

MICHIGAN'S 2008 RENEWABLE PORTFOLIO STANDARD LEGISLATION: A CASE  
STUDY OF CLEAN WATER ACTION

By:

Erin Elizabeth Adair

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## CHAPTER I

### INTRODUCTION

The utilization of coal as an energy source has contributed to advancements in technologies and living conditions because it provides an abundant, inexpensive and convenient energy source. The United States, and specifically the Midwest, Mid-Atlantic, and Southern regions have both benefited and suffered from the costs of coal. While coal is an indigenous, inexpensive energy resource that has generated thousands of jobs for Americans, our reliance on coal has also created potentially devastating health, economic and environmental impacts.

Coal-fired power plants are Michigan's primary source for energy. Burning coal emits carbon dioxide (CO<sub>2</sub>) and nitrogen dioxide (NO<sub>2</sub>), which are greenhouse gasses that contribute to climate change as well as pollute the air with health threatening contaminations (Schneider, Rencranz, Mastrandrea, & Kuntz-Durisetto, 2010). Additionally, the by-product of combusted coal is coal ash, which is a fine, dirt-like substance that is extremely toxic. The Environmental Protection Agency (EPA) found that coal ash contains toxic concentrations of arsenic, selenium, barium, chromium and antimony (Gottlieb, Gilbert & Evans, 2010). Storage and containment of coal-ash is a major concern and historically the storage systems in place have experienced devastating failures. These coal ash pond failures can range from complete blow outs sending millions of gallons of coals ash contaminates into nearby streams and rivers to slow leaching underground that go undetected and contaminate drinking sources and habitats (Gottlieb, et al., 2010).

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The major contributor to health issues from coal in the United States is fine airborne particulates. Their small size allows these particulates to bypass the immune system and head straight for the blood stream where it then wreaks havoc on vital organs (Schneider & Banks, 2010). The most common health effects are asthma, chronic obstructive pulmonary disease (COPD), chronic bronchitis, myocardial infarctions, cardiac rhythmic disturbances, heart disease, congestive heart failure, stroke, and mercury poisoning (Lockwood, Welker-Hood, Rauch, & Gottlieb, 2009). All of these health conditions come with a price; studies have estimated that coal related health issues cost the United States over \$100 billion per year (Schneider & Banks, 2010). Even more, the weights of these costs are not distributed evenly. Areas most afflicted by these contaminations are down-wind of power plants or have a heavy concentration of coal-fired power plants. Michigan is a vulnerable state because of its twenty coal-fired power plants. A Clean Air Task Force study puts Consumers Energy Monroe plant, located in Monroe Michigan at the top of the list for the single plant with the highest health impact; the same study ranks Michigan number five in states with the highest annual health impact (Schneider & Banks, 2010).

The costs associated with coal go beyond costs of health care; Michigan's reliance on coal-fired power plants is potentially reaching the tipping point of economic solvency. Changes in federal energy policy have become a certainty in the near future, strongly impacting coal's ability to compete. The most common policy change proposals are cap and trade or paying for CO<sub>2</sub> emission allowances. Either policy would drastically increase the cost of operating a new coal-fired power plant. Cost projections indicate that a particular power plant could pay between \$166 million and \$414 million by 2030 to

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operate a coal-fired power plant (Schlissel et al., 2008). These would be potentially unsustainable cost for energy that would likely result in higher energy prices for the ratepayer. However, alternative, renewable energy infrastructure and manufacturing also has economic implications as states move away from coal. The economic impact of energy is complex and polarizing; however, it will be the final determining factor of federal and state energy policies in the future.

### Problem Statement

On October 6, 2008 Michigan's a package of bills that includes PA 295 that introduced a Renewable Portfolio Standard (RPS) and energy efficiency and PA 286 and a bill that addresses energy choice were then signed by Governor Jennifer Granholm. The purpose of PA 295 is to promote the development of renewable energy and energy efficient standards, which will lead to energy optimization. This act will do the following, as cited in the Clean, Renewable and Efficient Energy Act of 2008:

1. Diversify resources used to reliably meet the energy needs of consumers in the state.
2. Provide greater energy security through the use of indigenous energy resources available within the state.
3. Encourage private investment in renewable energy and energy efficiency.
4. Provide improved air quality and other benefits to energy consumers and citizens of the state.

For the purposes of the Clean, Renewable and Efficient Energy Act of 2008, energy efficiency is defined as the decrease in customer consumption through measures that target consumer behavior, equipment, devices, or materials. Energy optimization is defined by the following: energy efficiency, load management (balancing energy use between peak and off-peak hours), and energy conservation. The timeline for energy optimization starts with biennial incremental energy savings in 2008-2009 equivalent to

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0.3% of total annual retail electricity sales in megawatt hours in 2007. The rates increase to an annual incremental energy savings in 2010 equivalent to 0.5% of total annual retail electricity sales in megawatt hours in 2009, and the annual incremental energy savings in 2011 equivalent to 0.75% of total annual retail electricity sales in megawatt hours in 2010. Finally, an annual incremental energy savings in 2012, 2013, 2014, and 2015 and, each year thereafter is the equivalent to 1.0% of total annual retail electricity sales in megawatt hours in the preceding year (Clean, Renewable, and Efficient Energy Act, 295 M.C.L. § 77, 2008).

A renewable portfolio standard is the number of megawatts calculated to a specific standard for a particular year. This legislation requires electric providers to use at least 10% of energy for the state from renewable energy sources by the year 2015 in order to meet the renewable energy portfolio standards (Clean, Renewable, and Efficient Energy Act, 295 M.C.L. § 27, 2008). This energy can be produced from traditional renewable energy sources or advanced cleaner energy systems. Utilities and electric companies can provide that 10% of energy through renewable energy systems they develop and own or through renewable energy contracts that do not require a transfer of ownership (Clean, Renewable, and Efficient Energy Act, 295 M.C.L. § 33, 2008). There is also a proposed timeline for energy diversification. By 2012, 2% of the states total energy must be provided by renewable energy sources, 3.3% by 2013, 5% by 2014, and 10% by 2015 (Clean, Renewable, and Efficient Energy Act, 295 M.C.L. § 27, 2008).

By placing a legislative mandate on energy companies to provide 10% of energy from renewable sources creates a favorable market for diversification of energy sources that are stable, indigenous sources manufactured and managed in Michigan. Diversifying

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energy sources can ease the transition away from coal-fired power plants in Michigan, as those infrastructures age; there is now the economic incentive to replace with more environmentally friendly sources. This legislation opens up the market for Michigan companies to invest in renewable energy sources and compete for bids and contracts with energy companies. The most universal outcome of this legislation and those that will strengthen it in the future is improved air quality and reduced health risk for Michigan citizens.

The purpose of PA 286 section 10 through 10bb is to provide regulated utilities with a guaranteed percentage of the customer market to ensure that reliable and cost efficient energy can be provided to customers. PA 286, section 10 through 10bb will do the following as cited in the Customer Choice and Electricity Reliability Act of 2008:

1. To ensure that all retail customers in this state of electric power have a choice of electric suppliers.
2. To allow and encourage Michigan public service commission to foster competition in this state in the provision of electric supply and maintain regulation of electric supply for customers who continue to choose supply from incumbent electric utilities.
3. To encourage the development and construction of merchant plants which will diversify the ownership of electric generation in this state.
4. To ensure that all persons in this state are afforded safe, reliable electric power at a reasonable rate.
5. To improve the opportunities for economic development in this state and to promote financially healthy and competitive utilities in this state.
6. To maintain, foster, and encourage robust, reliable, and economic generative, distribution, and transition systems to provide this state's electric suppliers and generators an opportunity to access regional sources of generation and wholesome power markets to ensure a reliable supply of electricity in this state.

There is little understanding regarding what led to the passage of PA 295 and PA 286. Even though Michigan energy issues had received policy attention in the past, this was the first attempt at a comprehensive energy legislation that introduced an RPS and

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energy efficiency. Michigan was in the position to catch up with neighboring states that already had an RPS in place. In 2008 Arizona, California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Iowa, Maine, Massachusetts, Minnesota, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, Pennsylvania, Rhode Island, Texas, and Wisconsin were states with an RPS (Wisner & Barbose, 2008). This bill did not initially have strong support, especially from conservative republican's and legislators with special interests in coal; as a result compromises were made in order to get it passed (C. Roper, personal communication, November 22, 2010). Not much is known about this policy process, behind the scene activities, interactions and negotiations that led to the final outcome.

### Purpose Statement

Michigan's specific environmental, health, and economic threats led Clean Water Action's (CWA) involvement in the energy campaign to reduce Michigan's dependence on coal-fired power plants. Clean Water Action is a non-profit organization committed to serving its 250,000 members in Michigan through organizing members' support and lobbying on their behalf. Beyond involvement in protecting drinking water sources and keeping the Great Lakes a public trust, CWA protects air, food, water, and communities from contaminants, and promotes renewable energy sources. Non-renewable energy sources (i.e. coal fired power plants) are heavy polluters and use excessive amounts of water in the process. CWA's efforts in participating in long-lasting coalitions, an effective grassroots field canvass, phone canvass, and lobbying efforts influenced the 2008 Renewable Portfolio Standard legislation (Clean Water Action, 2011).

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The purpose of this paper is to examine what substantial factors contributed to the passage of the Clean, Renewable, and Efficient Energy Act of 2008 (PA 295) and the Customer Choice and Electricity Reliability Act of 2008 (PA 285) in Michigan. These specific factors are expected to be the political climate and other stable parameters in 2008, strong environmental coalitions, key legislative targets that were chosen, CWA's field canvass, and negotiations. However, there is the broader influence of a policy framework that must be addressed as to what extent does the Advocacy Coalition Framework help explain the policy process and outcome.

A deeper understanding of the policy process is significant for other advocacy organizations and Public Administration professionals. Grassroots organizing has a unique set of challenges and very limited resources, both human capital and financial. An analysis of this case study will provide the building blocks for a successful campaign by identifying the factors and a policy framework. This policy narrative will be significant for grassroots organization to replicate this energy legislation success in 2008 under different conditions and circumstances.

The limitations of this study are established in that this is a case study of one particular organization (Clean Water Action) and regarding one package of bills in Michigan's energy policy (PA 295 and PA 286). The focus was narrow and specific in order to deduct influences and factors that created favorable conditions for this bill to pass. The limitations of this study were timing. This bill was voted on and passed in 2008 and conducting qualitative research close to three years later allows for changed interpretation of events and introspective reflection. There is a chance that interview participants have forgotten key pieces of information about this legislation.

