THE EFFECTS OF ENVIRONMENTAL VALUES AND POLITICAL IDEOLOGY ON PUBLIC SUPPORT FOR RENEWABLE ENERGY POLICY IN OTTAWA, CANADA.

ELSIE FOBISSIE BLESE

Thesis Submitted to the University of Ottawa
in partial Fulfilment of the requirements for the
Master of Arts in Sociology

School of Sociological and Anthropological Studies
Faculty of Social Sciences
University of Ottawa

Table of Contents

List of Tables and Figures

List of figures

Abbreviations

CRA	Canada Revenue Agency
DSP	Dominant Social Paradigm
EMT	Ecological Modernisation Theory
FIT	Feed-In Tariff
GAF	Global Adjustment Fee
GDP	Gross Domestic Product
GEA	Green Energy Act
GHG	Greenhouse gases
IEA	International Energy Agency
IESO	Independent Electricity System Operator
IPCC	Intergovernmental Panel on Climate Change
IPIECA	International Petroleum Industry Environmental Conservation Association
NDC	Intended Nationally Determined Contribution
NEP	New Ecological Paradigm
NIMBY	Not In My Back Yard
OCC	Ontario Chamber of Commerce
OCCS	Ontario Climate Change Strategy
OEB	Ontario Energy Board
OFHP	Ontario's Fair Hydro Plan
OLA	Ontario Landowners Association
OLTEP	Ontario Long-Term Energy Plan
OREC	Ottawa Renewable Energy Co-op
OWR	Ontario Wind Resistance
RE	Renewable Energy
RES	Renewable Energy Sources
RET	Renewable Energy Technology
SRREN	Special Report on Renewable Energy
UNFCCC	United Nations Framework Convention on Climate Change
VBN	Value Belief Norm
WRI	World Resource Institute

Abstract / Resumé

The Ontario provincial government faces the challenge of getting public support in the implementation of its RE policy. This thesis aims at investigating the effects of environmental values and political ideology on public support for renewable energy policy in Ottawa, Canada. Data was collected through open-ended interviews with fifty respondents in and around Ottawa, transcribed, coded and analysed using the NVivo software. Results indicate that environmental values and political ideology affect public support for renewable energy policy, but economic factors also play a role. The provincial government can think of ways to reduce the cost of electricity, invest on education and the creation of awareness on the benefits of renewable energy and the different initiatives that are offered by the RE policy to increase public support. Public ownership of RE projects and more democratic policy-making could also increase public support.

Le gouvernement provincial de l'Ontario fait face au défi d'obtenir le soutien public dans la mise en œuvre de sa politique d'ER. Cette thèse vise à étudier les effets des valeurs environnementales et de l'idéologie politique sur le soutien public à la politique sur l'énergie renouvelable à Ottawa, au Canada. Les données ont été recueillies par les entrevues ouvertes avec une cinquantaine de répondants à Ottawa et dans les environs. Ils ont été transcrits, codées et analysées à l'aide du logiciel NVivo. Les résultats indiquent que les valeurs environnementales et l'idéologie politique affectent le soutien public à la politique d'énergie renouvelable, mais les facteurs économiques jouent également un rôle. Le gouvernement provincial peut réfléchir à des moyens de réduire le coût de l'électricité, investir dans l'éducation et sensibiliser les gens aux avantages de l'ER et aux différentes initiatives offertes par la politique sur l'ER pour accroître le soutien public. La propriété publique de projets d'ER et l'élaboration de politiques plus démocratiques pourrait également accroître le soutien public.

Acknowledgements

This thesis would not have been completed without the guidance and support from many members of the School of Sociological and Anthropological Studies at the University of Ottawa. I will start by thanking my thesis supervisor Professor Nathan Young for his continuous patience and advice throughout this process, I am deeply grateful. Thank you Professor José Lopez and Professor Loes Knaapen for accepting to be part of my thesis committee and for your valuable contributions to the success of this research.

I would like to extend my gratitude to my beloved husband Professor Kalame Fobissie for his constant encouragement and support, without which I would not be able to go through this journey. To my beloved kids Darren, Rianne and Ted, thank you for being patient and supportive, I will forever appreciate your support. Finally, to my siblings and friends who supported me in one way or the other throughout my studies, I am very grateful.

Chapter 1. INTRODUCTION

Environmental degradation including climate change is one of the most prominent problems facing the society of today and is said to have been caused by both human and natural factors. The Intergovernmental Panel on Climate Change (IPCC) which stands as the United Nations' leading body on the assessment of the impact of climate change, emphasises that climate change has been caused to a higher degree by human factors because of human activities on the planet such as the burning of fossil fuels and deforestation. There are also natural factors that may cause climate change, for instance changes in volcanic activity and solar radiation (Canada's Action on Climate Change, 2015). De Matteis (2017, p.2) indicates that there is an overwhelming consensus among climate scientists that recent global warming is mainly caused by humans, a position which has been articulated by the IPCC statement that "human influence has been the dominant cause of the observed warming since the mid-twentieth century". Climate conditions have always faced some level of variability, but presently, it is marked by changes in the concentration of greenhouse gases (GHGs) in the atmosphere which are now increasing at a faster rate than before. Greenhouse gases, according to Environment and Climate Change Canada (2009) are gases found in the atmosphere that can absorb and emit radiation within the thermal infrared range such as carbon dioxide and methane which are the most significant on the earth. The IPCC, in its Fifth Assessment Report glossary (2014), similarly defines greenhouse gases as "those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of thermal infrared radiation emitted by the Earth's surface, the atmosphere itself and by clouds". It outlines examples of greenhouse gases mainly emitted by human activities including carbon dioxide, nitrous oxide, methane, and ozone as primary in the Earth's atmosphere.

The various impacts of climate change include desertification, heat waves, rising sea levels and the alteration of habitats. Research has confirmed that some causes of climate change such as excessive deforestation will alter animal as well as human habitats. Climate change is also one of the driving forces through new patterns and intensities of droughts and flooding, extreme weather conditions and events which then affect food security, health, land degradation and livelihoods in general (Bailey, 2010, p. 687; IPCC, 2007b). Bailey (2010) therefore estimates that there will be as many as 200 million environmental refugees by the year 2050, and if the level of carbon emission is not reduced, the earth will suffer from even harsher temperatures in the future. Climate change has also been linked to the rise in conflicts and humanitarian catastrophes in present day

society as a consequence of extreme weather events, which bring about hunger and poverty (Weiss & Burke, 2011, p. 1058). According to Smith et al. (2013, p. 139), who focused their study on the effects of climate change on crop production and greenhouse gas emissions in Canada. The most severe effect of climate change, as per empirical knowledge will be a decrease in water supply thereby affecting food growth and agriculture in general, according to Smith et al. (2013 p. 139) The effects of climate change are already being felt and experienced in most parts of the world, affecting people's health, physical environments, livelihoods, as well as socio-economic wellbeing in general, and Canada is not left out.

This research thesis will contribute to the discussion by making use of data collected from Ottawa, Finch, North Gower, St. Isidore, Kemptville and Fournier to examine how environmental values and political ideology affect the level of public support or resistance for renewable energy policy, in the ongoing efforts to gradually replace dirty, traditional or conventional sources of energy with renewable energy sources in the province of Ontario. When I talk of policy support, I mean the extent to which an individual orients himself or herself to policies through his or her attitudes or behaviour. To accept or support an environmental policy implies that citizens are willing to engage in behaviours shaped or guided by the policy which may include in the case of environmental policy, willingness to pay higher taxes for environmental action and saving energy for instance (Stern, 2000, p. 409). The question then is why is social support so important for policies made by the government? Wan et al., (2017, p. 70) explain that "gaining support is an essential prerequisite to effectively implement policies and achieve policy goals; without which the policies would be in ruins and the government may also suffer from setbacks in other policy areas". Jung et al., in a study on social acceptance of renewable energy technologies in Finland, (2016, p. 815) find that "societal acceptance is a major concern in energy policy and in the marketing of new innovative solutions. It is a dynamic process rather than a static feature of a technology and can range from active support to active resistance". It remains therefore crucial for policy makers to understand the various factors that contribute to social support.

In a bid to fight climate change, most countries are aiming at making sustainable decisions with regards to energy and other ways of reducing human impact on the climate of the earth. According to global data from the World Resources Institute (WRI, 2017), Canada ranks 9th on the list of the top ten emitters of greenhouse gases and contributes about 1.69% to global emissions. Looking at

the global statistics on emissions from previous years, the percentage of GHG emissions that Canada contributes to the global emissions, has dropped from 1.9% in 2005 to 1.6% in 2013.

As part of a continuous effort to fight climate change and reduce CO2 emissions, governments in Canada (municipal, provincial and federal) have put in place policies aimed at addressing climate change through an increased use of renewable energy sources, the implementation of which has met with controversy and resistance, especially from 2016 when the federal government called for a mandatory action in the fight against climate change. The Green Energy Act, passed in Ontario in 2009 for instance, mandated the closure of coal fired power plants and created a framework for renewable energy expansion and has been criticized for bringing a dramatic increase in the price of electricity for consumers. Authors in the field of climate change and environmental studies advise on the need for renewables to be increasingly adopted as a replacement for the burning of fossil fuels as a way of fighting climate change, but this has not been easy to attain. To achieve a reduction in the use of fossil fuels, attain energy security, and fight climate change, it is considered advisable to make a shift to a sustainable economy that relies on the use of low-carbon energy sources (Paravantis et al., 2018, p. 639). Batel et al. (2013, p. 1) acknowledge in their study on social acceptance of low carbon energy and infrastructure, that the development and deployment of renewable energy technologies is not always a straightforward task as it is most often met with opposition from the local communities where the infrastructure is constructed.

The ecological modernisation theory will guide this study to help us understand the reasons behind the choices that the government has made in the decision-making process on renewables and also the underlying value systems and ideologies that determine or influence support or opposition to these RE policies. Ecological modernisation theory seeks to merge economy and ecology without putting one against the other and strives to reorganise the roles played by the government on one hand and citizens on the other, in handling environmental issues. Data was collected through open-ended interviews with informed energy consumers living in and around Ottawa, to examine their thoughts on renewable energy policy in Ontario and understand the effects that environmental values and political ideology have on their thoughts. The remainder of the thesis is structured as follows: A review of the literature (Olson-Hazboun et al., 2016; Devine-Wright, 2005; Karlstrøm and Ryghaug, 2014; Verbruggen et al., 2010) etc. will be given in the

next section arranged according to themes as highlighted in existing literature. These themes will include firstly political ideology and affiliation, followed by environmental values and lastly socio-demographics/socio-economics. The third section will be the problem statement which will be followed by the study objective and the research questions. After the research questions, the theoretical and conceptual framework will be elaborated, followed by the data and methods section. The limitations of the study will then be discussed after the theoretical framework and some recommendations outlined.

Chapter 2. LITERATURE REVIEW

The adoption of renewable energy has been suggested by scholars as one of the ways of fighting climate change. Even though policy makers and the media portray renewable energy as a major solution to fighting climate change, some social science researchers have found that the support for renewables is not determined by people's opinions on climate change alone but could be influenced by individual environmental values concerning environmental policy (Olson-Hazboun et al., 2016, p. 167) There are other factors that are more influential in determining the level of support for renewable energy among which are environmental beliefs and opposition to government environmental policies (Olson-Hazboun et al. 2016, p. 173). Devine-Wright (2005, p. 129) describes public reactions to renewable energy systems as having a "complex multi-dimensional nature", appearing to be context-dependent and change over time. The explanations given in support of or in opposition to renewable energy are many and varied. There is an increasing interest and push from governments for more renewable energy development projects, these usually meet with a high level of support from energy consumers but meet with many and various barriers at the implementation stage (Karlstrøm and Ryghaug, 2014, p.658). Organizing the energy transition from non-sustainable (non-renewable) to sustainable (renewable) energy is often described as the major challenge of the first half of the 21st century (Verbruggen et al., 2010, p. 850). The big question is what makes it difficult to get consumers to support RE policies? Some authors distinguished between three different dimensions of social acceptance of RE policies: socio-political, market and community. Socio-political focuses on the acceptance of a technology

by policy makers or the public (usually measured through opinion polls) while market focuses on the willingness-to-pay and diffusion of new technology in households and corporate organizations. Community acceptance is concerned with local responses to the siting of wind farms and other RE infrastructures (Fast, 2013, p. 854; Wüstenhagen et al., 2007, p. 2684). With respect to the Ontario GEA case, there has been a difficulty in achieving acceptance at all levels. While government policy makers have accepted RE technologies, for the sake of fighting climate change, some people oppose for the most part because of the high costs of electricity that are a result of the GEA. Findings of this study indicate that one of the main reasons why energy consumers are not in support of RE technologies is because electricity prices in Ontario, especially in the rural areas have risen over time. Another reason is that communities are not fully involved in the development of these projects and so the benefits go to the companies who get the contracts to the detriment of the taxpayers who live in these communities. In terms of market acceptance, energy consumers are finding it hard to pay the extra cost of electricity that comes with the switch to RE sources, though they have no choice. The communities in which wind turbines are located also oppose the policy on claims of landscape alteration, perceived health risks and noise annoyance. Opposition to wind energy based on siting concerns is what gave rise to the Not In My Back Yard (NIMBY) concept which is when locals protest a technology, wind turbines in this case, and prefer its development to be carried out elsewhere. It could be concluded that support for the Ontario GEA has so far been hard to attain at the market and community levels of social acceptance. According to Fast, (2013, p. 855) wind as a source of electricity faces more problems of social acceptance than biomass or solar, this is true in the Ontario case as a lot of respondents do not support wind energy for being, in their opinion, forced down their throats and also being disruptive and invasive to the communities where it is being developed.

