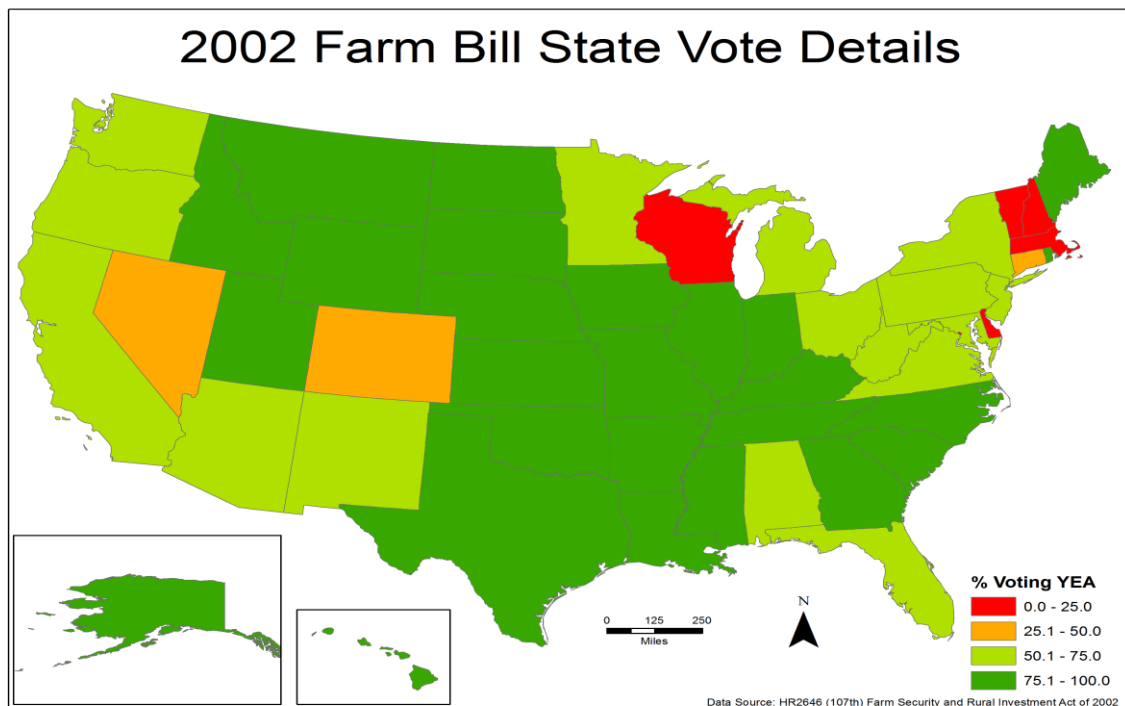


Figure 23: Source: HR.2646. Retrieved from [www. House.gov](http://www.House.gov).

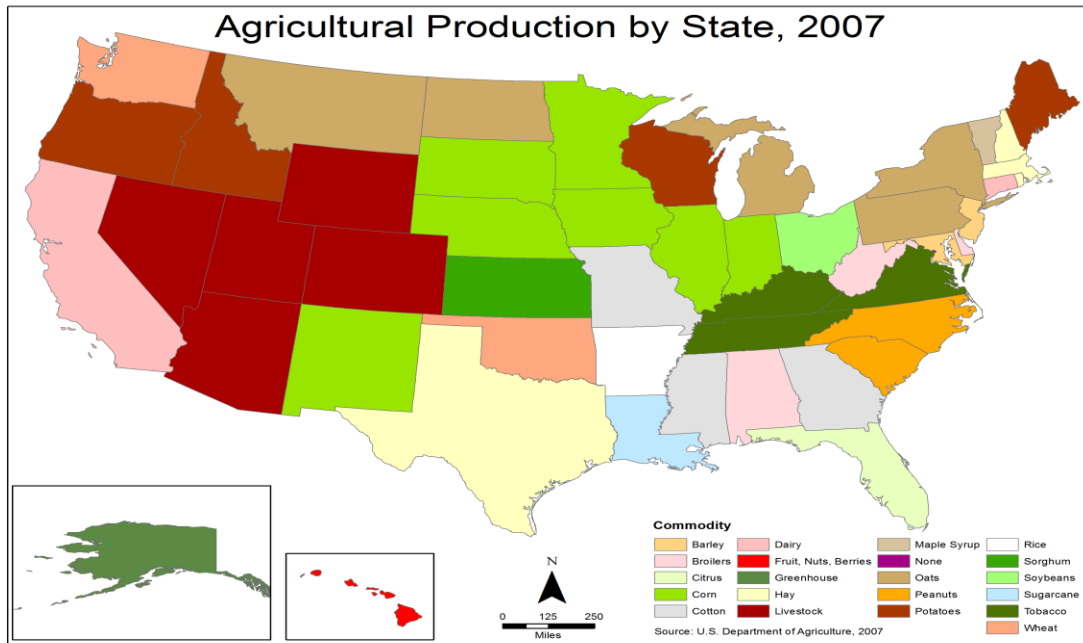


Figure 24: Source: USDA.

rural poverty through rural economic development, which led members of Congress from both sides of the aisle who were opposed to the bill to consider their constituents' economic interests (HR, 2646) and the focusing event. Zahariadis, in Sabatier (2007) summarized this development by stating that "the problem-solution sequence and the politics of choice are affected by the degree of fragmentation in the politics and policy streams and by the type of policy window". With the bipartisan votes shown in Figure 24, both the problem and the politics streams converged at the focusing event and waited to be attached to the solution: the inclusion of Energy Title IX in the 2002 Farm Bill.