## CHAPTER II

### LITERATURE REVIEW

There are three components being explored in this literature review. In order to create a comprehensive analysis of PA 295 and PA 286, there must be a framework to outline the path of these marathon-like environmental policy changes. The policy structure for environmental issues (i.e. energy and water rights) is unique and progress is based on long lasting partnerships within the environmental community. The Advocacy Coalition Framework (ACF) and its common themes in applications over the past twenty years will be used as a theoretical guide to support this studies hypothesis and findings. Before discussing the framework that guides environmental policy, the literature review will examine the harmful effects of Michigan's coal-fired power plants on human health, the economy, and the environment. The literature is used to justify the need for Michigan to reduce its dependence on coal-fired power plants and using the 2008 Renewable Portfolio Standards legislation as a policy solution. The literature review will also briefly explore alternatives to coal in renewable energy sources.

#### History & Background

Environmental public policy is a relatively recent concept in American history. The Declaration of Independence claims "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain inalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness" (Smith, 2004,

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pp. 7). This was a code of life for American settlers that fostered innovation and development because of the freedom of language, religion, speech, and the right to private property. As a result of all these freedoms, most of American history has meant our citizens also had the freedom to pollute the environment (Smith, 2004). The 1970's brought an uprising of a grassroots environmental movement in the United States after a string of devastating environmental disasters as well as studies and publications highlighting corporate polluters. Clean Water Action was founded in 1972 by David Zwick with the original goal to level the power imbalance that favored polluters of water sources. That same year his goal was realized with the Clean Water Act. Clean Water Action has since opened twenty three offices in fifteen different states and has grown to become one of the nation's largest grassroots environmental organizations. Michigan has three offices in Ann Arbor, Clinton Township, and East Lansing; two of which operate a door-to-door canvass (Clean Water Action, 2010a). I have been a community organizer for Clean Water Action out of their East Lansing office since June of 2010 through the submission of this paper. For the remainder of this paper, any reference to Clean Water Action will be about Michigan operations exclusively.

Environmental legislation can take years of coalition building, educating the public, and lobbying to achieve the ultimate goal. CWA's commitment to water and environmental issues has proven to be successful in the longevity of particular campaigns. Michigan's water rights issue has spanned well over a decade and has seen incremental victories and setbacks along the way. This campaign focuses on the commodification or privatization of Michigan's water, where private conglomerate companies are syphoning unprotected water sources from the Great Lakes region. A

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permit obtained by the NOVA Group, a Canadian consulting firm in 1998 allowed them to extract 158 million gallons of water from natural aquifers a year and export it to Asia was a catalyst for change. This outcry led to the dissolution of this contract and the 2001 signing of an agreement by all Great Lakes governors and premiers that called for tightened defenses of Great Lakes water sources (Clean Water Action, 2005).

By 2005 the issue was back on the table when Nestle Corporation negotiated a contract with the City of Evert, MI to extract up to 168 million gallons of water per year from municipal wells for their private financial gain. The response to Nestle's water extraction contract was lack luster at best over the next few years and by the year 2007, Nestle was in aggressive pursuit of over 90 billion gallons of Great Lakes water per year. Action was taken in the form of the proposed Great Lakes Compact, which would create a coalition between Great Lakes states (Michigan, Illinois, Wisconsin, Ohio, Minnesota, Pennsylvania, and New York) and Canadian provinces to have unified standards for the amount of water diversions and extractions. Progress was made in July of 2008 after members, volunteers and staff wrote more than 28,000 letters, made over 1,000 phone calls to legislators, and sent over 5,000 lawmaker emails, the house and senate passed the Great Lakes Compact (Clean Water Action, 2008). This fight is still not over, as of 2010, there are still loopholes in this legislation that continue to allow bottling companies to extract harmful amounts of groundwater. This continues to be a campaign that CWA works on in order to ensure that Michigan water sources remain a public trust of Michigan citizens.

The Clean, Renewable and Efficient Energy Act of 2008 was merely a stepping stone for Clean Water Action and their coalitions in the fight for energy policy. Pieces of

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this legislation were compromised in order to enact the bill, however, CWA and their coalitions have clearly stated goals during the negotiations and for the future. The only compromise CWA made was when they signed onto the legislation the day it came through conference committee and was then voted on in the House and the Senate. CWA, The Ecology Center, and Environment Michigan drafted a list of priorities for the RPS. They want compliance with the RPS to be mandatory and want to see it reach 25% by 2025. It is also pointed out that renewable energy sources should be clearly defined to as clean energy sources as to prevent new polluting energy sources like incineration from being deemed acceptable renewables. On energy efficiency, they would like to see efficiencies rise from 1% to eventually 2% annual energy savings. They also call for decoupling so that the utilities profit is not tied to the amount of energy sold to create an incentive for higher efficiencies. CWA and other partners have moved forward with a new campaign to continue the fight. Clean Energy Now focuses on stopping the construction of new coal-fired power plants and promoting clean air for resident in Michigan. The campaign also works to educate the public about the risks and burdens of coal here in Michigan by providing information and getting citizens involved by taking action on arresting the development of new coal-fired power plants in their community. This campaign is expected to follow a similar timeline as other long-standing campaigns CWA has been involved in and mirror the Advocacy Coalition Framework.

### Impacts of Coal-Fired Power Plants

Coal is Michigan's primary energy source. In 2008, over 60% of Michigan's energy was produced from coal fired power plants. No other single source of electricity has a significant impact on the market. Nuclear energy only represents about 27% of the

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energy market in the state, and as of 2008, only 2.3% came from other renewable sources (United States Energy Information Administration, 2010). Coal-fired power plants have a significant impact on the health of Michigan residents, it has environmental repercussions in the state and globally, and Michigan's dependence on coal-fired power plants has the potential to be economically unsustainable in the near future. It is important to discuss these impacts when discussing energy policy in Michigan because these impacts legitimize the state's need to diversify energy sources and shift a focus towards renewable energy sources. The literature supports a holistic approach to the cost of operating coal-fired power plants in Michigan.

### Health Impacts

The health effects from coal-fired power plants are thoroughly studied and documented. Coal has negative health effects on three major systems in the body, the respiratory system, the cardiovascular system, and the nervous system. Coal-fired power plants emissions of NO<sub>2</sub> cause pulmonary inflammation and oxidative stress. The most common health implication from these reactions is asthma, especially in children. Nearly 9% of children in the United States suffer from asthma. Children are especially susceptible to air pollution possibly because of their breathing patterns and the amount of time spent outside. Air pollutants from coal also affect adults, most commonly in the onset of chronic obstructive pulmonary disease (COPD). This lung disease is characterized by a permanent narrowing of airways; it is also the fourth leading cause of mortality in the United States (Lockwood et al., 2009). Another study places a value on the burden of health care costs associated with respiratory issues. On average, there are 23,000 ER visits for asthma attacks, which costs around \$5 million annually. Eight

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thousand incidents of chronic bronchitis costs around \$3.5 million annually, and 217,600 asthma attacks cost \$11 million annually (Schneider & Banks, 2010).

Cardiovascular systems are similarly affected by coal similarly to respiratory systems as a result of pulmonary inflammation and oxidative stress. Studies show there are both short term and long term cardiovascular affects to over exposure to NO<sub>2</sub>, resulting in myocardial infarction, cardiac rhythm disturbances, ischemic heart disease and congestive heart failure (Lockwood et al., 2009). There are over 20,400 heart attacks annually nationwide and nearly 1,100 heart attacks reported annually in Michigan that are directly linked to contaminants from coal-fired power plants (Schneider & Banks, 2010).

The nervous system is under attack from coal because of related cardiac issues that restrict blood flow to the brain. Several studies have linked coal related air pollutants to stroke as a result of this restricted blood flow. Another toxin that affects the nervous system is mercury. Coal contains trace amounts of mercury that when burned can be passed on to ecosystems. Mercury increases concentration as it travels up the food chain reaching high levels in large predatory animals; therefore most human exposure to mercury is through fish consumption. Mercury exposure in humans leads to a decrease in intelligence capacity (Lockwood et al., 2009).

### Economic Impact

Coal is the most abundant fossil fuel in the United States and has become more in demand as petroleum and natural gas prices have risen sharply. Global coal reserves are expected to last for another 2,000 years at the 1994 consumption rate; however, if all known reserves are utilized the consequences will be devastating (Smith, 2004). The

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economic impact of coal appears to be the greatest catalyst for environmental policy change in the United States. Federal regulation of greenhouse gas emissions have become a policy certainty in the near future and will severely affect the ability for coal to compete. Paying for CO<sub>2</sub> emissions allowances will have an effect on the variable cost of operating new coal-fired power plants. An emission allowance price forecast demonstrates the steady and significant increase in the cost of running a coal-fired power plant. In 2012, a particular plant would pay between \$11 million and \$85 million for CO<sub>2</sub> emission allowances. This would increase to between \$65 million and \$259 million in 2020 and between \$166 million and \$414 million in 2030 (Schlissel et al., 2008).

Along with an increased cost of operating a coal-fired power plant, construction costs for new coal plants are unpredictable and increasing. Worldwide competition for construction resources, materials, plant design and equipment has sent construction prices spiraling out of control (Schlissel et al., 2008). A proposed plant in Bay County, MI was estimated to cost 1.8 billion dollars in June of 2007, however, by January 2009 estimated costs had increased by over 90% and are now estimated to be 3.58 billion dollars. These increased costs are being passed down to the ratepayers. A newly constructed coal plant in Wisconsin with similar construction costs resulted in a 33% increase in utility bills for western Upper Peninsula residents (Clean Water Action, 2010b). Alternatively, the capital costs of most renewable energy sources are lower in a dollar (\$) per kilowatt (kW) comparison. Coal-fired power plants can range from 2,800 to 5,925 \$/kW, when solar PV-crystalline and solar PV- thin film can cost as low as 3,500 \$/kW and 2,000 \$/kW respectively, and wind ranges from 1,900 to 2,500 \$/kW (Lazard, 2009). Renewable energy sources provide significantly lower and more stable capital costs for energy. To

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further the unsustainable cost of coal-fired power plants, electricity sales in Michigan have been decreasing rapidly. The year 2008 saw a 3.8% decrease and that figure is estimated to decrease by 6.7% in 2009 (Lazard, 2009).