People's support or opposition to renewable energy is often determined not only by their capacity to choose what source of energy to use, as many other factors come into play. Their values and lifestyles as well as political ideology largely determine their willingness to support renewable energy policy. The literature review for this study will examine existing studies on the reasons why people may behave the way they do towards elaborated renewable energy policies. The social aspect of people's support or opposition to RE policies is examined in this study, with a theoretical framework as a guiding tool through which such policies could be better understood.

2.1. Political Ideology and Affiliation

The proponents of the ecological modernisation theory think that beginning from the 1970s and 80s, politics should take on a different dimension and meaning as the concepts of political modernization are getting shaped by the environmental problematic. Politics no longer involves only the state in the decision-making process but also non-state actors, this has been termed inclusionary politics (Jänicke, 2010, p. 28). Public participation from citizens and non-governmental organizations became relevant as an instrument to support processes of institutional decision-making on environmental problems, thus reshaping interactions between the state and the civil society (Fisher, Fritsch and Andersen, 2010, p. 146). Political party affiliation and political ideology generally have an influence on environmental behaviour, though not necessarily direct as economic considerations too may come into play (Longo & Baker, 2014, p.344). In Canada, just like in the US, "the primary political opposition is between "conservatism" which prefers market-based policy instruments when necessary and low government regulation of markets where possible, and "liberalism" which focuses on the role of government in remedying market imperfections related to inequality, unemployment, environmental destruction, health and safety" (Hess et al., 2016, p. 20). Politically liberal or progressive individuals tend to be more environmentally aware and show concern for the environment. A survey in Australia demonstrated that political party affiliation and ideology have a powerful influence on climate change beliefs and emerged as the most important predictor of politicians' climate change beliefs (Fielding et al. 2012, p. 712). Even though the study focused on politicians, it very much aligns with the findings from previous studies which look at climate change beliefs from the perspective of energy consumers.

According to Longo and Baker, political ideology is a stronger and more consistent predictor of environmental concern than party affiliation. In the US for example, the Republicans have been linked to lower rates of pro-environmental attitudes (Hu et al., 2017, p. 124; Fielding et al., 2012, p. 713), similar to the Conservatives in Canada, who are resistant to change and prefer to preserve the status quo, though this trend has been generally influenced by economic ideology within the various political parties. This makes us question the reactions that Ontario renewable energy policy is getting from inhabitants of the province as some who are liberal in their political affiliation and/

or ideology, still may not support the energy policies because of the increase it has brought to the price of electricity and consequently how it affects consumers. Others support the initiatives taken on one source of energy for instance wind energy and resist the one on nuclear for example. In the U.S, political ideologies have been differentiated under "red" (Conservative) or "blue" (Liberal). "These differences refer to a range of issues with one of the central divisions being over ideological disagreements over the proper role of government intervention in the economy" (Hess et al., 2016, p. 19). Ideology is believed to be the strongest predictor of attitudes and outcomes related to environmental issues (p. 20) as it is linked to the perception of threat to catastrophic change, attitudes toward government spending on environmental protection and RE policy adoption. In North America, noticeably in the US and Canada, it is not uncommon that political ideology usually involves the demarcation of being either left-wing or right-wing, liberal or conservative, in which case the left-wing group strives for a large welfare state and more market intervention, an enhanced support for the active, non-neutral state, an increasingly regulated market and universal welfare politics unlike the opposite right-wing group, who prefer a passive, neutral state, an unregulated market and limited social policy, thus confirming the proposals of the above-mentioned scholars.

It doesn't however mean that political ideology is always measured or located on the left-right or liberal-conservative dimension as indicated in the study by Jost et al., who clarify that the left advocate social change in the direction of greater equality—political, economic or social while the right support a traditional more or less hierarchical social order and opposing change toward equality (p. 27-28). It is thereby agreed that right leaning individuals are more hesitant to embrace environmentalism and environmental concern compared to those belonging to the left side of the scale (Dunlap et al., 2001, p. 26; Smith & Leiserowitz, 2012, p. 1027). There is therefore a general assumption that those who identify with the left-side of the spectrum will be less negative to the introduction of environmental policies not only because such measures are compatible with their conviction that the market economy needs to be regulated, but also because they believe that government should take a more active role in establishing a good society.

In a study on policy drivers and the barriers to renewable energy technology uptake, Karatayev et al., (2016) indicated that the main factors that prevent the easy penetration of renewables are related to the political and regulatory framework put in place to handle energy projects. In their

opinion, in Kazakhstan where the study was carried out, the political and regulatory framework that exists there supports and promotes a continuous focus on fossil fuels, and Kazakhstan is a fossil fuel energy exporter and a great part of its GDP comes from fossil fuel extraction. For instance, the government of Kazakhstan currently runs state programs for the development of the fossil fuel sector and plans to increase the volume of oil production, while constructing nuclear power stations, coal and gas power plants to increase its electricity production by 2050. Priority is more on the development of fossil fuels to the detriment of renewables. While it is true that the findings of this study may not be applied directly to what occurs in Ontario, they give us an idea of how political ideology can influence the development of renewable energy technologies to replace the conventional fossil fuel energy sources. This is also an example of how political ideology determines how further energy policy can be pushed. In the case of Ontario, the Liberal government, is pushing much harder than the previous Conservative government as they even have environmental or ecological concerns as an important element on their agenda at the national level (Liberal Party of Canada, 2017). Political ideology not only means the type of government in power at a given time but may also refer to people's personal political inclinations and preferences, as this determines the kind of policies they would like to see being implemented and how.

Murombo Tumai (2016, p. 155) in an article that tackles the legal and policy barriers to renewables in South Africa, explains that energy institutions have a role in the persistence of the fossil fuel system. He further blames the interconnections and mutual support that exists between these institutions for the difficulty in introducing new technologies, that is, renewables. Also, the existing laws put in place in South Africa strongly support the present governance structures, making it also hard for new technologies to come in as this would imply structural and institutional changes. Another hindering factor at the political level is the fact that the regulation, design, and pricing are done in an industry that does not know renewables and so portrays them as being costly, unreliable and expensive, thereby making fossil fuel seem more advantageous over renewables. There needs to be a complete legal reform if renewables have to be fully introduced because renewables cannot function properly in the legal system that was in place in the fossil fuel era. Renewable technologies must gain the support and confidence of policy makers who would have to create an enabling environment for renewable and sustainable sources of energy to be integrated into the energy mix.

In Ontario, the Green Energy Act (GEA) launched in 2009, aimed at building an economy that relies on and uses mainly clean energy from renewable sources, namely wind, solar, hydroelectricity and bioenergy. The GEA also aimed at achieving energy efficiency, conservation, reducing GHG emissions and improving the health of Ontarians by ending the use of coal-fired energy production (Auditor General of Ontario, 2011, p. 87; 2013, p. 308 & 317). The end to coal power has been termed the most successful and unique green energy project ever carried out in the history of the North American continent (Ontario's Long-term Energy Plan, 2017; Stokes, 2013, p. 493) and Ontario claims to be the first jurisdiction in North America to fully eliminate coal as a source of electricity generation (Ontario Ministry of Energy, 2014). The Feed-In Tariff (FIT), a component of the GEA, was created as a guaranteed-price program to promote greater use of renewables like wind and solar energy (Auditor General of Ontario, Ch. 3, 2011, p. 97). Though the GEA has succeeded in reducing emissions by ending the use of coal for energy production in the province, it has faced a lot of opposition. From people hating wind turbines for killing birds and altering natural landscapes (that led to the Not In My Back Yard, NIMBY phenomenon) to the high amounts of taxpayers' money that the government put into the construction and maintenance of these renewable energy technologies, consumers have mostly opposed the continuous rising electricity rates in the province since the passing of the Act in 2009. This leaves Ontarians with no choice, as they are obliged to pay the high electricity rates especially as the energy grid is controlled by the government. It is this lack of choice that has brought so much conflict and opposition to the renewable energy policy initiatives that have so far been implemented by the Ontario provincial government. Irrespective of how successful and beneficial they present these policies, energy consumers who are taxpayers are still not convinced as to what they gain from such policies, as more money is taken from the pockets of consumers. The Auditor General for Ontario, in an annual evaluation report on the electricity sector (2011, Ch. 3, p. 89) explains that the Ontario government has succeeded in rapidly increasing the amount of renewable energy available over the next few years but at the same time, wind and solar renewable power will add significant additional costs to ratepayers' electricity bills. According to the Ontario Chamber of Commerce (OCC, 2017) electricity rates in Ontario are presently among the highest in North America and stand as one of the biggest barriers to business expansion in the province.

Supporters of the FIT program argue that "it offers the potential to combine benefits of price certainty, grid connection and regulatory simplicity to create the conditions for successful

industrial development, while limiting costs to ratepayers and reducing and replacing dangerous sources of electricity with clean technology. Critics, on the other hand, argue that the program will neither create jobs nor improve economic growth in the province, but will rather increase unit production costs, diminish competitiveness, cut the rate of return to capital in key sectors, reduce employment and make households worse off" (Winfield and Dolter, 2014, p. 423). By 2012, a review of the FIT program estimated that only 2000 jobs had been created in the renewable energy sector since the program's initiation in 2009. This was far below expectation as the GEA aimed at creating at least 20,000 jobs by the end of 2011 (p. 426). GEA critics also claim that developing RE sources through such programs is more expensive for consumers than any other alternative means, they are inherently more expensive in terms of their overall direct capital and operating costs than their non-renewable competitors. Stokes (2013, p. 495) indicates, in a study on the Ontario feed-in tariff program, that critics of the program mention siting concerns for wind turbines as one of their reasons for opposing, besides the high cost of installing a photovoltaic energy system. These siting concerns were lessened when wind turbines construction and location was shifted from urban/suburban parts of the province to the rural areas, but this did not end opposition to the installation of wind turbines which continues till date. Similarly, Deignan et al. (2013) focused their study on the health aspects of wind turbines that were being installed as part of the GEA, and it was based on the information as presented by newspapers that serve communities where these turbines are located. They concluded that the media plays a strong role in the way people justify their opposition to wind turbines. This study also indicated that the GEA and its wind energy development component shifted control from the local people to the government, which was one of the many reasons put forward by critics of RE policies in Ontario. The findings of the present study indicate that one of the main frustrations on the part of the local population in the areas where wind turbines have been installed as an ongoing project to develop renewable energy, is the fact that the local government has not usually been given a say in how these projects are run. Also, the local people feel that these projects have not benefitted them in any way as they have rather brought a huge increase in their hydro rates, while the big companies involved make huge profits from the contracts to install these turbines.

Political ideology is important as it "provides a shared belief and value system through which people view and react to the world around them and is likely to be a major determinant of the value that people place on protecting the environment" (Gromet et al. 2013, p. 9314). In the US for

example, where Gromet et al. conducted their study, environmental concerns are part of the liberal political ideology (corresponding to the Democratic party in the US), which is not in line with the conservative ideology (that corresponds with the Republican party in the US) that dismisses environmental concerns including climate change while favoring free market by minimising environmental regulation. This study presents the situation in the US which is a good context within which to situate the Ontario case as they have some similarities. Even though the US is the second largest emitter of carbon after China, where one would expect a higher level of public acceptance or support, political ideology still plays a role in determining people's environmental behaviour. Gromet et al. (2013, p. 9315) claim that political ideology is also linked to psychological value placed on environmental issues. For instance, in the US context, being a Democrat means you are more likely to value the environment, contrary to being a Republican. This, Gromet et al., explain is so because "environmental concerns are part of a politically liberal ideology in the US and have been correspondingly devalued by political conservatives and right leaning individuals are more likely to dismiss concerns about climate change than left-leaning". The results of this study (p. 9317) showed that financial incentives such as long-term loans or reduction in energy costs may reduce the level of influence that political ideology and/or psychological value can have on environmental behaviour.

Political ideology and its influence on environmental behaviour is not limited to the US but could be seen at different levels in other countries as well. Harris and Sohlberg (2017) however, argue that the effects of ideology on environmental attitudes seem to vary by country and also that the philosophical foundations of conservatism also support environmental protection and resource conservation. In the light of these foundations, right-leaning politicians have claimed to have the most comprehensive pro-environmental agenda but with a different way of solving it through market-based solutions with a smaller government rather than by a bigger government as proposed by the left-leaning politicians (Harring and Sohlberg, 2017, p. 279). The results of their study indicated that the effect of ideology on environmental attitudes is not as set as most studies conclude. Rather, attitudes depend largely on how environmental support is connected with economic growth and the extent to which people view the environment through an ideological lens. It would be good to note here that much of environmentalism but not all, is seen to be closely related to market regulation, reason why left-leaning individuals, who stand for regulated markets are pro-environmental, contrary to the right-leaning who prefer a free-market system.