The policy stream

The problem for US energy security had been identified. Brunner (2008) continued by saying that once a problem is known, "a search for a solution begins. Out of the many ideas floating in

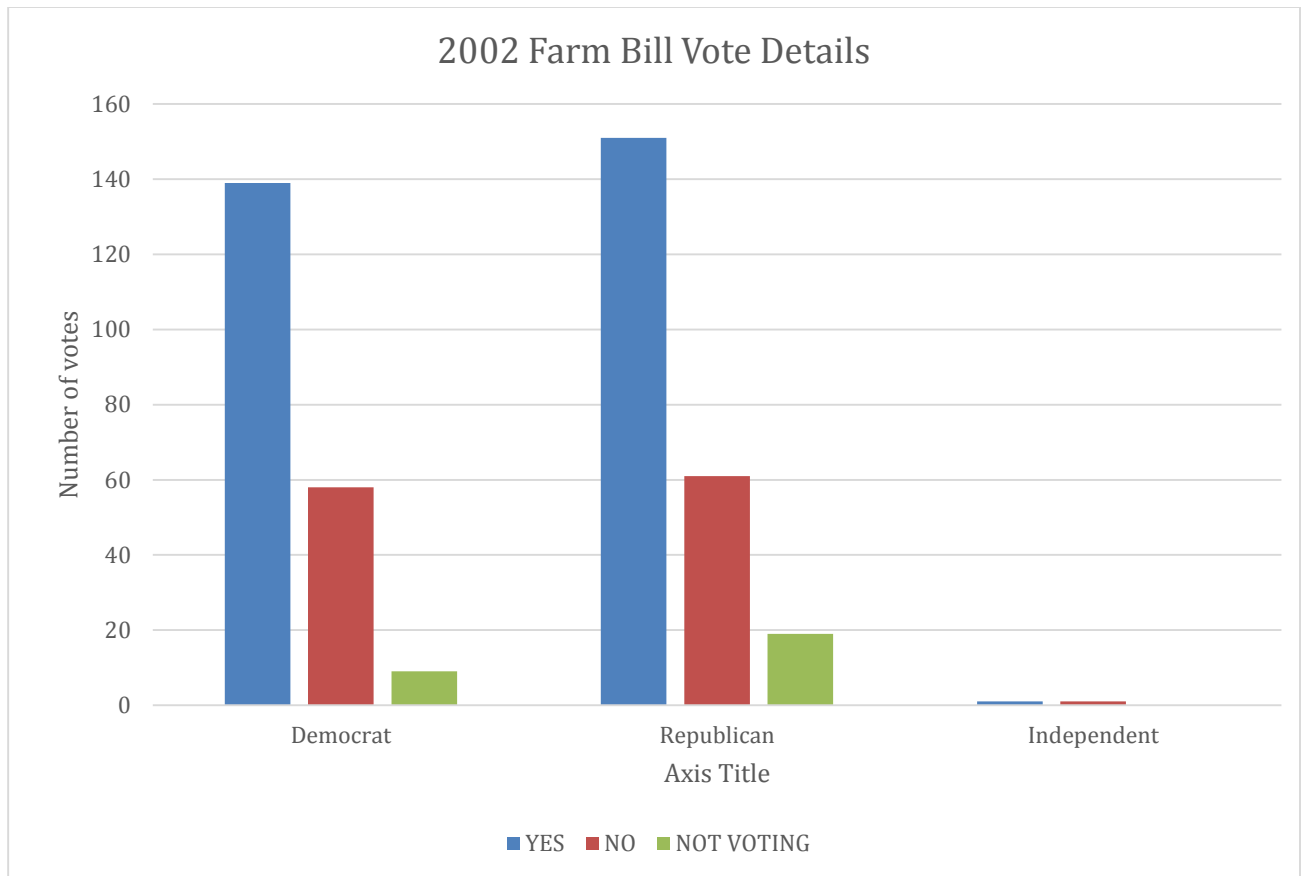


Figure 24: Source: HR.2646. Retrieved from [www. House.gov](http://www.House.gov)

the policy primeval soup, the ones that were technically and financially feasible swam to the top"(p.502). Zahariads (2008) defined the policy stream as "a soup of ideas that compete to win acceptance of policy network" (p.72). According to Kingdon (2003), the policy solution usually waits in "the primeval policy soup" for the problem to arise (Kingdon, 1995, p.200).

The problem of energy security to cut down dependence on imported oil led to the inclusion of Energy Title IX in the 2002 Farm Bill as the policymakers created an energy security policy designed to avoid oil imported from terrorist nations. The United States' need for energy independence and security prompted policymakers to formulate policies that were technically feasible and had acceptable values (Kingdon, 2011). Specifically, policymakers explored alternatives to traditional oil. One promising alternative was found in biofuel, which is made

from living organisms, or "feedstock," such as plants and microalgae (Schnepf, 2012), and with the corn price reaching its lowest ever in the nation's history (Figure 25) in the 2000s, the three streams converged at the focusing event of the September 11 attacks to match the solution of energy security through the inclusion of Energy Title IX in the 2002 Farm Bill.

Energy security policies had been in the proposal stage under various American presidents since President Roosevelt (Glover & Ratner, 2014) but never before had an energy security policy come onto the national agenda, much less inspired the bipartisan consensus agreement (Figures 23 and 24) necessary for a comprehensive national energy policy to be formulated in Congress. To this, Kingdon (2011) pointed out that presidents are more important in setting agendas than in developing alternatives and could not hold an issue on the national agenda for long. Although many other ideas had been floating around for ensuring energy security, in what Kingdon (1984) referred to as "policy primeval soup" (pp. 19, 121-131), the inclusion of the Energy Title IX in Farm Bill 2002 was a solution waiting for the right problem,