### Environmental Impact

Coal-ash, the byproduct of coal-fired power plants also has adverse effects on drinking water sources and aquatic life. Coal-ash is stored in ash ponds that historically have failed to contain this dangerous by-product. There have been major pond failures that send millions of gallons of coal-ash slurry to contaminate nearby rivers and streams. Coal-ash can also slowly leach into groundwater sources going undetected and wreaking havoc on drinking water and habitats. The EPA found that coal ash leachate contained extremely toxic concentrations of arsenic, selenium, barium, chromium and antimony in seventy-three samples of coal ash waste samples (Gottlieb et al., 2010). These coal-ash storage ponds are located across Michigan and are proven to be unsafe and toxic to Michigan's water sources and aquatic life.

Consumers Energy J. R. Whiting Generating Plant was the site of a two-year U.S. Fish and Wildlife study that examined the harmful effects of coal combustion waste on surrounding water sources. This plant is located in Erie, MI, which is right on Lake Erie where the coal ash basin was discharging trace elements identified as harmful sediments (arsenic, cobalt, nickel, and selenium) and aquatic biota (arsenic, selenium, bromine, cobalt, nickel, and chromium). Elevated concentrations of these elements were found in organisms with restricted mobility, such as oligochaetes (freshwater worms) and early life stages of fish. Significantly concentrated levels of selenium, bromine, and arsenic

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were found in oligochaetes near the coal ash basin outfall as compared those in the control group. Population density of oligochaetes in that area were also significantly lower than those in control group because of continued exposure to these toxic trace elements. The study concluded that chronic overexposure to higher concentrations of trace elements could undermine population fitness because of increased susceptibility to disease, predation, and reduced reproductive capacity (Stant et al., 2010).

### Alternatives

Michigan has large potentials for safe, clean renewable energy sources; however, policy needs to be in place for businesses to invest in these energy sources in a competitive market. The Clean, Renewable, and Efficient Energy Act of 2008 defines renewable energy as a resources that naturally replenishes over a human, not a geological, time frame. Usually derived from wind, solar, or water power but not limited to biomass, solar thermal energy, kinetic energy from moving water (waves, tides, currents, water released through a dam), geothermal energy, municipal solid waste and landfill gas produced from municipal waste. Michigan's largest potential for renewables comes from solar (residential and commercial) and wind (onshore and offshore) as a viable option to compete with coal. Additionally, there are also other options such as biomass (forestry, urban waste, and agricultural), landfill gas and anaerobic digestion. These energy sources are estimated to produce 27,623 GWh of energy annually, which could create a significant impact on Michigan's diversification of energy sources (Fisher et al., 2010).

### Advocacy Coalition Framework Overview

Environmental public policy has historically been best suited for the Advocacy Coalition Framework (ACF) and has been a common model used by Clean Water Action. Environmental issues are firmly grounded in the concept of public good or public trust, and that there needs to be several actors in policy formation in order to achieve success. ACF was created by Paul Sabatier and Hank Jenkins-Smith in the late 1980's as a response to limitations of current policy literature. This model incorporates aspects of both top-down and bottom-up approaches to studies and scientific and technical information are central to its hypotheses (Weible, Sabatier, & McQueen, 2009).

“The ACF's causal logic and resulting hypotheses build from a set of assumptions: (i) a central role of scientific and technical information in policy process; (ii) a time perspective of 10 years or more to understand policy change; (iii) policy subsystems as a primary unit of analysis; (iv) a broad set of subsystem actors that not only include more than the traditional iron triangles' members but also officials from all levels of government, consultants, scientists, and members of the media; and (v) a perspective that policies and programs are best thought of as translations of belief” (Wieble et al., 2009 pp. 122).

Along with the assumptions of this framework, there is a three-tiered model of belief system outlined as actors for political behavior. At the broadest level are deep core beliefs, which are generally normative. These deep core beliefs are very stable and can be exemplified by fundamental values of liberty and equality, liberal and conservative

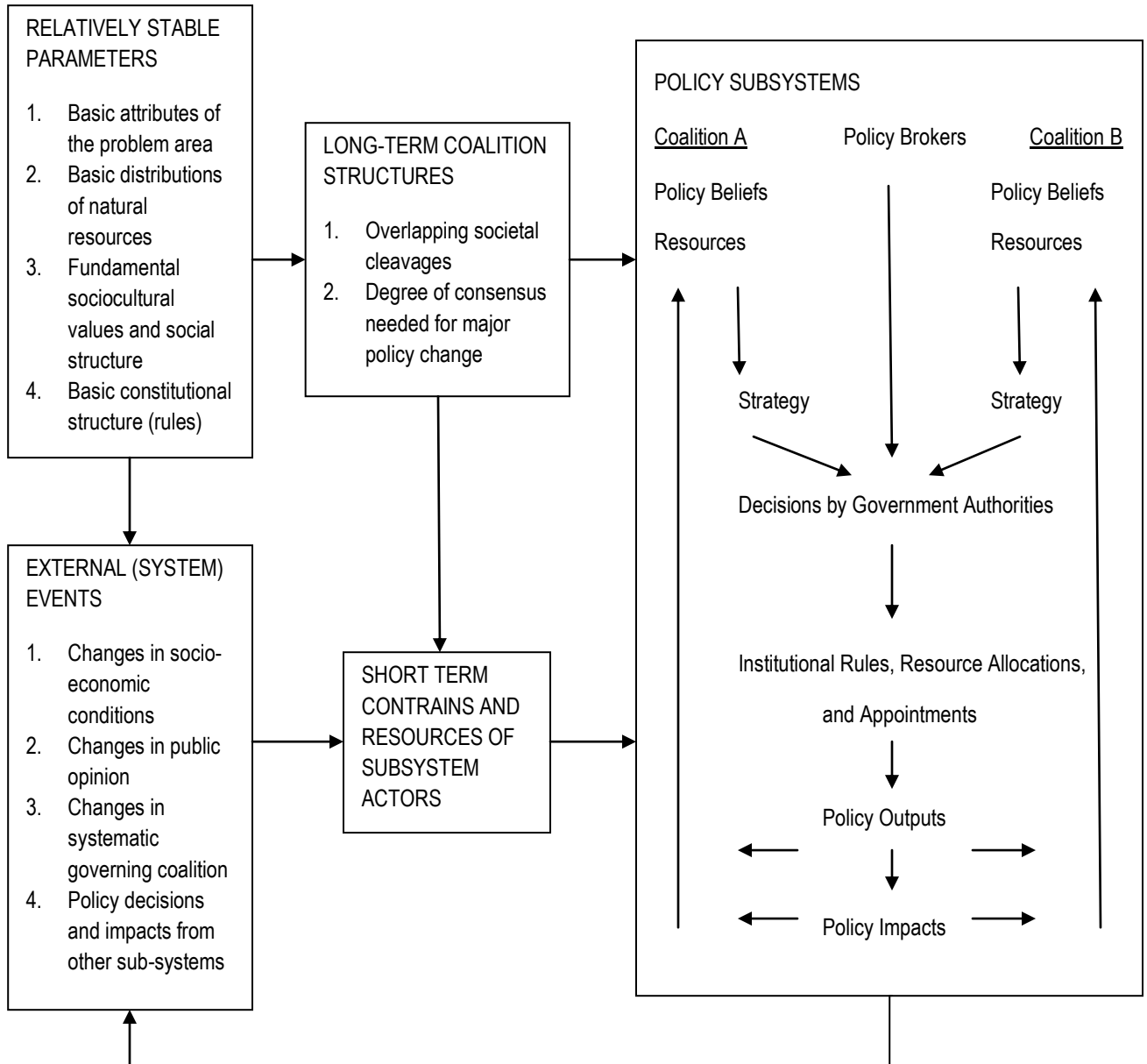
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beliefs, and organizational core values. The next level is policy core beliefs that will span an entire subsystem. These core beliefs identify advocacy coalitions (at least two per subsystem, three is preferable) that engage members and key players in the process. Policy core beliefs tend to be resistant to change because they deal with fundamental policy choices. The lowest tier of this model is secondary beliefs, which are narrow in scope and do not span a whole subsystem. They are empirically based, therefore changing them requires less evidence and fewer arguments among subsystem actors (Sabatier & Weible, 2007).

There are four paths to policy change in a policy subsystem. The first path is external subsystem events that shift the policy core attributes. These external events or shocks can range from broad changes in socioeconomic conditions to public opinion. External shocks can affect subsystems by shifting resources, changing power in coalitions, and altering beliefs. The second path to policy change is policy-oriented learning. Policy-oriented learning relates to changes in behavior and intent due to new experiences and information related to a policy. Because of the rigidity of belief systems, policy-oriented learning usually only effects secondary beliefs (Weible et al., 2009). The third path to policy change is internal subsystem events, these disasters come from within policy subsystems. Some examples are attraction of negative public attention; highlighting policy vulnerabilities, failures or neglect; and bringing new information into the policy process. Internal events can be just as challenging as external events. The fourth path to policy change is negotiated agreements. This may be an appropriate resolution when coalitions have been fighting for decades at a stalemate and finally come to a negotiated agreement that represents a substantial change (Sabatier & Weible, 2007).

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Advocacy Coalition Framework



### Applications of ACF

While ACF is most commonly used in environmental and energy policy issues, it has also been used to deal with economic and social issues, such as taxation, public health, drug, culture, education, sport and domestic violence (Sabatier & Weible, 2007). Since the early 1990's, ACF has been applied to various policy change that include social, economic and health issues. Analysis of ACF applications indicates that use of this model has expanded in geographic and substantive breadth and depth. Between 1987 and 2000, the United States, Europe, and Canada were the only geographic locations applying ACF. However, since 2000 many other countries including Africa, South America, and Australia have begun to apply this model to policy change. Against criticism that ACF has a bias towards pluralistic political systems, these findings provide evidence that ACF can be utilized in almost any political setting. Another common factor across applications is that there are multiple methods of data collection used, and nearly half of the applications analyzed used unspecified methods. Methods used included interviews, questionnaires, and content analysis (Weible et al., 2009).