Environmentalism is also often associated with a challenge to economic prosperity (Harring & Sohlberg, 2017, p. 281). This tells us how preferences on economic growth play on the way environmental values and political ideology influence pro-environmental behaviour and also how economic development and ecological sustainability shape environmental debates.

Even though most scholars have identified social and political factors as being the main barriers to renewable energy technologies, there are other sociological factors that stand as a hindrance to people's acceptance of these technologies. Individuals' environmental values, beliefs and consequently their lifestyles play a role in shaping decision-making processes when it comes to energy policy. Behavioural factors which are usually linked to belief systems, play an important role too in the level of support or resistance shown towards renewable energy policies and technologies. The next articles presented in the literature review will handle environmental values and lifestyles as barriers to the deployment of RES and RETs.

2.2. Environmental Values

Some social science scholars have found that ecological or environmental behaviour or concern can be influenced or determined by individual values and lifestyle choices. Dietz et al. (2005, p. 336) in their study on environmental values, mentioned that changes in values are a route that would lead humankind to more sustainable behaviour and policy regarding the environment. This is because our values influence our individual and collective decisions including the decision to be or not be more protective of the environment. Values influence our decisions such that changes in values lead to changes in our decisions and consequently changes in behaviour (p. 337), though Dietz et al. argue that:

"decisions can be influenced by other things than values while behaviours may not always be a result of thoughtful decisions. This therefore means that the relationship between values and behaviour depends on the type of value being referred to – in this case self-reported behaviour or behavioural intentions or other measures that express concern for the environment. Behaviour can be influenced not only by values but by other factors such as attitudes and constraints, which have been neglected in most behavioural studies (Dietz et al., 2005, p. 338)"

Pro-environmental behaviour, according to Corraliza and Berenguer (2000, p. 832) also depends on personal (feelings of moral obligation) and situational (facilitation, inhibition conditions of the action) variables in an interactive way. Irrespective of all that, values influence individual and consequently group decisions regarding the environment and have been confirmed in ethical as well as social science theory to influence how people make decisions (Dietz et al., 2005, p. 340). (Dietz et al., 2005, p. 356) summarizes the influence of values on environmentalism thus "values, which may act directly on our decisions about the environment through their influence on norms or beliefs, do not act alone and do not influence all decisions. The link between values and decisions about the environment has been summarized by the values beliefs norms (VBN) theory as thus; values influence our beliefs on the environment which in turn influences our beliefs about the consequences of environmental change on things we value, which in turn influence our perceptions of our ability to reduce threats to things we value. This in turn influences our norms about taking action Corraliza and Berenguer (2000, p. 840) observed that "people who have favorable attitudes to carrying out pro-environmental behaviour and who perceive the situation to facilitate such behaviour, are most likely to carry out such behaviour. This contrasts with people who have unfavourable attitudes and perceive the physical environment as inhibitory and are least likely to carry out such behaviour". The explanations given above on the relationship between values and behaviour make us question the level of importance that people who resist energy policy, in the Ontario case for instance, give to environmental concerns. Is it that the environment is not of any importance to them, so pro-environmental behaviour is not a value and so this consequently makes them not want to engage in any energy reform? Findings from the present study show that even though some people are resistant to the Ontario RE policy, they still find the environment as important (at least based on their responses to interview questions) as those who are in support of the policy, but they don't like the way the initiatives and/or projects are being implemented. Policy resistance may also come as a result of the economic implications that it poses on individual energy consumers, for instance increase in hydro rates and huge profits being made by the contracting companies to the detriment of the local communities.

Fraj and Martinez (2006, p. 134) in their study that verifies the existence of a relationship between values and lifestyles and ecological ways of behaviour, categorise values into two types; terminal values which are those goals that people would like to achieve and instrumental which are those values that represent the means or the preferred ways of behaving in order to obtain the

first ones. Another classification regroups the two categories of values into internally oriented and externally oriented, where the former would be values such as self-fulfilment, emotion, sense of success and dignity and the latter would include sense of property, self-respect and safety. They also explained values as the criterion that individuals use to select and justify their actions and to value objects and the other's conducts. As such, values are shaped by means of people's experiences and learning processes. People who behave in an environmental way, express their value of respect towards nature by having a positive attitude towards buying ecological products, recycling and taking part in activities that seek environmental protection. Values and lifestyles have been found to have a positive relationship with ecological behaviour; a moderate lifestyle, according to Fraj and Martinez (2006, p. 134) was positively related to recycling, in the same way people with religious values and lifestyle like to actively contribute to the improvement of the society. Liberal values were related to a major concern and worry about the environment. Other researchers like Schultz et al., (2005, p. 457) grouped values into self-transcendence and self-enhancement where the latter which included values of power and achievement had a negative relationship with ecological behaviour. On the other hand, self-transcendence values showed positive relationships with sustainable behaviour.

2.3. Socio-demographics / Socio-economics

Renewable energy sources are estimated to supply around 17% of world primary energy, most of which comes from large hydroelectric schemes and the use of traditional biomass and agricultural waste in developing countries, these supply 3% and 14% of primary energy respectively (IEA, 2000). Solar, modern biomass and wind power contribute less, about 3% of electricity and 2% of primary energy. (Gross et al., 2003, p. 105; IEA, 2000). Empirical evidence (Richards et al., 2012; Luthra et al., 2015) holds that the level of awareness among individuals may be one of the main reasons why renewable energy is not so popular in the world yet, thus awareness creation is suggested as the first step towards the transition to renewable energy sources. While certain groups of people are aware of the need to adopt and use renewable energy sources,

the level of awareness may differ between countries and even between different regions of any given country (Halder et al., 2012, p. 247).

According to Sardianou and Genoudi (2013, p. 1), in a study on the factors that affect consumers' willingness to adopt renewable energies in the residential sector, several consumer characteristics such as demographic and economic criteria can be determinants for the willingness to pay a premium for domestic use of micro-generation renewable sources. Among the demographic factors were: (i) Age: younger consumers of energy are less willing to pay any extra money for renewable energy than middle-aged consumers, even though the younger ones are more likely than others to be willing to adopt renewable energy in their residences (Sardianou & Genoudi, 2013, p. 3) ; (ii) Educational status, where results from the above-mentioned study showed that those who are highly educated are more likely than the less educated to implement renewable energy sources. This is linked to the fact that, according to their study, more educated people perceive climate change as a serious social problem that needs to be addressed with urgency; (iii) economic factors were income status: the higher the income of a consumer, the higher the probability of using any form of renewable energy especially in the residential sector. Sardianou and Genoudi suggest that a tax deduction may be an effective financial measure to promote consumers' acceptance of renewable energies in the residential sector (p.1). Among the respondents for the present study, those who were still active in working life seemed to be more accommodating towards the extra cost of electricity while those on low or fixed income like retired respondents showed some sort of bitterness towards the RE policies for bringing about a rise in the cost of energy. The results of the study are similar to the conclusions drawn from the study in Norway by Karlstrøm and Ryghaug, (2014).

In a study of public attitudes towards renewable energy technologies in Norway, Karlstrøm and Ryghaug (2014, p. 658), using general Norwegian opinion polls as data, acknowledge the fact that socio-demographic variables most often influence the support or opposition to different energy technologies. Age is one of those variables as the opposition to renewables is stronger among older people while support is stronger among younger people. This does not however contrast the conclusion that younger people are less willing to pay any extra for renewable energy but rather goes to support the fact that people tend to support renewable energy policy when it does not have a direct economic impact, such as paying extra for renewable energy. Gender also plays a role

regarding environmental concerns, according to this study, as women are more oriented to the environment than men. However, further explanations as to why these variables (age and gender) would play a role in the support or opposition to renewable energy technologies or sources are not given. They did not consider socio-economics in their study and concentrated more on the socio-demographic and political aspects that renewable energy development projects face as challenges, unlike most studies that would look at both socio-demographic and socio-economic aspects as somehow intertwined. Ryhaug and Karlstrøm, (2014, p. 658) apart of examining socio-demographic and socio-economic barriers to renewable energy development as mentioned above, also talked of political preferences. In Norway, for example, environmental values are an important factor in people's choice of which party to vote for, which has also made most parties to become pro-environment in their political agendas. Another factor in the political milieu that hinders the advancement of renewable energy development is the dominance of the institutions that evolved with the fossil fuel industry which has made it difficult for renewables to penetrate the system. Luthra et al. (2015) in a study of the barriers to renewable energy technologies adoption in India, identified twenty-eight barriers to the adoption of renewable energy (p.765). These barriers were categorised under seven dimensions namely economical and financial; market; awareness and information; technical; ecological and geographical; cultural and behavioural and lastly political and governmental issues. Under the economical and financial category, the initial costs for the deployment of renewable technologies tend to be high as they are manufactured abroad and only imported, so many consumers would rather go for low cost locally manufactured energy technologies. Secondly, was the lack of a financing mechanism like government incentive schemes and poor credit availability to promote the adoption of renewable energy and cleaner technologies. The availability of subsidies, tax exemptions and other forms of subsidies could make renewable energy technologies more affordable. Renewable energy technologies also entail high transmission and distribution losses because their availability and feasibility depend upon the geographical condition and other factors which may involve some costs.

Similarly, Karytsas et al. (2014, p. 481) in a study on factors that influence the public's awareness of the different forms of renewable energy, indicated that socio-demographic factors such as gender and age and socio-economic factors like occupation and income may affect the level of knowledge, perception and use of renewable energy sources. This level of knowledge may also differ between different forms of renewable energy sources. Men have a higher chance of

knowing about biomass and geothermal energy sources than their women counterparts. People are more aware of the form of renewable energy that is closely related to either their occupation or study interest. For instance, having an occupation or study interest related to the environment, technology or engineering would make an individual more likely to know about biomass, hydropower and geothermal energy more than other forms of renewable sources. Results of the study also showed that people with only high school education were less aware of geothermal energy than all other educational levels.

Even though research has been carried out to look at some of the factors that affect individuals' support or resistance to renewable energy policy, more research is needed to get to the underlying causes. To be able to understand why individuals, as part of the community, are not showing interest in fighting climate change through the adoption of renewable energy, one needs to first understand if they actually see climate change as an existing problem that needs to be addressed or if the environment is among their individual values. This study will add to the already existing literature on factors that influence public or social support or acceptance of renewable energy policy, from the perspective of people's values in relation to the environment and political affiliation or ideology.

Chapter 3. PROBLEM STATEMENT

Climate change is posing real threats to the environment everywhere in the world today and Canada is not exempted. Decision making in the energy sector in most of Canada's provinces are being highly affected by the need to incorporate ecological concerns into energy policy design and implementation. For this study, focus will be on the way people have reacted to the renewable energy policies that the Ontario government has put in place to combat climate change. According to the Minister of Environment and Climate Change, even though the province has done much to introduce renewable energy sources through policy, there is still more to be done (OCCS, 2015).

In Canada, according to Climate Ready (2011-2014), temperatures rose by 1.4˚C between 1948 and 2008 and are projected to rise by 2.5˚C to 3.7˚C by the year 2050. Even though it seems obvious that climate change is happening, not all Canadians believe in climate change, but the

majority express concerns in the weather patterns nowadays. In an article published in April 2018 on Toronto city newspaper, some sixty-one percent of respondents in the study conducted in 2017, said they believe that there is enough evidence to show that climate change is real and occurring while twenty-seven percent said there is some evidence, but it is not yet enough to convince them that climate change is real. Eleven percent said there is little or no evidence to support that climate change is real. In Canada's Nationally Determined Contribution (NDC) submitted by the Canadian government to the United Nations Framework Convention on Climate Change (UNFCCC, 2015), Canada aims at reducing its greenhouse gas emissions by 30% by the year 2030. To achieve this, the Canadian federal government in collaboration with provincial governments, has put in place certain regulatory action in the transportation, electricity and fuel sectors. In the transportation sector, more stringent greenhouse gas emission standards are being established for heavy-duty vehicles, passenger automobiles and light trucks. Ontario is taking steps to improve on its transit network as part of its shift from dirty to cleaner sources of energy, hence the Light Rail Transit (LRT) under construction in Ottawa. In the electricity sector, Canada aims at banning the construction of traditional coal-fired electricity generating units and has invested more than 10 billion dollars in green energy infrastructure, energy efficiency, clean energy technologies. The province of Ontario has already taken the lead in North America by putting an end to coal-fired power (Ontario Climate Change Strategy, 2015). While in the fuel sector, gasoline will be required to contain an average of 5% renewable fuel content and diesel 2% content (Environment and Climate Change Canada, 2015). It should be noted that Canada is one of the highest emitters of greenhouse gases with Australia and the United States of America. In 2014, according to Environment and Climate Change Canada, (2016) GHG emissions were 732 mega tonnes (Mt) of carbon dioxide equivalent in Canada, marking a 20% increase from 1990's emissions of 613 Mt of carbon dioxide equivalent. The emission growth that Canada experienced between 1990 and 2014 was caused by increased emissions from mining and oil and gas production as well as transport.