Historical Oil and Corn Prices

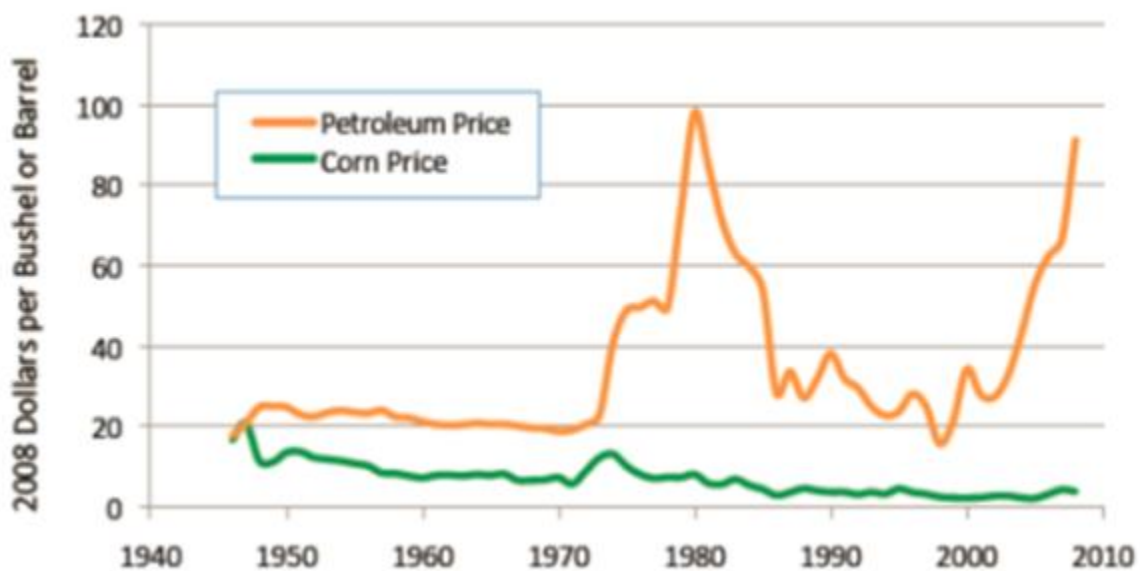


Figure 25: Source: U.S. Energy Information Administration

and it became policymakers' highest priority on the agenda immediately after the terrorist attacks as an alternative source of energy.

To affirm this, in an October 2000 TIPP/Investor's Business Daily/Christian Science Monitor Poll, 45% of Americans demanded that the government develop new energy technology and sources. Thirty-five percent asked that the government produce oil and gas at home instead of importing it. Only 3% supported the government's earlier initiative of increasing foreign oil imports (Figure 26).

“I'm going to read four possible methods of reducing US (United States) energy problems in the long-term. Of the four methods, please tell me which one method would be your top choice for reducing US energy problems.... Importing more oil and gas from other countries, producing more oil and gas in the US, taking steps to conserve oil and gas, developing new energy technology and sources”

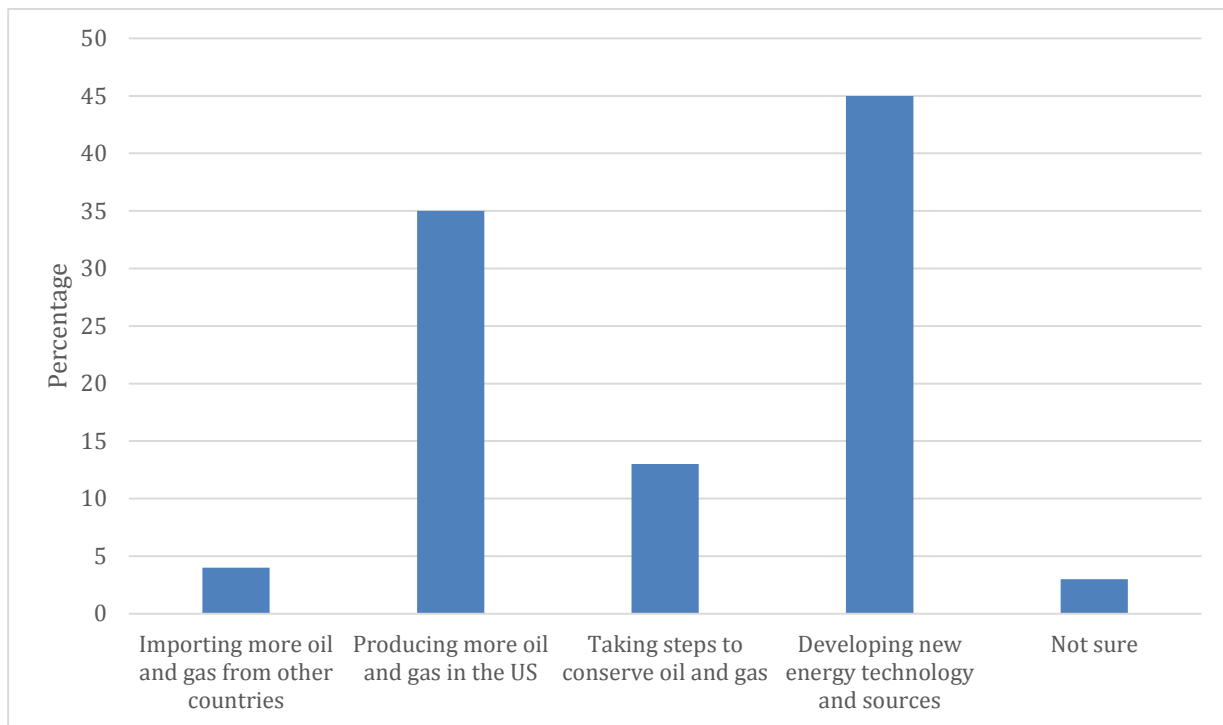


Figure 26: Source: TIPP/Investor's Business Daily/Christian Science Monitor Poll, Oct, 2000)

Similarly, 35% of Americans demanded that both Republicans and Democrats perform better in developing energy security policies (Fox News/Opinion Dynamics Poll, Jan, 2002) and, in a March 2002 CNN/USA Today Poll on presidential approval, 57% of Americans agreed with the President’s policies towards energy security development (Figure 27). Prior to the September 11 attacks, a May, 2001 ABC News/Washington Post Poll showed that only 28% of Americans approved of the President's energy security policies (Figure 28).

The change in the political stream through the election of President Bush caused the problem stream to converge with the policy stream (Kingdon, 1984) and the window of opportunity created by the focusing event allowed 68% of Americans to demand through a CBS News/New York Times poll that the President produce energy at home instead of

“Do you approve or disapprove of the way George W. Bush is handling...energy?”