ACF assumes policy participants (legislators, agency officials and interest group leaders) are extremely stable and will be present over a period of time, usually a decade or more. This extended timeline for policy work is well suited for the formation of advocacy coalitions (Sabatier & Weible, 2007). Researchers have also tried to explain why members and coalitions become unstable. Two factors in coalition stability are external events, such as elections and diversity among members. There is also a range of

the number of coalitions in ACF applications. Approximately 63% of cases identified in a study had at least two coalitions, and 19% had three (Weible et al., 2009).

## CHAPTER III

### RESEARCH DESIGN & METHODOLOGY

The purpose of this study is to identify the influential factors that shaped the 2008 Renewable Portfolio Standard legislation. No single event can have a determining influence on this policy, there were multiple actors and the research questions reflect that. This is a case study of the role Clean Water Action played in the coalition, grassroots organizing, and negotiations on this energy policy. The overarching theme of this study examines to what extent does the Advocacy Coalition Framework help explain the policy process and outcomes. There are four specific factors need to be investigated in this study.

#### Research Questions

1. How did the political environment and other stable parameters in Michigan influence the 2008 RPS legislation?
2. What kinds of coalitions (symbiotic, independent, competitive) were formed around this policy and to what extent were they influential to the 2008 RPS legislation?
3. To what extent did the key legislative targets chosen for this policy influence the 2008 RPS legislation?
4. To what extent did Clean Water Action's grassroots organizing efforts influence the 2008 RPS legislation?

These questions focus on the four primary influences (key targets, field canvass, coalitions, and political environment) on this campaign and how the ACF guided the

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policy process. The results I expect to find is that CWA has been engaged in strong coalitions with other progressive environmental organizations and individuals in Michigan that were committed to the unified purpose of changing Michigan's energy policy; also that the field canvass reached out to CWA's membership in Michigan in order to educate them on the issue and organize their voice. I expect research to support that the combination of strong, long-term coalitions and a dedicated field canvass had a powerful influence over key legislative targets and the policy process. See Appendix (A) for Clean Water Action's model of organizational belief systems.

### Operational Framework of CWA

Clean Water Action has created and had victories with a variety of environmental campaigns in the past 30 years. These campaigns are never left to chance or luck; they are extensively planned and well executed strategies. CWA utilizes support systems that guide the policy process from goal setting to victories. Specifically, CWA uses the Midwest Academy's strategic chart as a conceptual framework for all campaigns (Midwest Academy, n.d.).

### Organizational Goals

After an issue is chosen for a campaign, some goals need to be set, both short-term and long-term. For CWA's clean energy campaign, long-term goals should resemble Michigan as a state that has greatly reduced its dependence on coal-fired power plants by diversifying energy sources. Policy implications for those changes could include increasing Renewable Portfolio Standards to encourage the growth of renewable energy

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companies, as well as state mandated greenhouse gas emission allowances. Intermediate campaign goals should represent one aspect of those long term goals, or what would constitute a victory for that specific campaign. An example of the short term goals used for the 2008 Renewable Portfolio Standards campaign were that Michigan's energy companies were required to produce 10% of energy through renewable resources by 2015, as well as energy efficiency programs that incrementally reduce energy usage (Bzdok & Clift, 2009). Similar incremental short-term goals are expected to be set for future clean energy legislation.

### Organizational Considerations

When creating a campaign, organizational resources are essential to success. CWA has relatively limited resources for the amount of success they have achieved, because the resources they do have are used efficiently. CWA's most valuable resource is its 30 year history here in Michigan and their strong track record of success for the Great Lakes and Michigan residents. CWA also has an expertly trained and well organized canvass running out of two offices in Michigan. CWA utilizes the Hudson Bay Company (HBC) for consulting on the training of Canvass Directors and training protocols for Canvassers and Field Managers. A canvass is essential to a grassroots campaign because organizing citizens around an issue allows Clean Water's lobbyist to use constituents as leverage, not money. Michigan has canvass directors, campaign coordinators, a policy director and other program support staff to get the campaign work done behind the scenes. Michigan's East Lansing and Ann Arbor offices uses these strong resources efficiently and effectively to introduce progressive public policy solutions.

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### Constituents (Allies & Opponents)

In any campaign to alter public policy, there will be allies and opponents to the agenda and this has certainly been the case for CWA's clean energy campaign. Clean Water Action campaigns revolved around the strong allies they can harness. Before the goals are even discussed, a coalition of local groups with similar agendas has been formed to empower and strengthen the issue. Beyond that, CWA begins to reach out to sustaining and new CWA members through the field and phone canvass, as well as supportive legislators who are willing to have a conversation surrounding policy options. More often than not, these lawmaker allies have been previously endorsed by CWA because of their history of voting along with CWA priority issues. Opponents to the clean energy campaigns would be the coal industry, energy companies that own coal-fired power plants and legislators that are 'pro-business'. Historically, fossil fuel companies stand as a tough opposition because of their strong relationship with business leaders and the amount of money they can put behind their solvency. However, their power is beginning to slip as research is pointing towards a more sustainable energy future and Michigan residents are demanding more diverse energy options. Continued progressive environmental policy change in Michigan will cost coal companies the heavy burden of extinction or adaptation.

### Campaign Targets

A target is always a person, never an institution or an elected body. There can be both primary and secondary targets in one campaign, but they must be thought of independently because the organizations relationship of power differs with each target.

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Some questions to be asked when choosing a target are “who has the power to give you what you want?” and “what power do you have over them?” Having a deliberate and specific target will ensure a focused effort.

### Campaign Tactics

Each target will have a list of tactics that will be most effective to achieve a victory with the short-term goal. Tactics must be in the context of the issue, directed at the specific target, supported by a specific form of power, flexible, creative and logical. Common campaign tactics used by CWA are making multiple contacts with members. Existing members receive calls from the phone canvass every four to five months to keep them updated on victories and current campaigns. The field canvass also makes contact with new and existing members at the door gaining support through petitions, writing letters to local lawmakers, fundraising and educating. Rallies, public forums and other specific events are also used during the campaign to gain awareness and pressure targets. CWA is also very involved in non-partisan voter identification and candidate endorsements as well and non-partisan Get Out The Vote campaigns to strengthen the voice of Clean Water Action members.

### Key Variables and Themes

The dependent variable in this study is the energy legislation that included PA 295 and PA 286 as a policy outcome. Independent variables are key targets, the field canvass, environmental coalitions formed and the Michigan's political environment in 2008. The issue being explored in this study is how the Clean, Renewable, and Efficiency Energy Act and Customer Choice and Reliable Electricity Act came to fruition based on

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the influence of the independent variables. These independent variables will be measured through narratives of the policy process and legislation. Using interviews with CWA employees, coalition partners, and legislators that served at the time will provide historical accounts of the political climate in 2008 and allow me to assess individual actors in this policy process and how the power and influence shifted during negotiations.

For operationalization purposes, the independent variables must be specifically defined to allow for replication. Key targets of campaigns are always individuals (never an institution or bureaucratic entity) where there is a relationship of power. In general, these key targets have a vested interest in the other side of the policy provisions. In the energy package policy negotiations the key targets were legislators who were politically vulnerable or were committee chairs (S. Harley, personal communication, September 27, 2010). CWA's professional field canvass is a year round door-to-door grassroots organizing operation. Areas that are canvassed in Michigan are targeted based on density, geographic connection to specific issues and target senate, house and congressional districts. The conversations community organizers have at the door with contacts include; educating contacts about a specific Michigan environmental issue, and how CWA is working to solve it. If contacts agree with CWA's actions, they are asked to show their support through printed name and information on a support statement (a lobbying tool), open-ended contributions, and writing letters to legislators in their district (M. Brady, personal communication, November 26, 2010). In 2008, field canvassers made over 500,000 contacts with Michigan residents (Clean Water Action, 2009). A coalition is a temporary alliance of distinct parties, persons or states for joint action (Webster's New College Dictionary, 2008), and for the purposes of this study these are the same

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parameters in which CWA's coalitions are defined as well. The last independent variable is Michigan's political environment in 2008. This is assessed based on the majority in the house and the senate, key legislator targets for the campaign, and senators and representatives serving at the time that were endorsed by CWA based on their legislative scorecard.

### Research Design Approach

This is a case study of Clean Water Action's involvement in the negotiations and role in the passage of the 2008 energy legislation that that included PA 295 and PA 286. This study utilizes a qualitative research design and was chosen as the appropriate design because qualitative research focuses attitudes, beliefs, and experiences of participants. As the researcher, I have the primary role of conducting the interview and retrieving organizational documents and analyzing data. This method also uses multiple forms of data sources, rather than rely on a single data source (like a survey or database). My research will be participant driven and will focus on learning and deciphering how the participants interpret the issue. Since this study will be participant driven, I will also need to be flexible with my overall approach and process, which is characteristic of a qualitative study.

### Data Sources

Secondary sources were used to examine the political environment in Michigan in 2008. CWA produces legislative scorecards for every election cycle that are public documents for CWA members and distributed through their quarterly newsletters. The

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criteria for legislative scorecards are created by CWA and the Sierra Club to show voters how their state senator and representative vote on Michigan's environmental issues.

These scorecards are used as a justification for CWA's candidate endorsements during election cycles. The legislative scorecards were examined to determine legislator's previous environmental voting records before 2008, and specifically how they voted on the 2008 RPS legislation. CWA canvass documents like letter flyers and training materials were used to provide some background on the language used for this larger issue of a progressive energy policy in Michigan. Other CWA organizational documents were used to gain a further understanding of coalitions, and the political environment, which I have access to through my employment at CWA and communication with staff. Literature on the Advocacy Coalition Framework created a policy narrative in the research that provided a broader understanding of the coalition structure and negotiations in this policy process.