According to Statistics Canada (2007), Canada had just about 0.5% of the world's population but contributed about 2% of the total greenhouse gas emissions, which puts Canadians among the highest per capita emitters. Based on information from the International Energy Agency's 2015 Energy Review (IEA, 2015), half of all Canadian households rely on natural gas (a type of fossil fuel) as their primary heating source and the demand from the residential sector has increased by

5.7% between 2003-2013. The residential sector represents 17% of Canada's total final consumption of energy. From 1990 to 2013, emissions from natural gas have increased by 66.2%. Emissions in households were 8.5% higher in 2013 than in 1990 while the industrial sector rather reduced its emission rate by 4.3% over the same period. In spite of the increase in emissions, the residential sector stands as the smallest emitter with just 7.7% of the total emission rate of Canada while the industrial sector accounted for 13.5%. Even though Canada maintains the highest energy supply per capita among IEA member countries, its emissions from the gas and oil sector increased by 14% between 2005-2013, despite its low-carbon electricity mix largely hydro and nuclear. The IEA country review of 2015 also states that the government of Canada at the federal level has put stringent energy efficiency and emission standards in the buildings, power and transport sectors but not in industry.

Drawing from the Ontario Climate Change Strategy (OCCS, 2015), the province has already demonstrated a commitment to fighting environmental degradation and climate change through certain measures and continues to do so. Putting an end to coal-fired energy in 2014 brought about the introduction of other "cleaner" forms of energy generation like hydro, natural gas, wind, solar and bioenergy. Also, Ontario, by its energy planning programs has built a clean system that is more than 90% free of greenhouse gas emissions and ensured there is a robust supply of electricity to power homes and businesses across the province. Smog advisories are said to have dropped from 53 in 2005 to 0 in 2016 and that implies an improved air quality for the province (Ontario's 2017 Long-Term Energy Plan). Other programs have been announced to limit greenhouse gas pollution and fight environmental degradation while maintaining a growing, efficient, competitive and productive economy. Waste management and waste reduction are also ways by which greenhouse gas emissions and environmental degradation can be reduced. Waste deposited in landfills can negatively affect the environment through water pollution and emissions and can therefore be diverted from landfills by recycling or composting. The Ontario government intends reducing waste while ensuring that most of the waste that is produced, is reintroduced into the economy; making energy affordable and reliable to all Ontarians while at the same time reducing emissions.

Ontario, according to its Long-Term Energy Plan, (2010 & 2013) plans to reduce emissions and encourage renewables by providing rebates for using low-emission vehicles, making power more reliable and affordable and give economic incentives for investing in renewable projects like solar

or wind for either personal use or business. One of the energy programs that was launched in Ontario as a part of its renewable energy policy, was the Feed-in Tariff (FIT) program, as a component of the Green Energy Act (GEA) launched in May of 2009. This program was the first of its kind to be launched in North America and its aims were to:

1. Help the province to improve air quality and reduce its reliance on fossil fuels.

2. Reduce the environmental footprint of the province (GHG emissions) by bringing more renewable energy online and supporting the phase-out of coal by 2014.

3. Better protect the health of Ontarians by eliminating the harmful emissions from burning coal.

4. Create green energy jobs and attracting scarce investment capital to Ontario amidst a global recession.

The Green Energy Act was created to help expand renewable energy generation, encourage energy conservation and promote the creation of clean energy jobs in Ontario. The FIT (Feed-In Tariff), was created as a new guaranteed-price program to promote greater use of renewable sources like wind and solar. The FIT program (including the MicroFIT) and the Green Energy Act in general have drawn both negative as well as positive comments, from supporters as well as critics and skeptics. Supporters argue that "it offers the potential to combine benefits of price certainty, grid connection and regulatory simplicity to create the conditions for successful industrial development while limiting costs to ratepayers and reducing and replacing dangerous sources of electricity with cleaner technology" (Winfield et al., 2014, p. 423). On the issue of creating jobs through the GEA, the Auditor General's evaluation showed that "seventy-five percent (about thirty thousand) of the jobs that were to be created were to be construction jobs lasting only from one to three years and so were more of a temporary nature" (2011, p. 91). Also, for each job created through renewable energy programs, about two to four jobs are often lost in other sectors of the economy because of rising electricity prices. Wind and solar energy which have been the main sources of RE proposed by the GEA, provide intermittent energy and therefore require backup power from coal- or gas-fired generators to maintain a steady, reliable output.

Ontario RE policy is not only made of the GEA, there are other elements that are part of Ontario's renewable energy policy such as Ontario's Fair Hydro Plan (OFHP), Net-metering and Zero

Carbon Emissions for Buildings. The OFHP mainly aims at reducing electricity bills by an average of 25% for residential consumers for the next four years, and also benefit small businesses and farms. It will also expand support programs and increase chances for more Ontario residents to be eligible; help rural communities and residents, who normally have some of the highest electricity rates to save as much as 40% on their electricity bills; reduce the monthly bills for on-reserve First Nations residential customers by giving them credit for their delivery line, grant consumers an 8% rebate on their electricity bills; and also support eligible Ontarians to make energy efficiency improvements to their homes (Ontario's Long-Term Energy Plan, 2017, p. 20). On the part of renewable energy, the Ontario Long-Term Plan (OLTEP) for 2017 expresses Ontario's intention to refurbish nuclear generating stations as a cost-effective way of producing the amount of power that the province needs. This was already stated in the previous OLTEP that was made in 2013 and the refurbishments would be carried out between 2016 and 2033, during which about 10 stations will be refurbished, producing a total of more than 9.800 megawatts of affordable, reliable and emission-free generation capacity. This plan will help to support about 60.000 jobs in the nuclear sector (OLTEP, 2017, p. 45). The cap and trade program, already stipulated in Ontario's Climate Change Action Plan is being enforced to support efforts to decarbonize the fuel sector by increasing the price of fossil fuels, which will help reduce the province's greenhouse gas emissions and shift the province towards a low-carbon economy (p. 52).

The Net-metering allows electricity consumers who produce some of their own power through any renewable source to send any excess to the grid and get a credit toward their energy costs. It is somehow similar to the FIT program, but the difference is that you don't receive a cheque for sending power to the grid, like for the FIT and microFIT programs, so you basically trade what you supply against what you consume (Ontario Energy Board, 2018, OLTEP, 2017, p. 57). So, net-metered customers receive credits on their electricity bill based on what they supplied to the grid and these credits could be carried forward up to 12 months to apply on future bills and could also draw power from the local distribution grid when necessary. The Net Zero Carbon Emission Buildings has as objective to reduce emissions in the building sector by encouraging the construction of near net zero and net zero carbon emission homes and buildings. This could be achieved when the electricity and natural gas conservation frameworks continue to support the development and enhancement of high efficiency, low-carbon homes and buildings, and also

updating the Ontario Building Code to align with the goals of achieving low levels of GHG emissions.

While the government has presents the GEA as a great success by emphasising its objectives and achievements (especially putting an end to coal-fired energy), critics and skeptics argue that the program will neither create jobs nor improve economic growth in the province (McKitrick, 2013, p. iv). This is because its overall effect will be to increase unit production costs, diminish competitiveness, cut the rate of return to capital in key sectors, reduce employment and make households worse off. In May 2016, the Energy Minister Bob Chiarelli, praised the present energy policies, for having cleaned a dirty unreliable electricity system which had a 4.4 billion annual cost burden on the health-care system in Ontario (Toronto Sun, 2016). He also claimed that Ontario residents can now live without fear of blackouts that hurt the province's economy. While he acknowledged that the shift from coal to cleaner forms of energy has come at a high cost, electricity bills are increasing slower than predicted in 2013. In reaction to the Minister's claims, a Conservative critic said that rising electricity prices are caused solely by government's decisions on electricity procurement since the passing of the GEA. Irrespective of the GEA being well-intended, it has been criticized for threatening the economic competitiveness of the manufacturing and mining sectors and for bringing needlessly high energy costs for Ontarians for the decades to come (Green and McKitrick, 2013, p. 22). Green and McKitrick, further predicted that the GEA will put the province at or near the top of North American electricity costs, with serious consequences for the province's economic growth and competitiveness. As at 2013, the GEA had caused major price increases for large energy consumers and another 40-50% increase was anticipated over the next few years. Critics of the GEA further argued that Ontario's air pollution levels were already well-controlled without the GEA and were to decline even more (McKitrick & Ren, 2013). The province's transition from coal to wind has been particularly criticized for creating a market imbalance where excess wind power would be exported at a loss of about 200million dollars a year, thereby putting a burden on ratepayers with future costs that are much higher than previously thought.

The passing of the Green Economy Act in 2009 in particular, accompanied since then by rising electricity costs, and Ontario RE policy in general, have seen lots of criticisms from groups too, such as the Ontario Landowners Association (OLA), Ontario Wind Resistance (OWR), Wind

Concerns Ontario, and many other environmental skeptic groups. The OWR criticizes wind energy as being a useless technology meant to enrich a particular group of people, while destroying the rural environment and poisoning drinking water aquifers (OWR, 2017). Wind turbine technology has also been criticized for being dangerous to eagles as they fly to their nests. This group also blames the Ontario Premier for having bypassed the democratic rights of the people and for sacrificing the health of rural citizens in order to make financial and political gains. This is mostly because prior to the passing of the GEA, municipalities were considered "the key review and approval body for the construction of a renewable energy generation project". A municipality could decide if an RE generation project was consistent with good planning and if it was not, the municipality could refuse the application or impose conditions (Manning & Vince, 2010, p. 5-6). When the GEA came into effect, municipal powers were curtailed and that means municipalities could no longer block, alter or control renewable energy generation projects, as the planning responsibilities were handed over to the province. The general hatred towards wind turbines has been justified by complaints of noise and annoyance created by these turbines and for destroying the landscape of the areas where they are installed. These are the criticisms that gave rise to NIMBY (Not In My Back Yard) and was coined by residents who opposed the installation of wind turbines around their homes. The rise in electricity rates has also been explained by critics as being meant to cover the cost of the wind turbines that have been placed all over rural Ontario by the government.

While the Liberal government continues to present its RE projects and policies (which are part of its pro-environmentalist ideology) in the most impressive and attractive manner, like the closing of coal-fired electricity plants for instance, critics still see it as the main reason for the continuous rise in electricity rates in the province (Toronto Sun, 2016). It would be good to note that some of the criticisms are based on political affiliation with those who support the Conservatives at the forefront, though a few of the respondents interviewed for this study said they were liberal in their ideology but still were critical towards Ontario's energy policy. The government tries to paint a convincing picture of their green policies by emphasising that climate change is happening at an alarming rate and that Ontario is acting as a pacesetter to the developing nations by implementing these policies, but critics say the environment is not any priority as compared to other social concerns like health care and education. Most of the criticisms directed at the RE policies stem from the continuous increase in electricity rates since the introduction of renewables. In the case

of Ontario, by trying to remedy the environmental crisis, energy consumers have to pay higher rates for electricity generated from renewable sources as prescribed by the GEA. There appears to be a struggle over control of environmental decision-making between the state and market actors, as to who (between the municipal and provincial governments) should have the upper hand in decisions concerning how the environment is run, considering that it is a public good, but the main point of concern is the alarming increase in electricity rates.

3.1. Research Question and Study Objective

The research question that this study aims at answering is:

How do environmental values and political ideology relate to people's views and thoughts on RE policy in and around Ottawa?

This study aims at investigating the effects of environmental values and political ideology on people's views on and support for renewable energy policy in the city of Ottawa. It will also seek to find out what other factors may influence people in making decisions concerning RES. Focus will be on individual consumers of energy in their residential homes and not on industries which are more of large scale energy consumers. For RE policies to gain public support, consumers need to understand and see reason why conventional / traditional energy sources are not good enough and why they need to be replaced. Their views about environmental issues like climate change, how important they see such environmental problems in relation to other social issues and the financial cost that would be incurred in finding a solution to such problems would also go a long way to influence how consumers react to RE policies. It should also be clear whether the development of such renewable energy will have any economic benefit to consumers, for example will it give individual consumers the opportunity to invest and make profit, will they be getting any good economic incentives from the projects? The public usually imagine that switching to renewables should by all means imply a drop in the cost of power, but in the Ontario case, it has been the opposite and so that is causing opposition especially from local rural communities. These views also may be responsible for how they react to whatever policies the government puts in place concerning the environment in general and RES in particular, in addition to their

environmental values and political ideology. Empirical research indicates that not everyone sees climate change as an urgent problem and consequently not everyone deems it necessary to take part in finding a solution to it, especially if it affects their wallet. Even though many Canadians see climate change as a problem, the level at which they think it's a threat differs. While some people think it needs urgent attention, others believe it exists, but its effects appear to have been exaggerated. In any case, adopting renewables is good for not only the climate, but for human well-being as well and for this to happen, it is important for policy-makers to understand the factors that determine public support for energy policies. In this light, the findings of this study will add to and enrich existing knowledge on the topic of public support for policy.