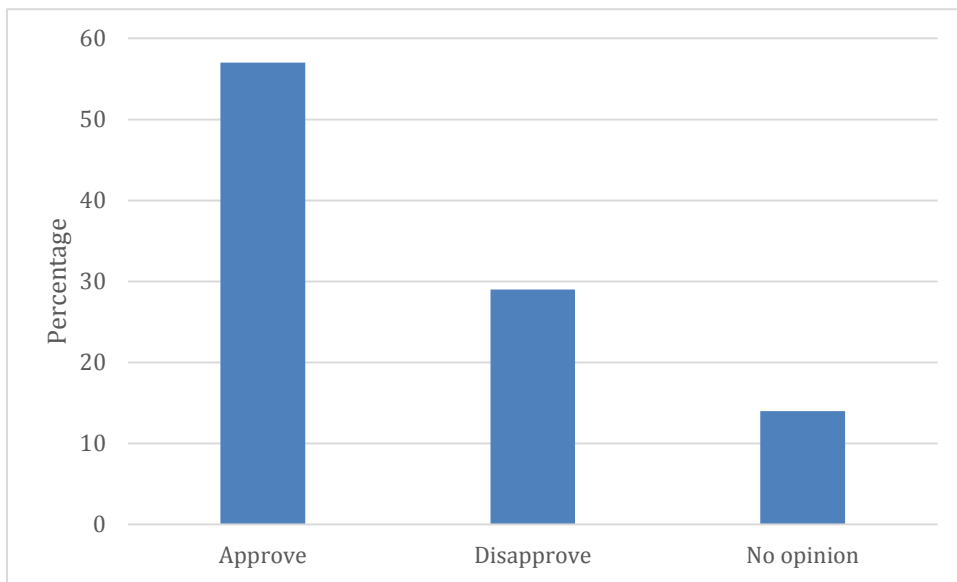


Figure 27: Source: Gallup/CNN/USA Today Poll, Mar, 2002)

“Do you approve or disapprove of the way George W. Bush is handling his job as president? (If approve/disapprove, ask :) Is that approve/disapprove strongly or approve/disapprove somewhat?”

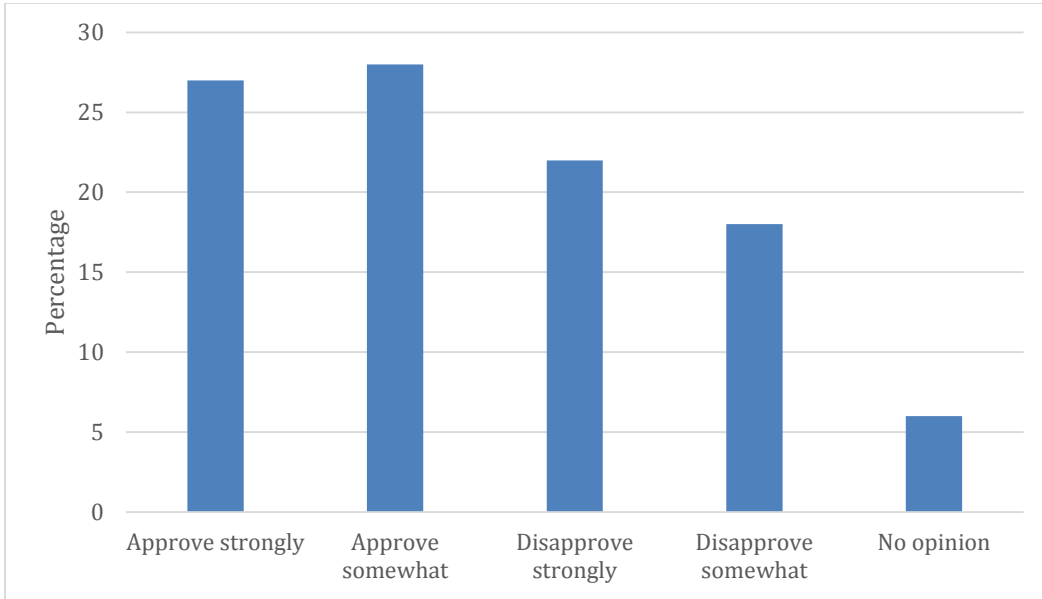


Figure28: ABC News/Washington Post Poll, May, 2001

protecting the environment (Figure 29). In a March, 1998, Market Strategies National Monitor Poll (Figure 12), three years before the September 11 attacks, 78% of Americans asked the government to establish a national energy policy plan to ensure that the US had a sufficient supply of reasonably priced energy for many years to come (Market Strategies National Monitor Poll, Mar, 1998).

Prior to the November 2002 opinion poll by CBS News/New York Times, a May, 2001, ABC News/Washington Post Poll showed that half of Americans (50%) were ready to support any federal policy that would offer the nation energy security (Figure 30).

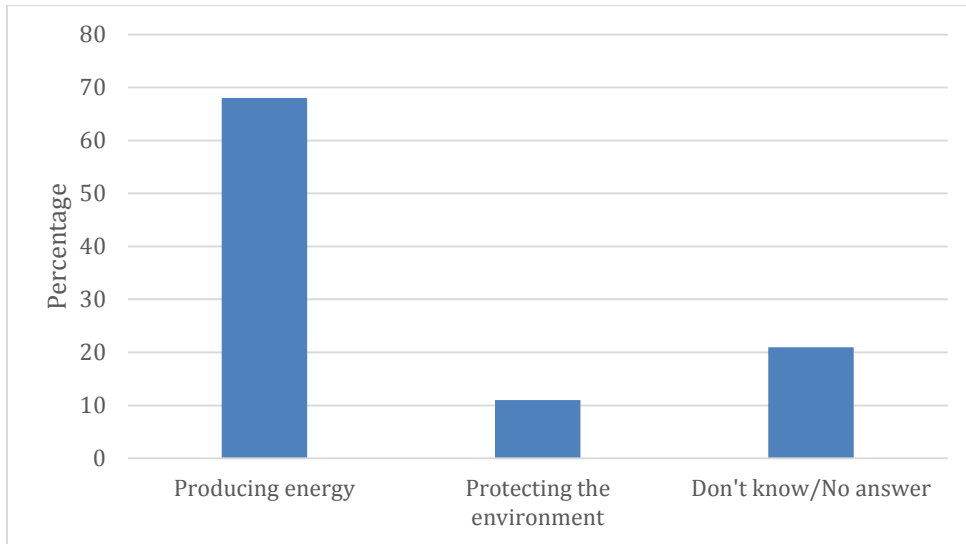


Figure 29: Source: CBS News/New York Times Poll November 2002

“To address the country's energy needs, would you support or oppose action by the federal government to...increase oil and gas drilling? Do you support/oppose that strongly or not strongly?”