Research was gathered through tape-recorded interviews, in person interviews were preferred, but phone interviews were acceptable. Candidates were chosen based on policy involvement and availability due to timeline restrictions, all candidates were contacted via email with some follow ups on the phone. An interview guide with key questions and a brief outline of the study were provided for each participant upon agreeing to an interview. See appendix (B) for key interview questions. These unstructured interviews were conducted with CWA staff and other key participants in the coalition. I interviewed the CWA's Policy Director, Susan Harley because she has extensive knowledge on the policy intricacies and was heavily involved in this campaign. Also, Policy Directors from the Sierra Club and The Ecology Center at the time were

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interviewed to develop the narrative from the coalition and negotiations. I interviewed Becky Jo Farrington, who was a community organizer in 2008 and worked extensively with the field canvass and policy side of this legislation. Interviews were requested of legislators who voted on this package of bills and are still serving in the house or senate. Legislators I interviewed served as state representatives in 2008 in the 25<sup>th</sup>, 71<sup>st</sup>, 80<sup>th</sup>, and 53<sup>rd</sup> House District. In order to provide to bipartisan perspective on the political climate and policy negotiations, I requested interviews from legislators that were either endorsed by CWA in the previous election cycle or had a favorable voting record as well as legislators who typically did not vote along with CWA environmental priorities but voted in favor of this energy package. Interviews with lawmakers who have received candidate endorsements from CWA provide a supportive legislative perspective. Interviews with lawmakers who do not typically vote in favor of environmental issues provided a perspective on speculations and resistance towards this legislation. I submitted information about this study in compliance with university Human Subjects Institutional Review Board (HSIRB) requirements. No approval was needed to complete the research in this study because interviews with human subjects were in the context of policy analysis. See Appendix (C) for the HSIRB No Approval Needed letter. There is an element of snowball sampling in this study, because as I made contact with interviewees they all provided suggestions of other influential people to talk to. These unstructured interviews were used as a narrative for specific conditions that led to the enactment of PA 295 and PA 286.

### Validity and Reliability

In order to increase the reliability of this study, the interview process and questions must be carefully attended to. Interviews with coalition partners, CWA staff, and notable legislators will be unstructured interviews in order to stay on task and hold the interviews to an appropriate time limit. However, the interviews with CWA staff will be unstructured because the nature of our work relationship and amount of information they can provide. It will be important to ask key questions in both sets of interviews to ensure there will be comparable data based on variables. A potential source of error for the interviews could be the reactive measurement effect because I will be interacting with co-workers I have an established relationship with, and disclosure of my affiliation with CWA to participants.

This study has a high level of validity because each research question is directly related to one of the independent variables. The operational definitions have set clear parameters of what the variables mean for this study; they are specific to CWA and the 2008 RPS legislation. For example, a research question is: How did the key targets chosen for this policy influence the 2008 RPS legislation? An independent variable is key targets for this campaign. CWA's organizational definition of a key target is always an individual where there is a relationship of power. The operational definition of key targets is clearly appropriate to the concept being measured.

## CHAPTER IV

### DATA ANALYSIS & FINDINGS

The most valuable source of data for this study was collected through interviews with CWA staff, coalition partners, and notable legislators from this legislation. The interviews were an open-ended structure to provide a deeper look into the interactions and activities behind this policy process. Face-to-face interviews were preferred and requested first, however due to time constraints and scheduling, two phone interviews were conducted. Interviews were conducted with four key partners in the coalition; two were employed by CWA at during the policy debate, the other two worked for partner organization (Sierra Club and The Ecology Center) as Policy Directors. Interviews were also conducted with four lawmakers who voted on this package of bills in 2008 and still serve in the legislature; two are democrats who have received endorsement from CWA in previous election cycles, the other two are republicans who do not tend to vote along with CWA priorities but voted in favor of the final package of bills. The interviews were tape-recorded with participant's verbal consent and transcribed; they were typed in bullet points under appropriate key interview questions or themes in order to organize the information. These transcripts were reviewed and organized based on general themes and independent variable (key targets, coalitions, field canvass, political environment) within the research questions. This offers more than one interpretation or perspective of each independent variable or theme. Additional secondary sources were used to support information that was provided in the interviews. Each independent variable contributed to

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the passing of the 2008 RPS legislation, and the information gathered from the interviews created a narrative about the significance of their role in this energy policy process.

### Political Climate in 2008

The political climate in 2008 was asked as the first question; it was a way to get the participant to start discussing the timeframe and setting the scene for this legislation. There was mostly agreement among accounts of political climate but differences were not easily identifiable factors to account for this inconsistency. Participants who are currently or have held policy director positions for advocacy groups in the coalition gave a significantly more detailed description of the composition of the house and senate and detailed accounts of their interactions with them at that time.

The advocacy coalition partners all had the same sense that energy and environmental issues were gaining popularity not only with citizens and environmental groups, but also gaining support from a legislative and policy perspective. There was a strong wind behind environmental groups in the 2007-08 legislative cycle because there was a democratic majority in the house and Governor Granholm as a democrat was stepping up her commitment to environmental and energy issues in her last term. There was also an influx of progressive democratic lawmakers running in the 2008 election that were willing to engage in more progressive policy debates. 2008 was also a presidential election year with overarching messages of hope and change for the future, there was a lot of excitement and anticipation surrounding Barack Obama's presidential campaign. This enthusiasm at a federal level spilled over to Michigan's state legislature. At this time there were relatively stable socio-cultural values in Michigan's legislature. There was

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very little anti-government pushback at this time and government was not being held responsible for all societal ills. Jennifer Granholm had been in office since 2003 as a democratic Governor, and the house had a democratic majority. While the senate had a republican majority it was still amicable and willing to discuss progressive environmental policy. In hindsight of the current political climate at a state and national level, there was a considerable amount of bi-partisan support for progressive issues.

Interviews with legislators lacked the depth and breadth on the political climate in 2008 than what participants from advocacy groups provided, however, there was still discussion that the political climate was favorable to a shift in Michigan's energy policy and progressive environmental issues. There was a desire among both democrats and republicans to look towards alternative and renewable energy sources. The adoption of RPS's among numerous neighboring states also created a stable parameter for altering Michigan's energy policy. Michigan had not been a pioneer in energy policy and other states had created a basic policy structure to follow. There was also discussion about the legislature in 2008 being divisive and difficult to pass significant pieces of legislation in a bi-partisan way. The two capstone pieces of legislations that passed in a bi-partisan fashion in 2008 was the energy package (PA 295 and PA 286) and the Great Lakes Compact, CWA was involved in both pieces of legislation.

### Background of RPS and Energy Efficiency

Jumping back to the 2006 election cycle is important to provide a background narrative of this RPS legislation. While working for The Ecology Center as the Policy Director, Mike Shriberg drafted the original RPS legislation in 2006; it called for 20% of

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Michigan's energy sources to be provided by renewable sources by 2020 and a 2% reduction in energy consumption through energy efficiency. Reducing energy consumption is an important piece in addressing the desire to reduce Michigan's reliance on electricity produced by coal-fired power plants. Energy efficiency has the lowest cost per kWh and has the greatest immediate impact on reducing carbon emissions; the cheapest energy for consumers is the energy they do not use. While there are up-front costs in providing the tools to residents and businesses to increase energy efficiency, those tend to be one-time costs that pay for themselves in energy savings over time. Tools to increase energy efficiency include materials for weatherization (window kits, insulation), appliance rebates, loans for low-income homeowners to replace furnaces, and educational workshops to change attitudes and behaviors. Energy efficiency programs also create jobs; employment through performing energy audits, weatherizing homes and businesses, replacing furnaces, or facilitating educational workshops will all increase as required energy efficiency increases. The impetus for drafting this legislation came about through policy-oriented learning, where the secondary belief system of the environmental groups in Michigan started slowly shifting towards progressive energy policies and desires for an RPS. Policy-oriented learning takes place over periods of a decade or more as opposed to an external shock that facilitates a rapid change in policy core and secondary core beliefs (Sabatier & Weible, 2007). The original motivation for the RPS was to reduce the impact toxic pollution from coal-fired power plants and improve health quality for generations to come. For political reasons the environmental focus dissipated and it began to gain support as an opportunity for the development of Michigan's 'green economy'. A green economy involves any job or industry that is directly involved in

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generating or supporting products or services in five areas, (1) agricultural and natural resource conservation; (2) clean transportation fuels; (3) increased energy efficiency; (4) pollution prevention and cleanup; and (5) renewable energy production (Bureau of Labor Market Information & Strategic Initiatives [BLMISI], 2009). A clear message was sent to Governor Granholm that an RPS in Michigan was an economically viable proposal to develop jobs in the state; it was also pointed out that if she failed to support this legislation she risked losing the environmental vote in the 2006 election. In her first term she only supported one piece of environmental legislation, so in the eyes of environmental voters she was behind the ball. Granholm attached herself to the RPS and the tangible economic development of a green economy became part of her 2006 campaign platform.

A report was released in 2001 that outlined an aggressive plan to repower the Midwest called the Clean Energy Development Plan. Much like the originally proposed RPS calling for 20% renewable energy by 2020 with 2% energy efficiency, this plan had similar suggestions of how to create a green economy by 2020. It called for a reduction in energy consumption of 28% by 2020 through energy efficiency programs; this would level off electricity consumption at 2000 rates. It also called for 22% of energy to come from renewable energy sources like wind, solar and biomass (switch grass and cornhusks) by 2020. Given these policy changes, the report clearly spells out the environmental, health, and economic benefits. The Clean Energy Development Plan would reduce sulfur dioxide emissions by 56%; reduce nitrous oxide emissions by 71%; reduce carbon dioxide emissions by 51%; and reduce emissions of particulates, which include mercury and other heavy metals. Reducing the levels of these pollutants in the air

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not only improves environmental conditions like smog, acid-rain, and climate change it improves air quality for people (Hewings & Yanai, 2001). These pollutants contribute to four out of the five leading causes of mortality in the United States; heart disease, cancer, stroke, and chronic lower respiratory diseases. While it is difficult to estimate the quantitative influence of these pollutants on these diseases, the links between them would suggest that any reduction in harmful pollutants would reduce the severity or incidences of these deadly diseases (Lockwood, et al., 2009). The Clean Energy Development Plan estimates significant gains for the Midwest's economy by 2020 as well. Between jobs in energy efficiency and renewable energy production net job growth will increase by over 200,000 jobs with an increased annual economic output of over 19 billion dollars. Michigan alone has the potential to create 9,100 new green jobs resulting in a one billion dollar increase in annual economic output (Hewings & Yanai, 2001).

A turning point for this issue and Granholm's re-election campaign was a televised debate between Granholm and her opponent Dick DeVos (R); Granholm and her advisors were given talking points for why Michigan could benefit from an RPS with the understanding that a question on the subject would be submitted. Granholm was prepared with an answer addressing its economic viability and other talking points; DeVos didn't even know what an RPS was. This debate solidified the fact that Granholm had a winning issue popular with the majority of voters and took the political advantage in the gubernatorial race. This 2006 gubernatorial race and Granholm's support of the RPS was influential in the passing of the energy package nearly two years later.