3.2. Conceptual and Theoretical Framework

The research question guiding this study is: i) How do environmental values and political ideology relate to people's views/thoughts on RE policy in and around Ottawa? The study aims at investigating how the value systems of individuals and their political ideology affect their decisions to either support or resist when it comes to RE policy in the city of Ottawa and its environs. I will begin this section by defining and explaining the key terms involved within the context of this study. These will include values, political ideology, social support and renewable energy policy. In every day language, the word value is being used in all the three senses, the worth of something, opinions about that worth and moral principles (Dietz et al. (2005, p. 339). The second sense "opinions about worth" seems to go in line with values as related to the biophysical environment, which have been described as having intrinsic values. This implies that they have value that are independent of the values that humans have assigned to them (p. 340). In relation to environmental behaviour (simply defined by Stern ,2000, p. 408; Wan et al., 2015, p. 410) as any behaviour that "changes the availability of materials or energy from the environment or alters the structure and dynamics of ecosystems or the biosphere itself), values have been defined severally by various scholars. A value could also be defined as the importance individuals place on an issue or concern, which can result in either attraction to or repulsion from associated targets (Gromet et al., 2013, p. 9314) or simply underlying guiding principles (Barr, 2008, p. 112). This definition is more concerned with the perceived importance (psychological valuation) of an entity than its

monetary worth (economic valuation). Schwartz (1992, p. 4; Schwartz & Bilsky, 1987, p.551) explained values in five ways 1) values are concepts or beliefs, 2) values pertain to desirable end states or behaviours, 3) transcend specific situation, 4) they guide selection or evaluation of behaviour and events and 5) are ordered by relative importance.

Values have also been conceptualized as important life goals or standards which serve as guiding principles in a person's life, distinct from attitudes and beliefs due to the fact that they function as an organized system and are determinants of attitudes and behaviours. They also differ from attitudes in that attitudes are positive or negative evaluations of something quite specific (Schultz & Zelezny, 1999, p. 256; Dietz et al., 2005, p. 346). With regards to the environment, values have mostly been categorised into four groups which are openness to change, conservatism, self-transcendence and self-enhancement (Schultz et al., 2005; Dietz et al., 2005). In philosophy, values are seen as relatively stable principles that help us make decisions when our preferences are in conflict and thus convey some sense of what we consider good while in economics, the term values is used in discussions of social choice, where an assessment of the social value of various alternatives serves as a guide to the best choice under a utilitarian ethic (Dietz et al., 2005, p..335). Harring et al. (2017, p. 4) described values as a cross-situational "dominating force in life" underpinning the formation of attitudes and opinions in relation to both familiar and new conditions or social objects and could be defined simply as abstract, enduring and trans-situational goals (Thørgesen & Grunert-Beckmann, 1997, p.188).

The word attitude has been constantly differentiated from values by most authors, though they agree that values play an important role in the attitude formation process. Oldham (2012, p. 229) in his article about attitude defined it as a mental position with respect to (or a feeling or an emotion toward) a fact or state. Halder et al. (2016) defined attitude differently as "an evaluative judgement of a particular concept or entity by a person" while Harmon-Jones et al. (2011, p. 1332) from a social psychological perspective defined it as "subjective evaluations that range from good to bad that are represented in memory". Values are rather seen to play a role in determining choices in attitudes. Environmental attitude, with which we are concerned in this study, would therefore consist of his or her beliefs, principles and behaviours on issues related to the environment. For the purpose of this thesis, values will be defined as the worth of something and moral principles,

therefore environmental values will refer to opinions on the worth of the environment and moral principles towards the environment.

The next term that will be explained is political ideology, often used interchangeably with political affiliation or orientation. Ideology has been defined as a belief system or a set of beliefs "about the proper order of society and how it can be achieved", where the political conflict is over the size of the government and the freedom of the market (Harring & Sohlberg, 2017, p. 280; Jost et al., 2009, p. 309). The basic concept of an ideology is here understood as a set of ideas by which a social group tries to make sense of the world and it consists of logically coherent explanations, predictions as well as evaluations of social conditions, and gives its bearers a personal understanding of their relation to the rest of the world (Harring et al., 2017, p. 3). They further describe the concept of ideology as the "rhetorical association or associations between things, people, actions or activities and the best possible living" as endorsed or promoted by a group of people. In their paper, they (Harring et al. 2017) suggest that ideologies represent prepackaged units of interpretation that spread because of basic human motives to understand the world, avoid existential threat and to maintain valued interpersonal relationships. Political ideology has most often been classified as either left or right where the left refers to the liberals while the right refers to conservatives; a classification which derives from the fact that in the late eighteenth French assembly, supporters of the status quo at the time sat on the right side of the hall while their opponents sat on the left (Jost et al., 2009, p. 310; Jost et al. 2008, p. 127; Harring et al., 2017, p. 3; Harring & Sohlberg, 2017, p. 280).

Though most studies agree that ideology has strong effects on environmental choice, more recent research has pointed out that the ideological divide in pro-environmental attitudes differs depending on the country and the environmental issue in question (Nawrotzki, 2012, p. 286; Fairbrother, 2016, p. 359; Harring & Sohlberg, 2017, p. 281). Based on findings of the present study, this appears to be true as some respondents who identified as liberals still found it hard to support the current renewable energy policy as a whole but when it comes to separating the policy into different components like rebates or development of wind power, they deviate from their position. Some think that giving the government a more active role in the development of wind energy for instance relegates the local population in those areas where the turbines are to be installed to the background and think that such a project should rather be controlled by the locals

from the decision-making stage up to the installation stage. On the issue of giving out rebates or economic incentives to assist people transit to renewables, they agree that the government should have a pivotal role, especially at the provincial level. It seems it is a bit tricky to make general conclusions based on some of the previously mentioned studies in the context of Canada because some of the studies were carried out in smaller countries which do not have a federal system of government like Canada.

Ideology can also be defined as the shared framework of mental models that groups of individuals possess that provide both an interpretation of the environment and a prescription as to how that environment should be structured. This definition correlates with the way Hess et al. (2016, p. 20) understand ideology as a broad system of models of and for action that informs both political attitudes and policy adoption and implementation. It is therefore the contrastive relationship with other ideologies that makes an ideology become meaningful. Ideologies, endeavour to describe or interpret the world as it is, by making assertions or assumptions about human nature, historical events, present realities and future possibilities—and to envision the world as it should be, specifying acceptable means of attaining social, economic and political ideals.

Minar (1961, p. 321) gave a more complex explanation of ideology by classifying it into three broad classes namely; ideology as thought distinguished by content or structure, ideology as thought distinguished by its function and lastly ideology as thought distinguished by its locus. The first class defines ideology as attachment to a value or more usually a value with a set of descriptive propositions that relate to and expand it, which denotes commitment and belief in something normative. Under this same class, ideology is explained in terms of the form that the thought itself takes (structure) than its content as mentioned above. The second class defines ideology as thought that fulfills a certain function in the psychological economy of the individual as he relates to his social world, that is those ideas which are developed, either consciously or unconsciously to rationalize either life condition or action, implying defensive action. In the last class, ideology is distinguished as thought that is social in the sense that it is being shared among individuals, meaning any thought or pattern held by more than one individual belonging to a social group. While some social scientists including Marx use a critical tone in analyzing ideologies, regarding ideologies as a potentially dangerous form of illusion and mystification that typically serves to

conceal and maintain exploitative social relations, others adopt a value-neutral approach. In sociology, psychology and political science, scholars have taken a value-neutral approach where ideology refers indiscriminately to any belief system, that is, any configuration of ideas and attitudes in which the elements are bound together by some form of constraint or functional interdependence (Jost et al., 2009, p. 309; Converse, 2006, p. 3). For this study, we are concerned with political ideology defined as a belief system or a set of beliefs "about the proper order of society and how it can be achieved" (Harring & Sohlberg, 2017, p.280).

Support in a broad sense is defined as "an individual's underlying attitude or behaviour towards an object, and it can be expressed in overt behaviour by action or advocacy or covert behaviour through evaluation (Wan et al., 2015, p.411). Policy support refers to the extent to which an individual orients himself to policies through his attitudes or behaviours. Social acceptance, according to Sauter and Watson (2007, p. 2772) is defined by splitting the term into its two components; social and acceptance. Social refers to the whole society and its different groups while acceptance ranges between a rather passive consent and an active approval in the form of an active involvement. This definition tells us that acceptance could be either passive for example a high score for certain policy components or active in nature e.g. willingness to pay for a higher share of renewables. Support for environmental policy can be expressed in various ways, for example, willingness to pay higher taxes for environmental action, approval of environmental regulations etc. (Wan et al., 2017, p. 70). In the present study, most interview respondents showed more of passive acceptance by mainly supporting a particular aspect of renewable energy policy, say economic incentives or rebates for producing renewable energy, but when it comes to active acceptance by paying a premium for electricity being generated from renewable sources, respondents were mostly reluctant. Policy support could also be called policy acceptance and plays a critical role in both governance and policy-goal achievement, not only on policies of renewable energy but on other sectors as well. Gawel et al. (2014, p. 175) suggest that support for renewable energies may increase the overall efficiency of climate and energy policy. Public or social acceptance stands as one of the many factors that will determine the successful implementation of renewable energy technologies (Devine-Wright, 2007, p. 3; Sauter & Watson, 2007, p. 2770) and is a prerequisite for the adoption and introduction of new technologies and infrastructures. In the present study, policy support is defined as the extent to which a person orients himself or herself to policies through his or her attitudes or behaviours.

The term renewable energy has been defined in different ways by organisations involved in the fight against climate change around the world. The largest organisation, the United Nations Framework Convention on Climate Change, UNFCCC (1995, Ch. 9), initially defined renewable energy as any energy source that is derived directly or indirectly from solar energy. This initial definition has been reframed as energy obtained from sources that are essentially inexhaustible, unlike fossil fuels which have a finite supply (2012). These are obtained from the continuing or repetitive flows of energy occurring in the natural environment and includes resources such as biomass, solar energy, geothermal heat, hydropower, tide and waves and ocean thermal energy, and wind energy. The International Petroleum Industry Environmental Conservation Association (IPIECA, 2012, p. 63) defined RE as sources of energy that are constantly renewed by natural processes. Demirbas (2006, p. 779) refers to renewable energy as alternative sources of energy and defines them as primary sources, readily available in nature, clean and inexhaustible that occur naturally in the environment and should never run out. They produce lower or negligible levels of greenhouse gases and other pollutants when compared with the fossil energy sources. Natural Resources Canada (2016) defined RE as energy obtained from natural resources that can be renewed or replenished naturally within a human lifespan and are not at risk of depletion. The definition of renewable energy that is used in this thesis is any source of energy that is constantly renewed by natural processes.

The word policy can take on different meanings depending on the context in which it is used. In management parlance, "policies are a set of basic principles and associated guidelines, formulated and enforced by the governing body of an organization to direct and limit its actions in pursuit of long term goals" (Business Dictionary, 2018). RE policies are actions taken and/ or mandated by a government, often in conjunction with business and industry within a single country or collectively with other countries to accelerate the application and use of successful measures to curb greenhouse gas emissions (IPCC, SRREN, 2011, Annex 1.; IPIECA, 2012, p. 59). Irrespective of the context in which it is being used, it could be concluded that policies are formulated principles and or guidelines that guide action. The GEA for instance is one of the different components that make up Ontario's RE policy, elaborated by the Ontario government in 2009, to help in the fight against climate change by replacing GHG emitting fossil fuels with cleaner energy. This thesis identifies with the definition of policy given above; a set of basic

principles and guidelines formulated and enforced by the governing body of an organization to direct and limit its action towards long term goals.

The theory guiding this research is the Ecological Modernisation (EM) theory, first discussed in the early 1980s by a group of scholars including Martin Jänicke and Joseph Huber. Modernisation is defined as "the process by which societal functions and structures are continuously developed and upgraded to ever-higher degrees of complexity". Huber further explains ecological modernisation simply as "modernising modernity in a sustainable way" (Huber, 2010, p. 46). In this early phase of the theory, the aim was to stress the need for ecological concerns to be merged into modernisation processes, thereby combining ecology and economy. This all started as a political program in Germany and not a theory nor a concept as it is today (Mol and Jänicke, 2010, p. 18). Over time, it evolved following new relations that existed between the state and the market especially in the 1980s and by 1990, it became more of a theory. Prior to the 1990s, there had been little success in bringing about the necessary environmental reforms and so ecological modernisation theory emphasised the need to rethink and renew relations between the state and the market in environmental reforms (Mol and Jänicke, 2010, p. 19). Proponents of the ecological modernisation theory, called for technological advancement as a critically relevant part of environmental reforms, with two specific innovations. The first of which was the development towards cleaner and preventive technologies and secondly a move from development/implementation of individual technologies towards more complex socio-technological systems (Mol and Jänicke, 2010, p. 21). This has shifted the attention from waste water treatment systems and air scrubbers to be replaced by a focus on new transport systems, renewable energy systems/ integrated water systems, combining new ownerships relations, new mechanisms of pricing and new roles of the state.

Ecological modernisation theory developed in relation to the new environmental discourse where it was no longer the environment versus the economy but the idea that both could go together (Mol and Jänicke, 2010, p. 22). Leading proponents Arthur Mol and David Sonnenfeld assume that capitalism can be made sustainable and this is the main idea behind EM theory (Salleh, 2010, p. 119). It also aims at decreasing the intensity of material, energy, transport, waste and / or risk, which implies structural modernisation in terms of both the ecological and the political (Jänicke, 2010, p. 30). Traditional structures were to be modernised and replaced with latest modern

structures, greening of industry will be carried out, continued development and innovation on the basis of new scientific and technical knowledge, advance finance and marketing, rule of law and regulation as well as modern mindsets and lifestyles. In the agricultural sector for instance, all its ecologically unsustainable systems with heavy machinery, artificial fertilisers, pesticides, soil and water degradation would need to be changed, restructured and innovated to give room for organic farming (Huber, 2010, p. 46).