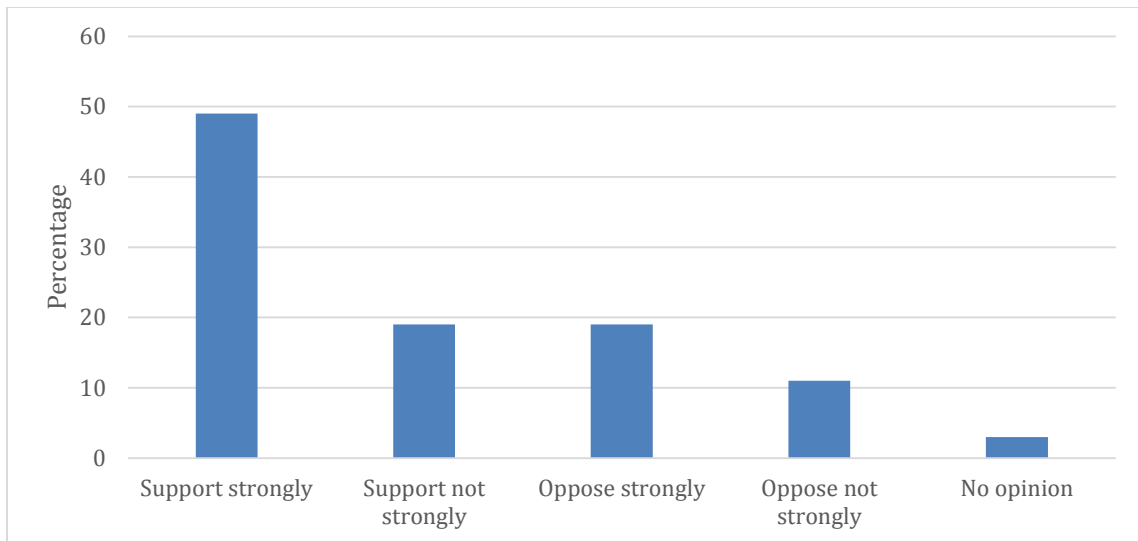


Figure 30: (Source: ABC News/Washington Post Poll, May, 2001)

Although there were ideological differences between members of Congress on the 2002 Farm Bill, the problem and policy streams were ripe for a comprehensive policy security towards US energy security with the election of George Bush in 2000. Kingdon (2011) pointed out that "solutions become joined to problems, and both of them are joined to favorable political forces. This coupling is most likely when policy windows—opportunities for pushing pet projects or conceptions of problems—are open" (p.20). Zahariadis in Sabatier (2007) further states that "domestic politics is conceptualized as being measured by control of the executive branch and control of either or both chambers of Congress". Political interests and ideologies had also begun to change with focusing events, and Zahariadis in Sabatier (2007) summarized this as "political ideology is a good heuristic in an ambiguous and rapidly changing world. It provides meaning to action, cues for floor voting, or serves as an (imprecise) guide to what issues are important. Ideas may be used by politicians not only to define others but to define themselves. People, however, need not be motivated exclusively by ideas. Entrepreneurs whose purpose is to couple the three streams will occasionally bend ideological proclivities in order to take advantage of fleeting opportunities".

The terrorist attack on the US brought attention to the energy security issue and opened up a window of opportunity in the problem stream. With both the new administration of President Bush and the new 2000 Congress ideologically inclined, this was confirmed even before the terrorist attacks in a May, 2001, News/Washington Post Poll in which 68% of Americans demanded that the President compromise with Democrats rather than pushing his own agenda through Congress (Figure 30) in order to fight terrorism through energy security.

“In the future, do you think (George W. Bush should try mainly to push his own agenda in Congress, or try mainly to compromise with the Democrats in Congress?”

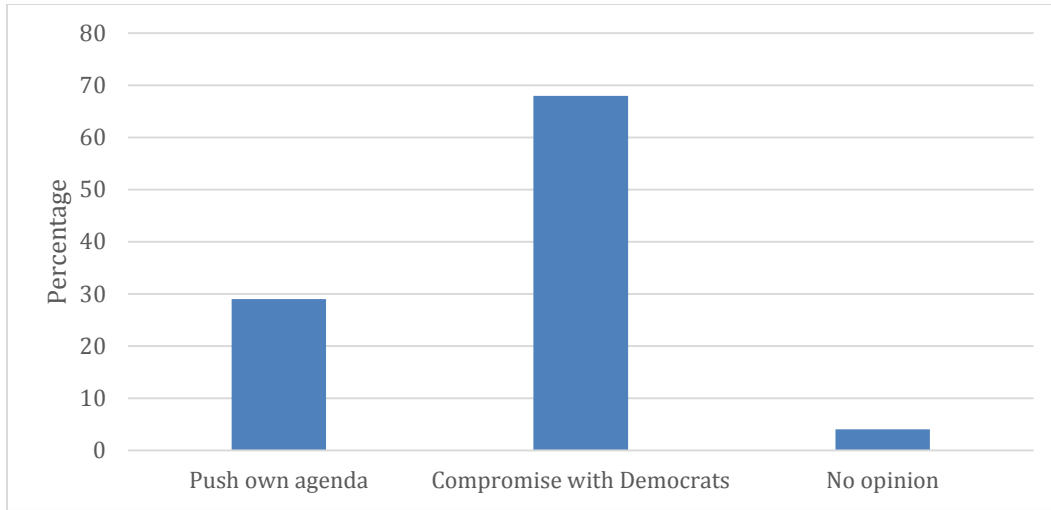


Figure: 30 News/Washington Post Poll, May, 2001)

In addition, President Bush’s neutrality towards political ideology was also confirmed in another May in 2001, ABC News/Washington Post Poll in which half of Americans (50%) believed the President had no conservative ideological agenda towards the nation’s energy policies (ABC News/Washington Post Poll, May, 2001) (Figure 31).

“Do you think (George W. Bush's views on most issues are too liberal for you, too conservative for you, or just about right?”