In 2007, a 20% by 2020 and 2% energy efficiency bill was proposed by Representative (Rep.) Robert Jones (D) to the house floor; there were thirty co-sponsors,

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four of which were republicans. The chair and vice chair of the House Energy and Technology Committee were Rep. Frank Accavitti (D) and Rep. Jeff Mayes (D) respectively. They wanted to be the champions of an RPS and were enraged that a bill drafted by an environmental organization was presented on the house floor. This anger ended with a confrontation on the house floor when the bill was introduced where they warning Rep. Jones about his involvement with environmental organizations. That same day the House Energy and Technology Committee countered with an RPS bill that called for 10% by 2015 and 1% energy efficiency; this is where the negotiations started.

### Coalitions

Environmental organizations tend to naturally align themselves into coalitions no matter what the environmental solution is; these are considered low-hanging coalitions. These are groups that have worked together for many years collaborating on campaigns to strengthen their voice. Examples of these organizations in Michigan are Sierra Club, League of Conservation Voters, Environment Michigan, The Ecology Center, Michigan Environmental Council, and Clean Water Action. There is a long standing structure with these organizations and they function as a steering committee for community environmental issues. This low-hanging coalition would be considered a mature policy sub-system in the ACF, which are characterized by semi-autonomous communities who share expertise in a policy domain where they have worked to influence policy change for an extended period of time. These communities are comprised of agencies, interest groups and research institutions that have guided and consulted on these policies

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(Sabatier & Weible, 2007). The low-hanging coalition that formed around the RPS legislation and surrounding energy package was organic in nature and was strengthened by the work that was done to halt the construction of proposed coal-fired power plants in Michigan and the on-going water rights campaign, which resulted in the Great Lakes Compact in 2008. These coalitions typically work strategically to gain access to funding and resources they share among groups. The members of this organically formed coalition engage in a symbiotic interdependency where they share and redistribute resources in order to suit each agency's organizational capacity (Fenger & Flok, 2001). There was some work done to reach out to new coalition partners, Michigan Interfaith Power and Light, which is a community of churches interested in energy and environmental issues, joined the coalition on a secondary level. This was not the first time they worked with this low-hanging coalition, but are not typically involved in all environmental solutions. The coalition also tried to branch out to renewable energy companies in Michigan to provide a business perspective, but that attempt was unsuccessful and the renewable energy business community was consistently absent in the debate and negotiations of this legislation.

Out of the long-standing environmental coalition, a smaller more politically charged coalition was formed to defend the original proposed RPS of 20% by 2020 and energy efficiency of 2%. CWA, Environment Michigan and The Ecology Center took the left-linked approach by creating an 'Energy Priorities' document because they felt the political climate was favorable to the original RPS proposal and worth holding out for until the day of the vote. This was a short-term coalition with a finite goal of defending the originally drafted bill. This short-term coalition was small in size because it would

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allow the actors to maximize the benefit of victory to each coalition member and to decrease any chance of compromising objectives within the coalition (Zafone & Sabatier, 2004). There was also competing coalition working on the RPS and energy efficiency legislation. The Michigan Sustainable Energy Coalition (MSEC) considered itself an environmental business labor coalition; Michigan Environmental Council and The Ecology Center were a part of this coalition at one point but pulled out because of their stance on the RPS. They hired a republican multi-client lobbyist and opposed the 20% by 2020 RPS testifying that it was unrealistic and too costly. MSEC's position on the RPS created a competitive interdependency with the low-hanging environmental coalition because it began to interfere with its ability to achieve their goal of 20% by 2020 with 2% energy efficiency and their negotiation actions were stifled by MSEC's testimony (Fenger & Flok, 2001). A difference in secondary core beliefs because of different interpretations of the same information creates distrust among competing coalitions, or what is called the 'devil shift'. This is the tendency of competing policy actors to see their opponents as less trustworthy and more powerful than they probably are (Sabatier & Weible, 2007). This tension further polarizes members within coalitions and exaggerates the conflict. It was apparent there was still turmoil surrounding this issue nearly three years after; Mike Shriberg, the original author of the 20% by 2020 legislation and employee of The Ecology Center was adamant that MSEC's actions marginalized the 10% by 2015 because it lowered the bar and broke ranks with the rest of the environmental community. It is possible that he experienced the 'devil shift' mentality because of The Ecology Center's previous involvement and his sense ownership of the original bill because no other participants mentioned this conflict.

## Negotiations

ACF recognizes two actors within the policy subsystem; for this energy policy those were the low-hanging environmental coalition and the regulated utilities. These two actors had opposing belief systems that were working against each other in the negotiations of this policy. There is the logic of appropriateness, in which the right behavior means following the laws. The regulated utilities are functioning within the laws they create through their leverage in the business and commerce interests to maximize their profit. There is also the logic of consequences, in which right behavior involves maximizing good consequences. The environmental coalition fights for clean air and clean water because it provides a better quality of life for Michigan residents. After the 10% by 2015 RPS and 1% energy efficiency was introduced by the House Energy and Technology Committee in 2007, negotiations among lawmakers, environmental groups and the utilities began. Frank Accavitti, chair of the House Energy and Technology Committee created three working groups to address renewable energy, energy efficiency, and integrated resource planning; each working group had a team of lawmakers to engage a discussion with stakeholder groups. These working groups or sub-committees were non-traditional in the sense that sub-committees typically involve ten people behind closed doors, where these working groups were anywhere from sixty to seventy people in a public forum. Each stakeholder group got thirty minutes to state their case; the environmental groups continued to fight for the 20% by 2020 RPS and 2% energy efficiency while the utilities were trying to get something out of the deal, they wanted to reduce customer choice. There were about six or eight of these working groups and it was

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highly participatory in nature. Each meeting Accavitti encouraged stakeholder group to go back and decide what they wanted from this legislation. However, when it came down to environmental group's desire for a 20% by 2020 RPS and 2% energy efficiency, Accavitti's position on a 10% by 2015 and 1% energy efficiency was unwavering. Special interests had loopholes they could negotiate on and use as leverage. The quote 'making laws is like making sausage' was a repeated theme among interview participants. This common sentiment among policy makers reinforces the process of negotiating policy in committee and on the house or senate floor is challenging and the work that goes into these negotiations is better off not seen by the general public.

Every step of the way the package lost strength in terms of what environmental groups wanted from a progressive energy policy. One of the biggest hits the environmental policy agenda took was the definition of clean energy, this now includes advanced cleaner energy according to PA 295. Advanced cleaner energy systems include coal-fired power plants that can capture 85% or more of the carbon dioxide emissions and permanently geologically sequester it. This carbon capture process is euphemistically known as 'clean coal' technology. This expanded definition of clean energy also includes trash incineration, arc gasification and an electric generation facilities that uses technologies not being used in commercial operation as of 2008 (Clean, Renewable, and Efficient Energy Act, 295 M.C.L. § 3, 2008). While advanced cleaner energy systems cannot provide more than 10% of the 10% RPS requirement, this still leaves an opportunity for the utilities to build a new coal-fired power plant and apply it to the 10% RPS instead of investing in renewable energy systems to meet that entire 10% requirement (Clean, Renewable, and Efficient Energy Act, 295 M.C.L. § 27, 2008).

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The negotiations made on this energy package legislation allowed it to pass through the house and senate in a bi-partisan way. Environmental groups got an RPS and energy efficiency standard with PA 295 and the utilities reduced customer choice with PA 286. The Customer Choice and Reliable Electricity Act of 2008 ensures that the regulated utilities in Michigan, Consumers Energy Company (Consumers) and Detroit Edison Company (DTE) are guaranteed 90% of the customer market. So, while the regulated utilities are now going to be required to produce 10% of their energy from clean and renewable sources, part of the burden is lifted because they will have 90% of the customer market to distribute the cost over a greater market. The utilities also feared that with mandates for the use of renewable sources, a large industrial corporation, like General Motors or Ford might sign a renewable energy contract with a solar or wind based energy provider and take a significant portion on the customer base off the table. Guaranteeing regulated utilities 90% of the customer market also creates a favorable climate for new coal-fired power plants to be built in the future. This was a selling point for some republicans who felt the technology for renewable energy was insufficient at the time and would not provide a sufficient energy market in the foreseeable future. There are also those who believe that coal-fired power plants are the only stable energy source for the state, so some support for PA 286 came because it created favorable conditions for utilities to build new coal plants in the future.

PA 286 also included pieces of legislation that put a significant burden on the residential ratepayer. There are fixed and variable costs to running a power plant, and the most economically viable for utilities to put fixed costs on customers that consistently use a certain amount of energy (i.e. industrial and commercial customers). However,

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industrial and commercial customers felt that residential customers were being subsidized and wanted to shift some of the burden of the fixed costs which in turn could raise residential rates; this is called de-skewing (Customer Choice and Electricity Reliability Act, 286 M.C.L. § 6, 2008). Another hit to residential rate payers is something called file and use. Traditionally, utilities were not able to recover the costs of building a new plant until it was in built and providing electricity to customers. Now, after including file and use in PA 286, utilities can build a plant on the backs of rate payers by charging them for the permitting and construction costs year before they will see the benefits from a new plant (Customer Choice and Electricity Reliability Act, 286 M.C.L. § 6, 2008). As a member-based organization, CWA was concerned about the burden PA 286 was imposing on residential ratepayers.

With each negotiation that weakened the energy package, it was important for environmental groups to fight for language to be added that provided a safeguard against a bad policy. So, while utilities agreed to this legislation because of customer choice, environmental groups accepted this because PA 286 included integrated resource planning (IRP). An IRP required the utilities to estimate the costs of building a new coal-fired power plant based not just on investment, capital, construction cost, customers rates, but also to include the cost to public health. This is important because utilities have never been required to consider public health costs and will make coal plants less competitive than renewable sources in terms of cost. The IRP is tied to the proposal of a new coal-fired power plant, and at this point none of the regulated utilities have approached an IRP (Customer Choice and Reliability Act, 286 M.C.L. § 6, 2008).

### Key Targets

With the house controlled by democrats and the senate controlled by republicans, there was more support and for the energy package and environmental issues in general in the house. This was important when choosing targets as the negotiations in House and Senate Energy and Technology Committee moved forward. There was enough support for the RPS and energy efficiency to pass in the house, so targets were focused on senate committee chairs, politically vulnerable members of the senate, and republicans in swing districts. Politically vulnerable members of the senate were lawmakers who were coming up for election and CWA knew they could be pushed towards supporting the RPS and energy efficiency legislation. These included Senator (Sen.) Bruce Patterson (R), chair of the Senate Energy and Technology Committee, Sen. Randy Richardville (R), and Sen. Cameron Brown (R). CWA targeted their districts and got members in those districts to write letters and make phone calls asking them to support a 20% by 2020 RPS and 2% energy efficiency.