EM theorists also advocate for ecologically sound capitalism which places unrestricted growth together with environmental consciousness (Rajkobal, 2013, p. 304), a shift from capitalist values to environmental values. The political modernisation proposed by EM should bring together the state, private sector, experts and the environmental movement in the decision-making process, where the state was to play a participatory role rather than a central role (Rajkobal, 2013, p.303; Mol & Sonnenfeld, 2000, p. 6). This implies a change in environmental governance, emphasising more participation of institutions in the decision-making and policy-making processes regarding the environment and in promoting reform and citizen engagement in environmental governance. In the context of EM, emphasis is on governance rather than government where the former "takes into consideration a broader range of actors and policy instruments than government which is restricted to state action" (Jänicke & Jörgens, 2010, p. 158). This form of participatory politics was "expected to bring about new relationships between states, civil society actors and private sector actors aimed at achieving environmental goals in a more targeted, swift and effective way". Such participation as explained by EM authors would also improve the environmental quality of decisions by incorporating knowledge of local actors like environmental organisations and give room for deliberation and policy learning, non-state actor involvement will help to increase procedural justice, increase the acceptance of policy decisions, and improve implementation and compliance. This would lead to better policy outcomes in terms of environmental protection than hierarchical modes of regulation" (Fisher et al., 2010, p. 146 -147).

Van Tatenhove and Leroy (2010, p. 191) explain that "with the innovation of environmental policy making, the participation of citizens, non-governmental organisations, firms and stakeholders changed from reactive to more reflexive and pro-active ways of participation, from legislative procedures towards extra-legal processes". They further differentiated between two types of political modernisation; early modernisation and late modernisation, each having its own

type of participation. Early political modernisation saw the state having a much more central role and having the power over the decision-making process while late political modernisation gave room for a much more "participatory" approach with citizens being able to participate in key institutions of society. Late modernisation, Van Tatenhove and Leroy claim "reflects an increasing encroachment and interference of state, civil society and market, with rather vague demarcation lines between them" (2010, p. 195). The state's role is no longer monopolistic and no longer limited to state representative institutions. This does not however limit participatory governance to national institutions, but international non-governmental organisations that can pressure the state to take on environmental responsibility (Ewing, 2017, p. 137). In the case of a country with a federal system of government like Canada, participatory politics would imply inclusive governance between the federal, provincial and municipal levels of government and other institutions in environmental policy decisions. Using the cases of Nova Scotia and New Brunswick, Konstadakopulos (2007, p. 193) discusses how environmental policy in Canada is made "complicated by the division of responsibilities between the federal government and provincial governments, as each government deals with different environmental problems". But with the Ontario case, the GEA, on the contrary, took away deliberation and participation power or rights from the municipal government and gave the provincial government all powers over renewable energy policy, which makes us question if this is a part of the ecological modernisation scheme.

This theory provides us with a lens through which to view the various innovations, new government structures and renewable energy policies / measures that have been put in place in Ontario which could be likened to the innovations that are suggested by the EM theory. We will also be able to understand the role that the public expects the government to play in the decision-making process and be able to judge if the government actually plays that role. Recent years have been characterized by constant technological innovation and development programs, with the aim of addressing both ecological and economic concerns without pitting one against the other. In the energy sector, for instance, a few modern structures have been put in place like the Smart Grid which is a technological way of improving the flexibility, reliability and efficiency of the electrical system. It will help in the better management of electricity use and improve on energy conservation but is, however, an investment towards energy and economic advancement. Putting an end to coal-fired energy production and shifting towards cleaner forms of energy sounds like one of the many

suggestions of the EM theory. While the coal era brought about health concerns and greenhouse gas emissions, cleaner forms of energy (wind, solar, biomass and hydro) aim at addressing health concerns, reducing GHG emissions and producing jobs as well. This is one of the moves that the Ontario government claims to have taken in the direction of addressing environmental concerns while also ensuring economic growth.

This study examines the social aspects of public support or opposition to RE policies in Ottawa and its nearby cities, by investigating the effects of environmental values and political ideology on public support for RE policy. The provincial government has formulated and implemented policies geared at curbing climate change and reducing greenhouse gas emissions which affect humans and the environment. These policies came with a high financial burden for taxpayers whose money covered the costs of deploying the necessary technology like wind turbines, and continuously increasing electricity rates. While the government presents these policies as good and beneficial for the environment, consumers/ ratepayers see these policies as a way of pulling out their hard-earned money from their pockets, with little or no tangible impact to the environment. This means that there are economic implications of the renewable energy policy on Ontario energy consumers, which may also affect how they appreciate the policy. It is important to clearly understand how renewable energy policy in Ontario affects energy consumers to better understand their individual choices to either support or resist the policy. As mentioned in the literature review, previous research (Longo & Baker, 2014, p. 344) confirms that political ideology and affiliation generally influence on environmental behaviour, but economic considerations also come to play.

EM also calls for a reorganisation of the relations that exist between the state and market actors in environmental reforms, not necessarily implying reorganising the capitalist economy which has always been the cause of the ongoing environmental crisis (Mol and Jänicke, 2010, p. 19). I think ecological modernisation theory suits this study as it gives us a better way of understanding the reasons for the RE policies/decisions that have been made in the province of Ontario and other modern technologies and infrastructure that are being put in place to incorporate environmental concerns into economic processes. At the same time, it makes us question the way environment and economy are being merged, does one succeed to the detriment of the other or do they both have to be equally incorporated into each other. Is it really possible to merge both equally without sacrificing one of them? Can the economy thrive without destroying the environment or can the

environment thrive without affecting the economy negatively? EM theory helps us approach the research problem, precisely support for RE policy more from a social dimension than political, the issue is not about how the government presents the RE policies but more about how people view them in relation to their personal well-being and that of the society. Looking at the suggestions of EM theory, Ontario RE policy seems well-intended but at the same time leaves energy consumers with no choice or control especially as the financial burden falls back on energy consumers and ratepayers. It is this social aspect of not being given a choice that hinders support for the GEA and other initiatives and guidelines of Ontario's renewable energy policy. Current literature does not consider the notion that people might reject ecological modernisation irrespective of how appealing it sounds and is being presented, especially if it affects their well-being in any way, so studies like this would therefore be useful for exploring the limits of ecological modernization processes.

Chapter 4. DATA COLLECTION AND METHOD

4.1. Study Area

Ottawa which is the fourth largest municipality in and the capital of Canada, has a total land area of 2.796 square kilometres. It has a population of about 970000 inhabitants (City of Ottawa, 2016) 935000 according to the 2016 population census an increase from 884000 in 2011 representing about 5.8% increase (Statistics Canada, 2016). Another source (World Population Review, 2018) claims that Ottawa has a population of about 970,000 according to the most recent estimation during the census of 2016. According to the city's website, the median family income is $102,000 per year and the average housing costs are affordable, about $394000. Ottawa is made of diverse people with different mother tongues, 14% of which have French as a mother tongue, 3% have multiple mother tongues, 21% speak other languages but the majority about 62% have English as their mother tongue. A major part of Ottawa's population, about 55% lives in the urban areas, while 35% live in suburban areas and 10% live in rural areas. Some were retired while others were still active in work life. They were all educated and had at least a college degree, according to what they said during the interviews.

4.2. Method

This study examines the effects of political ideology and environmental values on public support for renewable energy policy in Ottawa, Kemptville, North Gower, Finch, Fournier and St. Isidore. The data for this study was collected with the use of open-ended interviews, done with energy consumers and / or ratepayers living in and around the city of Ottawa. Data collection lasted a period of about 6 months, from October 5th, 2017 to March 27th, 2018 and was slowed down severely by the Christmas holidays as no one was willing to be interviewed during the busy festive period. There were other times during the data collection period when it was difficult to find interview participants, and this also caused a delay. To recruit potential interview participants, a door-to-door recruitment was initially carried out, where the researcher knocked on doors and handed out printed flyers to households within previously chosen communities, Findlay Creek and Greenboro, but this process did not help to get any potential interview participants (see Appendix for a sample flyer). A total of about one hundred flyers were distributed but the researcher did not get even one email from anyone. People collected the flyers and promised to get in contact with the researcher, but even after two weeks no one had done so. A few households who have installed solar panels (as part of the MicroFIT program) on their roofs were contacted and some refused to even collect flyers, some collected but did not get in touch with the researcher. One of the interview participants angrily told me that people who have solar panels on their roofs through the MicroFIT program sign a memorandum of silence and cannot take part in any study on renewable energy, that information could not be verified in any case. Notes were taken to keep record of the households where flyers were handed and after one week without being contacted by any potential participant, the researcher went around the same communities to check on those households where flyers were distributed. After the door-to-door failed, the researcher turned to social media to fish out potential participants. A carefully drafted brief message was sent through the moderators of a few community Facebook pages, giving an explanation about the study, its objectives and the criteria to fulfill for taking part in an interview. From the community pages, just one person expressed interest in being a part of the study and that is how the first few participants were recruited and then the snowball sampling technique started. Using Facebook, some participants who belonged to the advocacy group Wind Concerns Ontario from the rural areas around Ottawa, notably Finch, St. Isidore and Kemptville were contacted. A few of their members sent emails proposing a date for an interview, after which they spread the news around their acquaintances

who were not necessarily members of the advocacy group and interested persons contacted the researcher to arrange an interview. This helped the researcher to not be limited to members of a particular group who may have similar opinions, but to interview people with diverse opinions. A few people were not willing to be interviewed but sent emails to the researcher, with links to documents or just expressing their opinion on the issues surrounding renewable energy policy in Ontario. This sampling technique was advantageous to the researcher because it made it possible to locate people who would not have been otherwise found. Also, the participants gained trust in the researcher as they were being introduced by people they knew who had already been interviewed. It was also economical and time-saving on the part of the researcher, who did not have to travel to meet people out of Ottawa. Even though snowball sampling is known for its disadvantage that the researcher gets little control over the sampling method as he/she relies mainly on previously interviewed subjects, which generally reduces representativeness, this situation was minimised in this study by assessing newly introduced participants before arranging a suitable time for an interview. For example, place of residence was the first thing asked when the researcher got a new contact, so as to determine if they were suited for the study or not. About 4 interested persons had to be rejected for not being resident in and around Ottawa. Once a potential interview participant was found eligible, a consent form was sent by email for those who preferred phone interviews, and the researcher made sure that they (both researcher and interviewee) signed the form before the date of the interview. For those who agreed to have a face-to-face interview, both researcher and interviewee signed the consent form just before beginning the interview. The researcher handed an initial contact letter to those potential interview participants who accepted to be interviewed in person and who appeared not to be in a rush (see Appendix for a sample of initial contact letter). The first three interviews served as a pilot to help the researcher test the interview guide, practise interviewing and also adjust certain questions accordingly. After the pilot interviews, the researcher modified question 6 by adding nuclear and hydro as renewable energy sources as suggested by one of the interviewees, who believes in nuclear as a renewable source and was willing to talk about it as a source of energy during the interview. Question 10 was also corrected to say two main political ideologies as most interview participants claimed that there were many other ideologies like that of the Green Party that were not captured in the question. Both phone and in-person interviews were recorded and later transcribed for data analysis purposes, those filled on paper were also transferred to the interview transcripts to ease analysis.

Most of the interviews lasted between fifteen to thirty-five minutes, a few went above forty-five minutes and two went over an hour. Out of the fifty interviews conducted, two interviews representing four percent of the total, could not be transcribed because of inaudibility, so forty-eight interviews matching a ninety-six percent of the total were transcribed into a 276-page Word document to be used for the data analysis process. Data analysis was done using the NVivo software for analysing qualitative data, which eases the process of coding data into various themes and establishing any existing relationships found among them.

This study could have been limited to an extent by the lack of readily available information on the websites of institutions concerned with renewable energy in Ontario in particular and Canada in general. These institutions include the main website for the Green Energy Act which presently cannot be accessed, the Independent Electricity System Operator (IESO) and the Ontario Energy Board (OEB). The websites of the various ministries concerned with environmental issues and renewable energy do not necessarily carry the relevant information and when they do, they are not explicit or detailed enough, making it hard to get information on the subject. Sometimes, they are not up to date and may not represent the reality of what is happening at that particular time. Environmental data of various countries that are usually submitted to the international organisations like the IPCC and IEA, are not updated frequently and so the information available may not necessarily be exactly what is happening at this point in time. For instance, the most recent energy policy review found on the IEA database is from the year 2015 and things may have advanced a bit between 2015 and 2018. Irrespective of the limitations mentioned above, the study will add to and enrich already existing data on factors determining policy support. During the data collection, the researcher thought it wise to balance the sample with the same amount of policy critics as well as supporters, so as to avoid having a biased sample, but this proved too difficult because critics or skeptics seemed much louder and willing to express their opinions unlike the supporters who were harder to find. About twenty-one respondents out of the forty-eight, were supportive of Ontario's renewable energy policy, while the other twenty-seven were mostly critics.