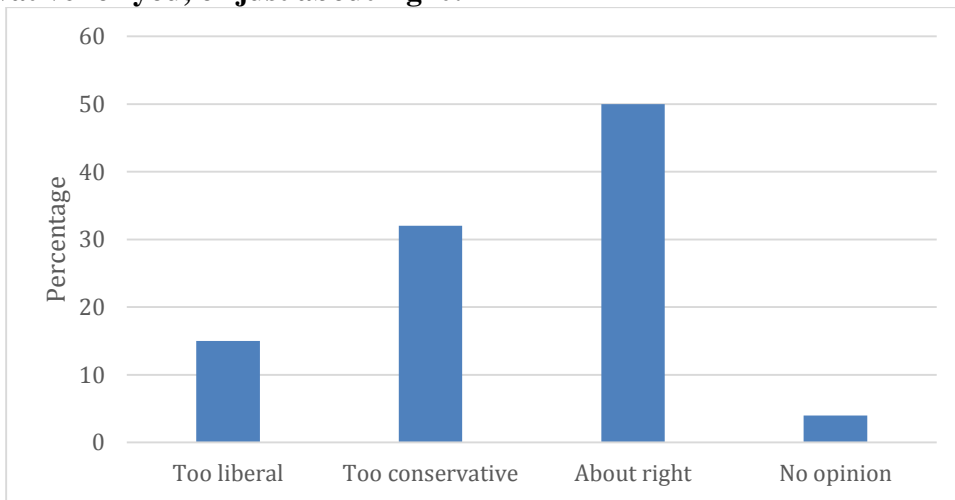


Figure 31: Source: ABC News/Washington Post Poll, May, 2001)

By defining terrorism as a threat to national energy security (Hamilton et. al 2004), policy entrepreneurs seized the opportunity quickly before it closed, to find a solution in the policy stream, a solution which had been waiting for a long period of time to attach itself to the problem in the problem stream. The policy entrepreneurs, therefore, converged on the problem, energy security, with the election of President Bush, the election of Congress and the national mood after the September 11 attacks—the focusing event that called attention to the problem. As Zahariadis, on "Multiple Streams Framework: Structure, Limitations, Prospects" in Sabatier (2007) further states, the September 11 attacks were the highest order symbol that applied to the entire nation with "more potency of affect, more uniformity of meaning across individuals, and greater durability of attention" and, confirmed by the various opinion polls in this discussion, led through bipartisan votes in Congress to the inclusion of Energy Title IX in the 2002 Farm Bill to promote ethanol in biofuel production in order to achieve national energy security.

Discussion

Why do streams converge and why not?

In the case of the inclusion of Energy Title IX in the Farm Bill, the three streams converged. However, Kingdon's three streams do not always converge. For example, they did converge for President Obama in 2009 for his health care reforms. On the other hand, during the Clinton administration, the three streams did not converge into a policy for reforming the nation's healthcare delivery system (Kingdon, 2011).

As Kingdon (2011) said of the Clinton administration, "We found that everybody recognized the problem in the healthcare system, and the politics at the least tolerated action, but there was very little agreement on the policies to be pursued, even among advocates of change" (p.232). At this time, the problems of rising healthcare costs as well as gaps in healthcare coverage were recognized, and with the election of Clinton in 1993, the direction of the political stream changed. But as Kingdon (2011) said, there has to be a "consensus on policy options before a window opens" (p. 236). Before Clinton took office, there were many advocates for health reform, but with different approaches: "Some preferred single-payer national health insurance, others preferred 'managed competition,' others preferred more incremental steps and there were hybrids among them" Kingdon (2011, p. 236). When a policy window of opportunity opened through a focusing event to formulate a health care policy, there was no policy consensus for policy advocates to take advantage of (Kingdon, 2011).

However, with the election of President Obama in 2009, many advocates settled on one approach, an individual mandate approach (Kingdon, 2011). As Kingdon (2011) described it, "when the Obama administration took office in January of 2009, most of the prominent advocates had settled on one basic approach" (p. 236). Unlike Clinton, whose administration did not have any policy consensus on health care reform or focusing events to allow the

policymakers to converge the three streams for a national health care reforms, Obama's administration did.

Coupled with the rising health costs, Obama also inherited the greatest recession in American history, which became the focusing event for policymakers. The Great Recession resulted in the loss of 700,000 American jobs (Kingdon, 2011), which "drew into sharp relief the downside of employer-based health insurance" Kingdon (2011, p.234). The Obama administration, with its consensus policy option already available and waiting for a window to open, and with higher national support in its first year of administration (Kingdon, 2011), capitalized on the Great Recession as a focusing event to converge the problem and politics streams in the enactment of the Obama healthcare reforms. Both Obama healthcare reforms and energy security advocates had policy consensus already in place and waiting for a window of opportunity to open through a focusing event to place the issues on the national agenda for a policy formulation.

When a policy window of opportunity opens, like the Great Recession for the Obama healthcare reforms or the September 11 attacks for President Bush, policymakers quickly seize those opportunities to formulate policies before the windows close. Conversely, in Clinton's administration, although there were problems with political support, there was never any policy consensus nor any focusing event for the policy entrepreneurs to merge the streams to formulate a comprehensive health care reform (Kingdon, 2011). The probability of raising an issue on the national agenda is increased if all the three streams are joined together as in Obama health care reforms. However coupling between any of the two streams is less likely to result in policy change as witnessed in Clinton's administration (Kingdon, 2011).

In the case of Title IX, U.S. energy security attracted high public interest and political attention after the September 11 attacks that required an important policy change, as affirmed by Henstra (2015) when he stated that the focusing event of September 11 created the “conditions conducive to policy change. As the problem, policy and political streams began to converge, a policy entrepreneur seized the resulting policy window”. With favorable policy windows opening in both the problem and politics streams and the September 11 attacks that focused attention on cutting down oil imports from the Middle East and development of alternate energy source for the U.S, policy entrepreneurs, who since 1970s had been searching for solutions to the energy security problems, seized the policy window and successfully converged the streams. Kingdon (2011) supported this when he pointed out that “solutions become joined to problems, and both of them are joined to favorable political forces. This coupling is most likely when policy windows – opportunities for pushing pet projects or conceptions of problems – are open.” (p. 20). Zahariadis (2007), on the other hand, summarizes this by saying “success is more likely when all three streams are coupled, depending on the type of window that opens and the skills, resources, and strategies of entrepreneurs to focus attention and bias choice” (p.78-79).

The three streams needed to couple in order to open a policy window. The policy stream had been present since the 1970s Arab Oil embargo and with the strong problem and politics streams present immediately after the September 11 attacks, the streams which acted independently converged at the focusing event of September 11. As Kingdon (94) pointed out, “the separate streams come together at critical times. A problem is recognized, a solution available, the political climate make the time right for change, and the constraints do not prohibit action.” In addition, the streams converged because there was the focusing event of the

September 11 attacks, which forced the problem of energy security to the fore at a time when the politics streams were predisposed by common interests toward the solution.