Sen. Patty Birkholz (R) who sat on the Senate Energy and Technology Committee and was the chair of the Great Lakes Committee became an immediate and aggressive target when she introduced a Senate bill that called for a 7% by 2015 RPS. CWA organized call nights to generate numerous phone calls into her office and a demonstration at the Capitol with a puppet of Birkholz and a coal plant with the quote 'Smokestack Patty Loves Coal', which brought out members, environmental advocates and the press. CWA took a risk to target Birkholz that aggressively and with pointed accountability, but the risk paid off. The RPS went right back to a 10% by 2015 in the Senate Energy and Technology Committee, however it included what is called a cost test.

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A cost test is a statement on customer's bill that details a surcharge for energy efficiency and renewable energy and how it compares to the cost of energy from coal-fired power plants. CWA fought for the comparison to coal cost index in the final legislation to provide incentive for renewable sources, much like the IRP. The charges were broken down into customer classes with a monthly cap per meter on the charge for energy efficiency and renewable sources to make the market more stable. There was a charge of \$3.00 per month per residential customer meter; \$16.58 per month per commercial customer meter; and \$187.50 per month per industrial customer meter (Clean, Renewable, and Efficient Energy Act, 295 M.C.L. § 45, 2008). However, when it started showing up on people's energy bill it was termed an 'energy tax' and was perceived as one more reason for renewable energy sources to be too costly. There is a possibility that this cost test was a tactic to push public opinion away from wanting the state to invest in renewable energy sources because they were going to be taxed.

### Field Canvass

Clean Water Action's professional canvass organizes year round focusing on the issues that have the most state-wide grassroots appeal. Previous issues CWA canvassed on was out of state trash importation and the Great Lakes Compact water legislation, both were successful campaigns and generated CWA victories. Any issue change is exciting because the canvass also focuses efforts on the most urgent policy solutions in the state. Community organizers had already been talking to members at the door about Michigan's potential for renewable energy and got questioned why an RPS had not been pursued.

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CWA generated a number of letters for the RPS and energy efficiency legislation and like other campaigns, letters are written to both the district senator and representative. Since there was a considerable amount of support in the house, some thank you letters were written to representatives. When the legislative interview participants were asked about the impact of actions taken by constituents, there was a divide on the effect. Both republicans recalled they received very few phone calls or letters because they felt it was too complicated of an issue for constituents to get involved. The republican from the 80<sup>th</sup> House District mentioned that she did not hear from her average constituent, only from those who were driven by lobbying groups. She was referring to letters she received from CWA members; however she dismissed them as having little to no impact. Both democrats interviewed have a strong relationship with CWA and were endorsed based on their strong environmental voting record. They remembered receiving many letters from CWA members and constituents. The democrat from the 25<sup>th</sup> House District felt that environmental organizing efforts had a positive impact on the passage of the bill and that it was important for constituents to express their voice. The representative from the 53<sup>rd</sup> House District in 2008, which is the majority of the City of Ann Arbor, talked about how her constituents were well informed on energy and environmental issues. There are many environmental organizations that have offices in Ann Arbor; including CWA, the League of Conservation Voters, The Ecology Center, and National Wildlife Foundation. CWA members and other constituents were invested and involved the fight for a 20% by 2020 RPS and 2% energy efficiency.

Another testimony to CWA's work through community organizing happened during a Senate Energy and Technology Committee. In general the tone of Senate

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committee meetings were more dramatic than those in the House; Senators have bigger districts and bigger egos. Senate Energy and Technology Committee chair Bruce Patterson (R) was known by most as a wildcard who always had something to say. Sometimes it was entertaining and sometimes it was infuriating. However, during one committee meeting, Sen. Patterson held up a thick folder full of letter written by constituents and CWA members demanding a 20% by 2020 RPS. While waving them in front of the committee he asked why they were arguing about the minor details in a 10% by 2015 RPS when the people clearly want more. This was a powerful message that was brought back to the canvass to let them know that negotiations in the legislature weren't happening in a vacuum.

The research in this study supports the claim that a wide array of knowledge is to be gained about the policy process and behind the scene negotiations that were involved in this energy policy. The political climate in 2008 proved to be favorable for progressive energy policy like the adoption of an RPS in Michigan. Stable long-term coalitions among environmental groups set the stage for a grassroots effort to gain the support they needed and influence key legislative targets in order to pass this legislation. Clean Water Action played a pivotal role not only in the coalition but in deploying their established professional canvass to organize members and generate letters to those legislative targets and district lawmakers. The path of this policy process and the influential factors align with literature on the Advocacy Coalition Framework to explain the policy process and outcomes.

## CHAPTER V

### DISCUSSION & RECOMMENDATIONS

#### Vote Counts and Reactions

On September 18<sup>th</sup>, 2008 the final vote for senate bill 213 now known as PA 295 came to the senate floor. There were twenty-six yeas and ten nays with bipartisan support among the republicans voting 42% in favor and 47% opposed to this bill. Once it passed in the senate, the bill then moved to the house where the votes were eighty-three yeas to twenty-four nays. The bipartisan support among republicans in the house was slightly higher, 53% in favor and 46% opposed. In both the senate and the house all democrats voted in favor of this bill. House bill 5524 now known as PA 286 was voted on the same day. There were seventy-eight yeas and twenty-nine nays in the house. Once again, the republicans were split with 48% voting in favor and 51% opposed. The vote then moved to the senate where there were twenty-five yeas and eleven nays. Bipartisan support among republicans was again split 42% in favor and 47% opposed, in the senate the republicans voted the same for both bills. There was a slight difference in support from democrats on house bill 5524; two democrats in the house and one democrat in the senate opposed this bill. See Appendix (D) for full breakdown of the vote count. I expected the democrats to split the vote on the customer choice bill because I did not think that democrats would be willing to give that much power to the utilities. Traditionally, republican policies focused on reduced bureaucracy and regulations are more aligned with the utilities better interest. However, because the RPS required support from the

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powerful regulated utilities in order to pass, it is feasible that democrats voted to reduce customer choice in order to gain support from the utilities. Support from the regulated utilities was a crucial factor in the adoption of an RPS and energy efficiency requirement in Michigan, and would not have been feasible without their buy-in. As a result, environmental groups and democrats had to make a political sacrifice and give the utilities 90% of the customer market.

The general consensus among interview participants was that there was a sense of relief and satisfaction once this package of bills passed. While the negotiations were lengthy and time consuming, environmental groups and the utilities could accept what they got despite what was given up. While the bill was still being debated in committee there was some fear among democrats that a compromise was not going to be made due to the negotiations that weakened the PRS. The representative interviewed from the 71<sup>st</sup> House District discussed tension in the negotiation process. He noted it came not from debate between the house and the senate in the legislative branch but from the executive branch due to Governor Granholm unwavering support of a strong RPS. He and some of his colleagues felt she had a desire for a much higher RPS and wanted to make this legislation her political legacy as her final term was ending. This was an interesting observation and reinforced Governor Granholm's role in shaping attitudes and perceptions around the RPS legislation dating back to her support during her 2006 gubernatorial campaign. She made it a safe policy for democrats and even some republicans to support.

### Moving Forward with Current Levels of Support

While a 10% by 2015 RPS with 1% energy efficiency was a drastic compromise for environmental groups and environmentally focused democrats, there was still a sense of accomplishment in this first step towards a more progressive energy policy in Michigan. All those in favor of a strong RPS believed that this legislation was the beginning of a continued fight to break Michigan's reliance on coal; one interview participant said that social change is a marathon, not a sprint. This sentiment echoes the continuous theme of the extended policy timeline of the ACF and CWA's commitment to slowly changing environmental policy. The day the legislation was passed, all media and press generated from CWA addressed they had agreed to a weakened piece of legislation but that work would start immediately to strengthen it. There has been recent discussion among lawmakers to draft legislation that would strengthen the RPS and energy efficiency standard, however even supporters of renewable energy feel the current administrations debate over the budget and tax policy would marginalize the effort. There is also concern that opening up PA 295 right now while there is a republican majority, whose political agenda is focused on a budget crisis and traditional economic development could be dangerous. Proposing an amendment to PA 295 to increase and strengthen the RPS and energy efficiency could result in a further weakening of this legislation. This has been true in other states because of political agendas to reduce regulations and mandates.

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From the legislative participant perspective, the RPS has not lost support in the nearly three years since its passage, there was however disagreement whether it has gained support and whether or not the progress towards diversifying energy sources has been cost effective. The two republican legislators that were interviewed felt that renewable energy technology is not advanced enough to meet that 10% by 2015 RPS in a cost efficient way. Both felt confident that new 'clean coal' plants are guaranteed to be built in Michigan and that they are the only means to provide cost effective and reliable power to residents and the business community. Neither thought the RPS legislation has lost support over the past three years, but neither felt they had seen proof that technology for renewable energy sources can provide less expensive electricity than coal. The two democratic legislators interviewed felt there had been a significant increase in support for this legislation over the years. However, environmental and energy policy has experienced competition for political attention from more pressing issues like the deep recession period that started in late 2008 that resulted in an economic crisis and high unemployment. There has been full compliance by the two major regulated utilities in the state, DTE and Consumers have exceeded the expectations of this legislation and taken voluntary steps towards investments in renewable energy sources. The implementation of PA 295 has shown that the renewable energy sources that have received investment in the state have a lower unit cost than energy that comes from new coal-fired power plants. A new coal plant in Michigan with the life cycle of forty years has a levelized cost of \$133 per MWh. All of the renewable energy technologies that DTE and Consumers have invested in with the exemption of hydro-electric power have a lower levelized cost per unit. The combined average from both utilities for wind is \$101.78 per MWh; anaerobic

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digestion is \$128.14 per MWh; biomass is \$98.94 per MWh; and landfill gas is \$113.25 per MWh (Isigou, Martinez, & White, 2011). These figures were generated by the Department of Energy, Labor, and Economic Growth from a PA 295 implementation report that was required in the bill. This publicly available data from credible reports required by the legislation should be able to support the case for investment in renewable energy sources. The benefits move beyond environmental protection through cleaner air and water, and decreasing dependence on importing energy sources to highlight the economic benefits from diversifying energy sources.