4.3. Sample

The sample for this study consisted of 50 people who were interviewed for data collection purposes. The reason why the researcher decided to increase the sample size to 50, instead of 35-

45 as previously suggested, was to give space for unforeseen circumstances like inaudible interviews. Participants for this study were recruited through a snowball sampling technique where one interview participant recommends the next person who suits outlined criteria, given to him/her by the researcher. These criteria included being a resident of Ottawa or a location no more than an hour and a half drive away, residing in the province of Ontario and have at least some knowledge about renewable energy policy in the province of Ontario. About 4 potential participants were rejected because they did not fit into one or more of the criteria for being chosen, for example they were residents of Gatineau which is part of another province, Quebec or lived in Toronto which was out of the targeted population of the study. Two people heard of the study and sent me an email expressing their interest in being interviewed, but they lived in Toronto and could not be accepted, so they decided to just send a link with information they thought could be useful to the researcher. One person from Toronto offered to have a phone call with the researcher, just to understand the objectives of the study and share a bit of knowledge they had. One potential interviewee decided not to take part in the interview after signing the consent form but did not inform the researcher until an email was sent reminding her to propose a date and venue for the interview, she did not reply. Without the snowball sampling technique, it would have been difficult to find participants especially from the cities around Ottawa, and also because the door-to-door method of recruitment had proven to be unsuccessful. Respondents range from working age (about twenty-five) to retired (about seventy years). Some respondents felt irritated when asked about their age especially on phone, some just mentioned that they were retired or still working, and the researcher did not ask any further. Males as well as females were interviewed to be able to understand whether gender influences the way people perceive and understand government policies on renewable energy. A total of twenty-two females and twenty-six males were interviewed, even though there were initially more females willing to take part in an interview. It would be good to note that two interviews were rejected for inaudibility thereby reducing the number of males from twenty-eight to twenty-six, hence the missing value. The gender distribution of the sample is shown in table one below:

Table 1. Gender distribution of sample

Gender	Frequency	Percent
Male	26	52
Female	22	44
Total	48	96
Missing	2	4

Respondents were not only chosen from central Ottawa but also from cities around like North Gower, Arnprior, Finch, Fournier and Saint Isidore, who are informed of RE policy and live in close proximity to wind farms that were developed after the GEA came into force and were not limited only to homeowners only. Some of the respondents felt uncomfortable telling the researcher their place of residence for security reasons and that is why they preferred doing a phone interview. In such a case, the researcher did not ask any further, so it will be difficult to say how many respondents came from a particular city. This is because some respondents though were living in condominiums or apartments at the time of the interview, were home owners who had either put their homes on rent or had it handed down to their kids. Also, not necessarily all those who lived in condos and apartments are on rent, some have actually bought the apartments and are the owners. It was also noticed during the initial door-to-door recruitment process, that home owners are not necessarily better informed than condo residents, especially as some condos actually make use of initiatives put in place by the government like the sub-metering. This gave the interviewer the chance to hear from people who experience the RE policy (by residing close to wind turbines) at close range and a part of their daily lives. Interviews were mostly through phone, as most respondents preferred being interviewed over the phone, some of them who wanted to be anonymous decided to be interviewed on phone because they thought the topic was a sensitive one. Others decided to be interviewed on phone to save them from moving out of their homes to meet with the researcher, especially those who were not in the habit of coming to Ottawa. A few participants would not agree to be interviewed except face-to-face and so they proposed a suitable date, time and venue for an interview, while others preferred being interviewed at their place of work or in a public library of their choice. Out of the fifty interviews conducted, eleven were done face-to-face while thirty-seven were by phone and two interview respondents insisted on having it filled out on paper.

4.4. Interview Questions

An interview guide was used during these interviews which were done by phone for the most part and a few through face-to-face interviews, arranged according to the preference of the participant. The research question guiding this study is:

1. How do environmental values and political ideology relate to people's views and thoughts on RE policy in Ottawa?

The questions on the interview guide asked were about thirteen in number, with the 13th question meant to measure pro-environmental behaviour using the fifteen items of the revised New Ecological Paradigm (NEP), being answered on a 5-point Likert scale. Developed by Riley Dunlap and Van Liere in 1978, the NEP consists of fifteen items, used to measure pro-environmental behaviour. The scale focuses on beliefs about humanity's ability to upset nature, the existence of limits to human economic growth and development, and humanity's right to rule over the rest of nature. The instrument was meant to measure a possible transition from the Dominant Social Paradigm (DSP) to a new, more environmentally conscious world view (Anderson, 2012, p. 260). The DSP represented the world view of endless progress, growth, abundance and attitudes that contributed to environmental degradation and is the opposite of the NEP which is more conscious of the disruption of ecosystems caused by modern industrial production (Kopnina, 2011, p. 375). The New Ecological Paradigm was formerly known as the New Environmental Paradigm, the latter which consisted of three dimensions namely: the balance of nature, anthropocentrism and limits to growth (Dunlap and Van Liere, 1978, p. 12). The fifteen items of the revised NEP are a combination of both the DSP and the NEP itself, with seven items (even numbered items) representing the DSP and eight odd number items for the NEP. Items on this scale can alternatively be grouped into five categories with items one, six and eleven representing limits to growth while items two, twelve and seven represent anthropocentrism, three, eight and thirteen are for the fragility of nature's balance; four, nine and fourteen represent the rejection of exemptionalism. Finally, items five, ten and fifteen explain the possibility of an eco-crisis. Interview questions for this study were mostly open-ended, so as not to limit the respondent's answer, as well as give the researcher the opportunity to probe and get deeper information that would not be attained through close-ended interviews. The interview guide was formulated in relation to the research question guiding the study. Question one was a general question to get an idea of how respondents have

importance to environmental issues as a social concern and the response to that determined how the next question was asked. Question three, four and five measured the level of awareness about climate change, its causes and effects followed by question six which opened the discussion about RE policy up to question nine. Question ten was used to assess the political stance of the respondents while question eleven determines the relationship between the political ideology of the respondent and his/her thoughts on RE policy. The next question, (thirteen) will use the NEP with a 5-point Likert scale to assess pro-environmental behaviour among respondents. At the end of the interview, the respondent will be given the chance to discuss anything he/she thinks should have been discussed but was not in the interview or he or she could suggest something that could be done to make RE policy better in the province of Ontario. To begin the interview, the researcher briefly explained the study objectives to the interviewee, just to give him/her an understanding of the interview, the objectives of the study and why their participation is vital. All interview participants were informed that the interview is voluntary and will be recorded for data analysis purposes. A few respondents expressed discomfort with certain questions and decided not to respond.

The interview questions were as follows:

- Could you please list social issues that are of major concern and importance to you in Ontario? By social issues, we mean problems that influence or affect a considerable number of individuals in a society. These may include among others; health care, unemployment, social welfare, social inequality, education, environment, freedom of speech, human rights, etc. They are also called social concerns or problems.
- a) If environmental issues are mentioned as part of your concerns, why?

  b) If not mentioned, are you concerned about environmental issues? And if not, why not?
- If you were asked to say how informed you are about climate change, would you say you are very informed, somewhat informed or not very informed?
- What do you think is the cause of climate change?
- What do you think are the effects of climate change?

- When we talk of renewable energy policy, we mean the plans, regulations, incentives and guidelines put in place by the government to address electricity production, distribution and consumption using renewable sources of energy with less carbon emissions. Such renewable energy sources include solar, wind, hydro, nuclear, geothermal and biomass. Would you say you are very informed, somewhat informed or not very informed about renewable energy policy in Ontario?

- What are your thoughts concerning the current policies on renewable energy put in place by the provincial government towards renewable energy?

- Do you think the renewable energy policy in Ontario has any effect, negative or positive on you? If so, how?

- Do you know of any effects this policy may have on other people, animals, the economy or the environment?

- Canada has two main political ideologies; liberal/progressive and conservative. To which of them would you self-identify?

	Very conservative
	Conservative
	Moderate conservative
	Moderate
	Moderate liberal
	Liberal
	Very liberal

- What do you think informs or influences your views on renewable energy policy in Ontario?

- Please answer the following questions on a scale of 1 to 5, where 1 is strongly disagree and 5 is strongly agree.

NEP Items	1 Strongly disagree	2 Disagree	3 Neither	4 Agree	5 Strongly agree
1. We are approaching the limit of the number of people the Earth can support.					
2. Humans have the right to modify the natural environment to suit their needs.					
3. When humans interfere with nature it often produces disastrous consequences.					
4. Human ingenuity will insure that we do not make the Earth unlivable.					
5. Humans are seriously abusing the environment.					
6. The Earth has plenty of natural resources if we just learn how to develop them.					
7. Plants and animals have as much right as humans to exist.					

8. The balance of nature is strong enough to cope with the impacts of modern industrial nations.					
9. Despite our special abilities, humans are still subject to the laws of nature.					
10. The so-called “ecological crisis” facing humankind has been greatly exaggerated.					
11. The Earth is like a spaceship with very limited room and resources.					
12. Humans were meant to rule over the rest of nature.					
13. The balance of nature is very delicate and easily upset.					
14. Humans will eventually learn enough about how nature works to be able to control it.					
15. If things continue on their present course, we will soon experience a major ecological catastrophe.					

- Is there anything you would like to add? What do you suggest can be done to make RE policy better in Ontario?

The above-mentioned questions were mostly asked in the order in which they appear, depending on how the interview proceeded and how willing and cooperative the respondent was, regarding certain questions. Before the first question was asked, the interviewer made it clear to the respondent that the first question will be a general one not focusing on renewable energy. This was because during the pilot interviews, some people got discouraged upon hearing the first question and said they thought the interview was supposed to focus on RE policy in Ontario and not on other social issues. However, in some cases, the questions were modified for easy comprehension especially in a case where the respondent appeared not to fully understand what was asked, also some examples were provided to give some respondents a sense of how to answer certain questions. Probing was used in some cases between questions to get a clearer answer and make the respondent expatiate on the previous response, in which case a question was asked that is not necessarily found on the interview guide.

Chapter 5. DATA ANALYSIS

Data analysis for this study was carried out using the NVivo software, which is very useful for coding and analysing qualitative data. This software was chosen to help the researcher be able to classify interview responses into various codes and identify trends in the interview transcripts. The coding was done according to the questions asked during the interview and answers were categorised under various codes or nodes as referred to by the software. For the purpose of this study, both terms codes and nodes may be used interchangeably, but will often refer to the same thing. Responses to each question were classified under various themes, beginning with the first question which asked respondents to list some social issues that are of major concern and importance to them in the province of Ontario. In discussing the findings, the main themes will be environmental values, political ideology and socio-economics as indicated within the literature

review. Therefore, all the codes will be rearranged to fall into these three themes to be able to provide an answer to the research question and meet the objective of the study.

5.1 Social issues of major concern and importance in Ontario

In response to question one, respondents gave varying answers representing different social issues that were of major concern to them and some even went as far as ranking them in their order of importance. The first category created was social issues and this consisted of eight codes namely; education, environment, health care, housing, hydro cost, inequality, poverty and income and the last which was named others. Some of these codes were divided into themes; under the code "health care, a sub-theme elderly care was created. This is because some respondents decided to talk about health care for the elderly separately from health care, in which case they emphasised one over the other. The theme "inequality" was also divided into two different themes which were economic inequality on one hand and social inequality and injustice on the other. For the code "poverty and income", a theme of unemployment was created while the code "others" comprised of all the themes that were not very popular among interview responses and were grouped under one code. Since there were very few interview respondents who mentioned these issues, it seemed logical to place them under one category of themes. These include sexual violence, freedom, women's safety, social support, public transport and food security. Table two below shows the various categories (with the sub-themes) and the number of respondents who listed them out of forty-eight (n=48). The bullet points show the subthemes that were created under some categories.

Table 2. Social issues and their corresponding number of respondents

Social issues	**Number of respondents out of 48**
Education	15
Environment	43
Health care • Elderly care	22 4
Housing	10
Hydro cost	6
Inequality • Economic inequality • Social inequality and injustice	4 7 17
Poverty and income • Unemployment	6 6
Others • Food security • Freedom • Public transport • Sexual violence • Social support • Women's safety	 2 3 2 1 1 1

As shown on Table 2, the environment was listed the most among the responses dealing with social issues, mentioned by forty-three respondents. This high rate of responses listing the environment, may have been due to the researcher mentioning the environment while asking the question, as an example of social issues. Also, since respondents knew that the study was about the environment, they could not have ignored mentioning the environment, so as to fit in with other respondents, which could also cause the high number of responses. There were different environmental concerns among these respondents as some were concerned about environmental

sustainability while others were more concerned about policies geared towards protecting the environment. A few were concerned about how the environmental degradation is being handled not only in Ontario but on a global scale, and some also said pollution was the main environmental concern they had. In any case, they were all concerned about having a safe and sustainable environment for human well-being not only at the provincial level but also at a macro level. The environment was of top priority for some respondents while a few thought that there were other social issues that were more pressing than the environment, in their opinion especially in Ontario. David O'Brien had just two main concerns, one of which was energy problems and sustainable resources, whereas another respondent was more concerned about how in the renewable energy sector, successive governments have postponed plans and the way alternative energy sources are being funded in Ontario. A respondent who decided to be anonymous, indicated that "there are climate issues that we have to address particularly around CO2 emissions and also how we go about mixing the energy mix and renewables". That was his main concern on the environment and he suggests that he thinks that renewables might now be enough for a start, but Ontario can come up with a solution of using a certain percentage of renewables so that they can create an energy mix and come up with a good policy. To another respondent, her concern was the way in which rural populations are being isolated and excluded from debates on not only social and economic but also on environmental policy. That, in her view is widening the already existing divide between rural and urban communities. "The way people overuse and abuse the land etc." is of major concern to Heidi O'Brien who said the environment is always there and it's not only in Ontario, it's across Canada and the world. Environmental issues such as mercury poisoning in Northern Ontario, where the First Nations reserves are, was for one respondent a major issue. She expressed concern on the fact that rivers in Ottawa, where people go to swim are being poisoned by oil from cars constantly pouring into them and finds it incredible that we don't have electric cars and are still soaring on fossil fuels. For the rest of the respondents, environment was about the way to deal with climate change and pollution in Ontario.