Window of Opportunity

For Moattari (2008) "the three streams work along different, largely, independent channels until at a particular time, they become a policy window, they flow together or intersect. This is the policy window or window of opportunity for delivering a change and move items onto the government's formal agenda." The problem and politics streams and the coincidence of the September 11 attacks combined to open a policy window raising the issue of U.S energy security on the nation's high priority agenda. Kingdon (2003) calls policy windows "short-lived opportunities for advocates to focus political attention on a problem and to promote their preferred solution" (p. 166).

Window of opportunity: the problem stream

U.S energy security has been a problem since the 1970s but became accepted among the citizens and policymakers as a problem that needed authoritative resolution during the September 11 attacks. Kingdon (2003) echoes this when he said "some conditions come to be defined as problems when indicators of problem severity suggest that action is required" (p.90). Higher dependence on the import of oil from countries perceived to target the U.S and the signals of immanent future attacks coupled with the national mood had brought energy security to the national forefront. The energy security issue was really revealed by the focusing events of the September 11 attacks. Henstra (2015) pointed out that, "focusing events, particularly if they affect a large number of people, attract media attention, and this in turn tends to generate greater

public interest and concern” and focused political attention on the need to secure energy security from oil imports.

Window of opportunity: the politics stream

Government officials, as Henstra (2015) made it known, “are sensitive and responsive to shifts in public opinion concerning the importance of an issue. An issue is more likely to come under active consideration by policy-makers and put to decision-makers for resolution if it is perceived that the balance of public opinion is supportive of government intervention”. With the elections of both President George Bush and Congress in 2000, the national mood towards the shock produced by September 11 and the political consensus building in the congress all three streams—the problem, the politics, and the policy streams—converged and created a window of opportunity for the creation of a comprehensive policy for U.S. energy security. Kingdon (2011) summarized by saying “Swings of national mood, vagaries of public opinion, election results, changes of administration, and turnover in congress all may have powerful effects.” (Kingdon, p. 17). “The greatest policy changes grow out of that coupling of problems, policy proposals, and politics.” (p. 19). That policy would take the form of Title IX of the 2002 Farm Bill. The terrorist attacks on the United States contributed to both the problem and political streams that led to the solution found in the policy stream. According to a CBS News/New York Times poll, 68% of Americans were aligned with the President’s energy policy that would cut the nation’s dependence on foreign oil from terrorist nations (Nuclear Energy Institute Poll, 2002).

Window of opportunity: the policy stream

Both the politics and the problem provided the policy window opening. The ideas about the energy security as a problem and its solutions were proposed and debated in congress. Although

there were many members of congress who did not share common ideas in the policy area proposed to include a geographical food crops by promoting such crops over others in different parts of the nation as well as promotion of conservation by making sure that the three streams do not emerge, the three streams eventually converged. As Henstra (2015) summarized it, “for a proposal to survive this vetting process, the members must regard an idea as technically feasible, meaning it is likely to achieve what it is intended to accomplish. It must also be compatible with the dominant values of the policy community”.

Window of opportunity: coupling of the streams

The September 11 focusing event, which Hamilton (Hamilton et al., 2004)) affirmed as a shock to the Americans, opened a policy window of opportunity. According to Ridde (2009), a window of opportunity "is indispensable to a coupling of the streams". Kingdon agreed that within both the problem and political streams, opportunities occurred during agenda-setting (Kingdon, 1995). In this case, however, policy windows occurred in both the political and policy streams; as Henstra (2015) pointed out, for the September 11 attack, “a focusing event rapidly attracts attention to a problem, creating a sense of urgency to act”.

The convergence of the streams and the opening of a window of opportunity is rare and short-lived, according to Kingdon (1995), and as also suggested by Zahariadis (1999). Nevertheless, this study has examined how this convergence did occur through the passage of the 2002 Farm Bill. Policymakers seized the brief opening of the policy window of opportunity to link both the policy and problem streams together with the political opportunities that were available immediately after the 2000 presidential and Congressional/Senate elections. Thus, the 2002 Farm Bill passed Congress before fading from the national agenda. Kingdon (2011)

summarized how such change happens: "People who are trying to advocate change are like surfers waiting for the big wave" (p.165), and policy windows "open infrequently, and do not stay open long" (p.166).

In the case of the 2002 Farm Bill, policymakers seized the opening of the policy window of opportunity through the focusing event of the terrorist attacks on the U.S. soil. Henstra (2015) summarized this by saying that policy entrepreneurs take "advantage of a policy window to persuade newly receptive political decision-makers to address a currently salient problem by choosing a policy proposal previously generated and endorsed by the policy community". They linked the problem of energy security to both the policy stream (2002 Farm Bill) and the political stream (elections of both President Bush and Congress in 2000), as shown in Figures 24 and 25. The convergence of these streams led to the emergence of the policy change toward energy security (Kingdon, 1995): The 2002 Farm Bill was passed through a bipartisan vote of 291 to 120, representing 68% of votes, with 159 Republicans, 139 Democrats, 1 Independent, and 19 abstentions (Figure 24). The bill was sponsored by Larry Ed Combest, a Republican from Texas and Chairman of the House Agriculture Committee from 1999-2003, who acted as a proposer in Kingdon's terms. Kingdon (2011) affirms the operation of this process: "The greatest policy changes grow out of that coupling of problems, policy proposals, and politics" (p. 19). So it was with Title IX of the 2002 Farm Bill, which promoted the use of corn-based ethanol feedstock for biofuel production in the United States (H.R. 2646) and thus contributed to energy security.

Limitations

The multiple streams approach has been criticized by policymakers and scholars alike (Chow, 2014). For example, the multiple streams approach failed to explain how the corn-based ethanol feedstock for biofuel production in the US would affect both national and global food security since the nation is responsible for 40% of the world's corn exports (USDA, 2014). In addition, although the policy change helped in promoting an alternate energy source and rural development (through the low price of corn, which helped low-income people (Figure 17), the multiple streams approach did not explain the intersection of the policy between energy security and food security with the use of the corn for ethanol production. To this point, Ridde (2009) summarized the multiple streams as "being useful for understanding and explaining issues more than for forecasting".

Another limitation of Kingdon's (1984, 1995) model is that the multiple streams do not include belief systems. Moreover, the multiple stream approach does not explain EU policy-making in general because according to Princen (2009), "every policy area in the EU varies fundamentally according to the extent of integration it has achieved". In addition, according to John (1998), the multiple streams model "concentrates too much on agendas and not enough [on] how ideas feed into the implementation process and back again" (p.179). In the multiple streams model, the factors that influence policy implementation and formulation are fused together and thus very difficult to distinguish.