### Recommendations

Policy recommendations moving forward with the implementation of PA 295's renewable portfolio standard and energy efficiency will focus on research and public awareness. Before there can be a legitimate and successful attempt to strengthen Michigan's RPS and energy efficiency standard, it must be generally accepted among politicians, the public, and the business community that creating policy to encourage investment in renewable energy sources will provide economic development in the state through job creation and infrastructure. There continues to be misconceptions about the environmental, health, and economic costs of electricity produced from coal-fired power plants versus the benefits that come from electricity produced from renewable sources. There is a growing body of empirical research being conducted on the topic of renewable energy sources and I recommend expanding the breadth and depth of research on this subject to support the benefits of diversifying energy sources and reducing dependence on fossil fuels, specifically coal. Another important piece is how that research is presented and distributed; these studies or reports tend to be extremely technical and

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generally stay within small political or scholarly circles. New research coming out about the environmental, economic, and health benefits of using renewable energy sources needs to be available to the public, both in terms of comprehension and accessibility. Educating the public on the risks and benefits of Michigan's energy sources is essential to developing support for investment in renewable energy. Creating sustainability in communities through diversifying energy sources and reducing energy consumption requires changes in attitudes and behaviors, which can only be achieved through public education with meaningful and accurate information.

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APPENDIX A

Michigan Clean Water Action ACF Belief Chart

**Deep Core Beliefs (normative)**

- Protect drinking water sources including lakes, rivers, streams, wetlands, groundwater, coastal waters and other water resources
- Preventing health threatening contamination of air, water, food, and communities
- Promoting clean energy and combating global warming with a focus on strong, science-driven policies and protecting water resources
- Defending democracy

**Policy Core Beliefs (coalitions)**

- Sierra Club
- Michigan Environmental Council
- Environment Michigan
- The Ecology Center
- League of Conservation Voters

**Secondary Core Beliefs (empirical)**

- Michigan's energy sources should be diversified and move beyond coal
- Empirical evidence from reports outline the health and environmental risks associated with coal-fired power plants
- No new coal-fired power plants should be built in Michigan
- Older coal-fired power plants should be shut down and phased out
- Wind and solar should be invested in for future energy options
- Natural gas and nuclear can be used as transition energy sources

## APPENDIX B

### Key Interview Questions

#### Interview Questions (Clean Water Action/Ecology Center/Sierra Club: Policy Director)

- How would you describe the political climate in 2008?
- How were the relationships with the coalitions started? On what grounds and how did they evolve leading up to the vote on this bill?
- How were key targets chosen for this legislation? Did they shift or change?
- What was the ratio of perceived “friends” and “foes” of this bill in the house and senate?
- What were some challenges you faced when lobbying on this bill?
- What were specific compromises that needed to be made in order for this bill to pass?
- What was the tone in committee meetings if any were attended?

#### Interview Questions (Clean Water Action: Canvass)

- Were canvassers excited to be working on this issue?
- What was the response from members at the door?
- What were some of the challenges of this issue/policy?
- Did members have a sense that the letters they were writing had a significant political impact?
- How would you describe the political climate in 2008?
- What was the reaction to the passing of this bill?

#### Interview Questions (Representatives/Senators)

- How would you describe the political climate in 2008?
- Did you attend any of the committee meetings for this bill? If so, how would you describe those meetings?
- To what extent was there a political divide between parties on this bill or was there bi-partisan support?
- What aspect of this bill were you and your colleagues in strongest support of?
- Did you or your colleagues have any concerns about this bill?
- To what extent did your constituents impact your decision?
- What was the reaction to the passing of this bill within the Senate/House on that day and the weeks following?
- What was the reaction from constituents after the passing of this bill?
- Has this bill gained or lost support since its passing in 2008?

APPENDIX C

Approval Not Needed from HSIRB

Date: March 8, 2011

To: Udaya Wagle, Principal Investigator  
Erin Elizabeth Adair, Student Investigator

From: Amy Naugle, Ph.D., Chair

Re: Approval not needed

This letter will serve as confirmation that your project "Michigan's 2008 Renewable Portfolio Standard Legislation: A Case Study of Clean Water Action" has been reviewed by the Human Subjects Institutional Review Board (HSIRB). Based on that review, the HSIRB has determined that approval is not required for you to conduct this project because you analyzing proposed law brought before Michigan House of Representatives (House Bill 5524) and are not collecting personal information about individuals. Thank you for your concerns about protecting the rights and welfare of human subjects.

A copy of your protocol and a copy of this letter will be maintained in the HSIRB files.

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APPENDIX D

Final Vote Count for Senate Bill 213

<b>Senate Bill 213: Senate Vote</b>	Democrats	Republicans
Yeas-26 Democrats-17 Republicans-9	Anderson, Barcia, Basham, Brater, Cherry, Clark-Coleman, Clarke, Gleason, Hunter, Jacobs, Olshove, Prisi, Schauer, Scott, Swialski, Thomas, Whitmer	Allen, Birkholz, Bishop, Gilbert, Hardiman, McManus, Richardville, Stamas, Van Woerkom
Nays-10 Democrats-0 Republicans-10		Brown, Cassis, Cropsey, George, Jansen, Jelinek, Kahn, Kuipers, Pappageorge, Sanborn

<b>Senate Bill 213: House Votes</b>	Democrats	Republicans
Yeas-83 Democrats-55 Republicans-28	Accavitti, Angerer, Bauer, Bennett, Beida, Brown, Byrnes, Byrum, Cheeks, Clemente, Condino, Constan, Corriveau, Coulouris, Cushingberry, Dean, Dillon, Donigan, Elbi, Espinoza, Farrah, Gillard, Gonzales, Griffin, Hammel, Hammon, Hood, Hopgood, Johnson, Jones, R., Lahti, Law, K., LeBlanc, Leland, Lemmons, Lindberg, Mayes, McDowell, Meadows, Meisner, Melton, Miller, Polidori, Sak, Scott, Sheltroun, Simpson, Smith, A., Spade, Tobocman, Vagnozzi, Valentine, Warren, Wojno, Young	Ball, Booher, Calley, Caswell, Caul, Gaffney, Green, Hansen, Hildenbrand, Horn, Hune, Jones, Knollenberg, LaJoy, Marleau, Melzer, Moore, Nofs, Opsommer, Palsrok, Pastor, Pearce, Proos, Rocca, Schuitmaker, Walker, Ward, Wenke
Nays-24 Democrats-0 Republicans-24		Acciavatti, Agema, Amos, Brandenburg, Casperson, DeRoche, Elseneimer, Emmons, Garfield, Hoogendyk, Huizenga, Law, D., Meekhof, Moolenaar, Moss, Nitz, Palmer, Pavlov, Robertson, Shaffer, Sheen, Stahl, Stakoe, Steil

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APPENDIX D

Final Vote Count for House Bill 5524

<b>House Bill 5524: Senate Vote</b>	Democrats	Republicans
Yeas-25 Democrats-16 Republicans 9	Anderson, Barcia, Basham, Brater, Cherry, Clark-Coleman, Clarke, Gleason, Hunter, Jacobs, Olshove, Pruisi, Shauer, Scott, Switakski, Thomas	Allen, Bishops, Cassis, Cropsey, Gilbert, McManus, Pappageorge, Richardville, Stamas
Nays-11 Democrats-1 Republicans-10	Whitmer	Birkholz, Brown, George, Hardiman, Jansen, Jelinek, Kahn, Kuipers, Sanborn, Van Woerkom

<b>House Bill 5524: House Vote</b>	Democrats	Republicans
Yeas-78 Democrats-53 Republicans-25	Accavitti, Angerer, Bauer, Bennett, Bieda, Brown, Byrnes, Byrum, Cheeks, Clemente, Condino, Constan, Corriveau, Coulouris, Cushingberry, Dilon, Donigan, Elbi, Espinoza, Farrah, Gillard, Gonzales, Griffin, Hammel, Hammon, Hood, Hopgood, Johnson, Jones, R., Lahti, Law, K., LeBlanc, Leland, Lemmons, Lindberg, Mayes, McDowell, Meadows, Meisner, Melton, Miller, Polidori, Sak, Sheltroun, Simpson, Smith, A., Spade, Tobocman, Vagnozzi, Valentine, Warren, Wojni, Young	Ball, Booher, Calley, Caswell, Caul, Elsenheimer, Gaffney, Hansen, Hildenbrand, Horn, Hune, Jones, R., Knollenberg, LaJoy, Moolenaar, Moore, Nofs, Palsrok, Pastor, Proos, Robertson, Rocca, Schuitmaker, Walker, Ward
Nays-29 Democrats-2 Republicans-27	Dean, Scott	Acciavatti, Agema, Amos, Brandenburg, Casperson, DeRoche, Emmons, Garfield, Green, Hoogendyk, Huizenga, Law, D., Marleau, Meekhof, Melzter, Moss, Nitz, Opsommer, Palmer, Pavlov, Pearce, Shaffer, Sheen, Stahl, Stakoe, Steil, Wenke

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APPENDIX E

Abbreviation Reference

CO <sub>2</sub> -Carbon Dioxide	Rep.-Representative
NO <sub>2</sub> -Nitrogen Dioxide	Sen.-Senator
EPA-Environmental Protection Agency	Consumers-Consumers Energy Company
RPS-Renewable Portfolio Standard	DTE-Detroit Edison Company
CWA-Clean Water Action	2008 Rep. from 80 <sup>th</sup> House District-Tonya Schuitmaker
MSEC-Michigan Sustainable Energy Coalition	2008 Rep. from 71 <sup>st</sup> House District-Rick Jones
ACF-Advocacy Coalition Framework	2008 Rep. from 53 <sup>rd</sup> House District-Rebekah Warren
IRP-Integrated Resource Planning	2008 Rep. from 25 <sup>th</sup> House District-Steven Bieda
PA 295-Senate Bill 213	
PA 286-House Bill 5524	
PA 295-Clean, Renewable, and Efficient Energy Act of 2008	
PA 296-Customer Choice and Reliable Electricity Act of 2008	
kW-Kilowatt	
kWh-Kilowatt hour	
MWh-Megawatt hour	
GWh-Gigawatt hour	
\$/kW-Dollar per kilowatt	
(R)-Republican	
(D)-Democrat	