A further deficiency of the multiple streams approach concerns the identification of media and its importance in the policy process. The multiple streams approach fails to acknowledge the paramount role of media in the policy process (Stout & Stevens, 2000). Media can also push an issue more strongly on the policy agenda setting (Cobb & Elder, 1983). Chow (2014) acknowledged the media when he said that in the "theory of agenda setting in the field

of communication, the media does not reflect reality, but simply filters and shapes it according to audience interest". This essential tool was lacking in the multiple streams approach for policymakers to utilize in the development of the streams (p. 53).

Finally, another important limitation of Kingdon's model is the uncertainty over whether the individual streams are actually independent of one another (Sabatier, 1999). This may be a difficult critique to accept because the multiple streams model does give excellent analytical categories, with each stream having its own rules and independent flows (Guldbrandsson & Fossum, 2009). The streams only converge if the policymakers link the problems to the solutions, or as Chow (2014) put it, "present them to receptive political audiences". Such audiences have always been an essential tool in any policy paradigm.

Despite its limitations, Kingdon's multiple streams model is a powerful tool for understanding the policy processes by which Energy Title IX came to be included in the 2002 Farm Bill. The purpose of the title was to provide energy security by promoting the use of corn-based ethanol feedstock for biofuel production in the United States. The multiple streams model explains how the policy problem was constructed in many policy dimensions, and with solutions matched to the problems. The three streams—problem, policy, and politics—ultimately converged as a window of opportunity opened, making possible the emergence of an important new policy change.

However, since beliefs systems also play a crucial role in a policy change process, this deficiency in the Kingdon (1985) model can be corrected by the use of the advocacy coalition framework to translate such beliefs into policies, as Schlager pointed out (Schlager, in Sabatier 2007) "measuring belief systems, identifying policy subsystems, and identifying the mechanisms that promote policy change" (p.298).

Conclusions

Kingdon's multiple streams framework is useful to explain how one specific policy solution (Sabatier, 1999), the inclusion of Energy Title IX in the 2002 Farm Bill, was adopted to promote the use of corn-based ethanol feedstock for biofuel production in the United States as an alternate source of energy to replace traditional oil to counter terrorism through energy security. Kingdon's multiple streams model explains how the three streams converged to put the problem of terrorism and the solution of biofuels on top of the national agenda and paved the way for the enactment of the 2002 Farm Bill to include Energy Title IX. In addition, the multiple streams model also assisted us in understanding how the policies of the 2002 Farm Bill encouraged the political streams to promote the use of ethanol as an alternate source of energy to replace oil in the United States.

Not only did Kingdon's model enable us to understand how the policies encouraged political streams to promote ethanol, but the streams also played crucial roles in letting us understand why certain actions allow policy change to occur and others not (Sabatier, 1999). Kingdon's multiple streams model acted largely independently, but with some overlaps with actors in each of the streams. None of the streams alone could place an issue firmly on the national agenda without the support of other two streams, but Kingdon made it clear that at some point in time, each of the three streams could promote the inclusion of an issue on the government agenda (Kingdon, 1995). For instance, the absence of one of the streams, such as a problem in the problem stream, could make the solution in the policy stream unavailable; or, a solution could be found without strong political support in the political stream (Kingdon, 2011). For the streams to converge, policymakers must link at least two of the streams at a focusing event through the opening of a policy window.

In this study, the streams emerged when the policymakers capitalized on the national mood after the September 11 2001 attacks to formulate policy or solutions to energy security issues. According to Kingdon (2011), "Solutions become joined to problems, and both of them are joined to favorable political forces. This coupling is most likely when policy windows—opportunities for pushing pet projects or conceptions of problems—are open" (p. 20).

With both favorable national mood and public opinions, and a politically charged atmosphere with the elections of President Bush and Congress, a political stream opened for the passage of the energy title. The three streams then converged with the September 11 attacks, resulting into a policy window of opportunity, which the policymakers seized immediately to push the inclusion of Energy Title IX in the 2002 Farm Bill. This title, by promoting the use of ethanol as an alternate to the traditional oil energy source, gave the United States the "flexibility to choose not to import oil from countries associated with terrorism or from countries that might seek to use their export of oil to influence international affairs" (CBO, 2012).

Finally, Kingdon's model is a powerful tool for analyzing U.S policy and as Zahariadis, in Sabatier (2007) states, Kingdon (1984) "explores how and under what conditions entrepreneurs manipulate the policy process, not only to pursue their own self-interest, but also to provide meaning to policy makers with problematic preferences" and "offers a fruitful way to explain how political systems and organizations make sense of an ambiguous world." It is also the best candidate to bridge the gaps between domestic and foreign policies by attaching the problem to the both domestic and foreign variables (Sabatier, 2007).

However, in the current debate on climate change and the need for food security in both developed and developing world, the research concludes by suggesting other renewable energy

in the form of wind, solar and nonfood crops, especially waste, to produce alternative energy for the nation's energy security.

Contribution of the Master's Project

One of the most important contribution of this project is the acknowledgement of equity, or why unequal policies get implemented, like the inclusion of Energy Title IX in the 2002 Farm Bill that promoted a geographically biased food crop, corn, over other crops located in other states.

Another contribution is that energy security is crucial for a nation in the midst of terrorism and whose energy supplies come from terrorist countries. But when seeking energy security to counter terrorism, the use of food crops in energy development conflicts with domestic as well as international food security. Instead, this project suggests using non-food crops, such as waste, in sustainable energy development.

Recommendation for future research

There is the need for further research in the applicability of Kingdon's (1985) model under different conditions to ascertain why certain issues tend to be a "garbage can" (Zahariadis, in Sabatier, 2007). Zahariadis continues, "as a result, conventional wisdom is questioned, bringing dissenting groups to the forefront of change. The activation of new groups and the wide disagreement as to the relevant values upon which to base the policy decision in turn increase ambiguity and permit the evocation or appearance of new problems and solutions. Such desegmentation of previously established links between windows, problems, and politics complicates the process as new and perhaps unrelated elements are dumped into the can."

Further research is also needed into role of media in agenda setting and its applicability in the Kingdon's (1985) multiple framework.

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