5.2 Reasons for environmental concern

The second question aimed at finding out the reasons why those who mentioned environmental issues as a major concern did so, and responses to this question vary as well. Interview respondents

had different reasons why the environment is of major concern and importance to them in Ontario, ranging from their educational or family background to being concerned about climate change, human wellbeing, impacts of environmental degradation, moral obligation, personally affected and poorly regulated environmental policies. All the reasons that respondents gave as to why they were concerned about the environment, fell under one of the above-mentioned child nodes (or sub themes) and most respondents gave more than one reason. Table 3. Shows the different categories of responses and their corresponding number of respondents.

Table 3. Reasons for environmental concern

Reason for environmental concern	Number of respondents
Background	8
Concerned about climate change	4
Concerned about human well-being	4
Impacts of environmental degradation on people	16
Moral obligation	10
Personally affected	1
Poorly regulated environment	9

There were a few respondents who did not initially mention environmental issues as a major concern for them but when asked why, one of them said he did not mention the environment because they thought it was obvious that environmental issues are of major concern and so they didn't think it wise to mention it. One of them said he thinks that Ontario is already handling environmental issues in a good way, though some improvement is needed, and so for him, environmental issues are not as crucial as the other social issues he mentioned. Another respondent claimed he forgot to mention the environment because he was preoccupied with the more pressing ones, but that does not mean that it is not important to him, considering the health effects of pollution and environmental degradation. The fourth person said he did not mention environmental

issues as a major concern for him because they tend to be highly exaggerated for political reasons, so he thinks the environment is much better now than it used to be 50 years ago when he was younger. Lastly, a respondent said he decided to mention only two social issues for the sake of being brief and straight to the point, so he picked the most pressing two which were food security and poverty. However, "the environmental issues are still there as usual" he said. The responses to this particular question makes us understand that most people see the environment as an important issue, even though it may not always be the top of their list of social issues. Those who did not initially mention the environment were mostly those who felt that the province is going the right direction on environmental issues and so it is not a pressing social issue as others. The environment was the biggest concern to sixteen respondents who explicitly said that the first social issue that comes to their mind is the environment and how it is being treated by human beings and regulated by the government of not only Ontario but also at the federal level.

5.3 Self-assessment on level of awareness on climate change

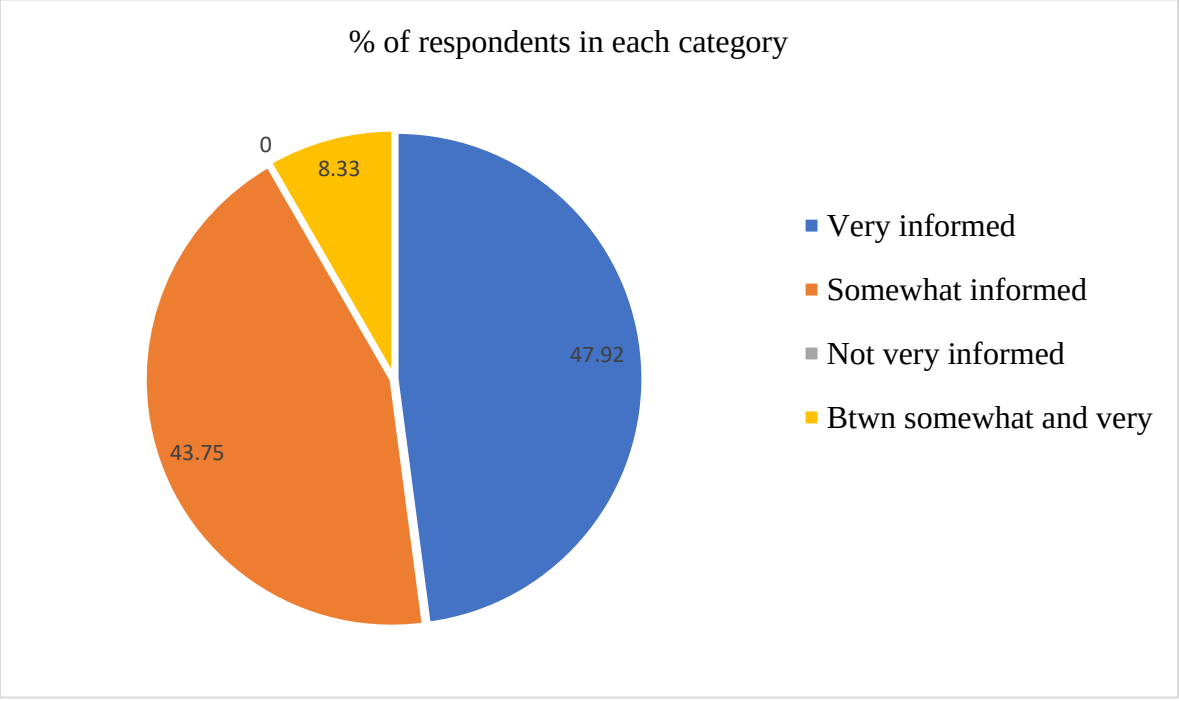
The next question was some sort of self assessment on how informed respondents were with regards to climate change, where they had to choose between being very informed, somewhat informed or not very informed. Out of the forty-eight respondents whose interview transcripts were audible enough, twenty-three, representing about 47.92% of the total, said they considered themselves very informed, while twenty-one (43.75%) thought they were somewhat informed about climate change. Four people (8.33%) thought they fell between somewhat informed and very informed, so no one said he or she was not very informed about climate change. Most of those who said they were somewhat informed said they could not be very informed since they were not experts or scientists in the field of climate change and environment, so they preferred to be in the middle range. Most of those who said they were very informed, said they took special interest in reading about climate change, and some even mentioned being subscribed to quarterly journals that give them updated information on climate change related issues in Ontario, Canada and beyond on a regular basis. The table below shows the distribution of respondents in the various categories, while the bar chart (Figure 1) shows a representation of the percentage respondents in each category sum up to. The bar chart has just three sections because the category "not very

informed" is not represented on the chart, since no one out of the forty-eight respondents claimed to be completely uninformed about climate change.

Table 4. Self-assessment on respondents' level of awareness about climate change

Self-assessment on awareness on climate change	Number of respondents n=48
Very informed	23
Somewhat informed	21
Not very informed	0
Between somewhat and very informed	4
Total	**48**

Figure 1. Percentage of respondents in each category



5.4 Causes of climate change

After giving respondents a chance to assess their knowledge on climate change, the next question was meant to find out from them, what in their opinion is the cause of climate change. Responses to this question were classified under five categories namely; anthropogenic meaning caused my human activities on the planet, natural, natural accelerated by anthropogenic factors, both natural and anthropogenic and finally not sure. In this case, the majority of respondents, thirty-five in number, claimed that climate change in their opinion was caused by anthropogenic factors, while only one thought it was caused by natural factors meaning that climate change was a natural thing, not necessarily caused by human activity on the planet. Seven people said they thought that climate change was a natural process but is being accelerated by human activity on the planet, three respondents claimed that climate change was both natural and anthropogenic while two said they were not sure of what the cause of climate change was. Among those who said it was caused by anthropogenic factors mainly, some went as far as saying that humans are using nature in destructive ways and climate change is nature's own way of fighting back. The respondent who said that in their opinion climate change is caused mainly by natural factors, backed her point of view by saying that there had been Ice Ages before humans appeared on the Earth and so this is just one of those phases like the previous ones and will soon pass if properly handled by human beings, and in case humans don't handle it properly, the earth will fight back and heal. The respondent insisted that climate change will happen in any case with or without humans on the earth's surface, as it did before humans were present. Those who were of the opinion that climate change is natural but is being accelerated by anthropogenic factors, said it wouldn't be happening at the pace we see, if human beings were being protective of nature and the earth in general. They quoted some examples of wildfires caused by humans throwing out cigarette stumps out of their windows, humans preferring to go by gas consuming cars than commute by public transport, and also humans cutting down trees either for fuelwood or for commercial purposes, leaving the earth destroyed. The population increase that has taken place within the last few decades, they claim, has also made the earth more vulnerable to climate change as more resources need to be used out of the earth for subsistence to its ever-growing population. The number of respondents in the various categories indicate that many people, at least in the sample think that climate change is caused by the way humans are acting on nature and the relationship that humans have established

with other living things. Table five below shows the different categories of causes of climate change and their corresponding number of respondents on a total of 48. There was one respondent who thought that climate change is being exaggerated and that there is very little evidence to humans being the cause of climate change. He justifies his position with this:

"First, let us define climate. Climate is the long-term average of weather conditions such as temperature, precipitation, wind speed and direction, and so on. A typical working definition of climate is the 30-year running average of these quantities. Weather, in contrast, is the day to day occurrence of these quantities. Climate is what we expect, weather is what we get. However, many people nowadays, who should know better, confuse weather with climate. The recent hurricanes in the Caribbean and Southern US are weather phenomena. To talk of them as if they are a result of climate change betrays an ignorance of the whole phenomenon of climate. The question you have asked of the cause of climate change can be answered thus: climate is a naturally variable phenomenon, so change is to be expected. Is there an anthropogenic component to this change? Possibly, but the evidence for it is very slender, and even if there is one it is likely to be very small."

Table 5. Causes of climate change and number of respondents

Causes of climate change	**Number of respondents (n=48)**
Anthropogenic factors	35
Natural	1
Natural accelerated by anthropogenic factors	7
Both natural and anthropogenic factors	3
Not sure	2
Total	**48**

5.5 Effects of climate change

Assessment on respondents' knowledge on the causes of climate change, was followed by what in their opinion are the effects of climate change. In this case, the researcher explained to them that the effects of climate change are things that happen around them that they think are as a result

of climate change. This helped to give respondents a direction as to what is expected as an answer and to avoid responses like "climate change is affecting everyone and everything" which was too general and appeared easier for respondents to give as an answer. Four categories were generated as responses to the question on the effects of climate change; effects on socio-economic wellbeing and health and changes in weather and climate patterns, better climate conditions and lastly the effects on plants and animal species. Under the category of changes in weather and climate patterns, a sub-theme named extreme weather events was created, this is because some respondents just said changes in weather and climate patterns without mentioning specifically the kind of weather events or changes in climate they were referring to. This sub-theme was created to separate those who went specific by quoting examples of extreme weather events like wildfires and floods from those who did not give any examples. Extreme weather events that were included under this sub-theme included storms, droughts, wildfires and floods. It should be noted here that most if not all respondents gave more than one kind of effect, thereby falling into more than one category of effects, some gave both what in their opinion are negative and also positive effects. Under the first category, effects on socio-economic wellbeing and health, there were twenty-five respondents who mentioned that they think climate change has a visible effect on human wellbeing and health, due to the fact that humans depend on the earth for subsistence and a polluted environment will normally hinder human life. One respondent Charles Remus, claimed that the rate of cancer and respiratory diseases in the world presently is as a result of climate change as there are many pollutants in the air, and went further to say that he has been personally affected by cancer, losing his close family relatives and wife to cancer and there seems to be, in his opinion, no other explanation as to why cancer is so rampant than to the presence of too many nuclear radiations and pollutants in the air. When asked if he thinks that if humans were not doing a lot of harm to the earth as he said in his previous answer, that would be a good way to fight cancer, he said:

"No, certainly not. So, if you look at the world at a microbiological perspective, you'll see that it's constantly changing. We are not here as changers, humans are not here in this world to reproduce things that are the future of the world. If that was the reason we are here, then we would have already done that. But the more humans that are in the world, the more adverse effects we have on the environment".

In his opinion, protecting the environment is just one of the ways in which deadly diseases like cancer can be prevented, among other things. Similarly, another respondent Ramsey Hart, when asked what he thinks are the effects of climate change, said there is an abundance of black legged ticks in Long Point County and these ticks carry Lyme disease, which is to him personally of great concern since he spends a lot of time in the lakes. Another respondent who wanted to stay anonymous, gave the increase in the appearance of ticks carrying Lyme's disease as one of the effects of climate change. To him, Lyme's disease is very dangerous to humans as well as to animals as it requires a lot of medication to help pets who get infected and is also very uncomfortable from a long-term perspective. To him, the reason why those ticks are now increasingly appearing is that "they are now surviving our winters because they tend to be shorter and they are not necessarily as cold". Climate change is causing a lot of fluctuations in the weather and temperatures are warmer, the ticks prefer warmer temperature and so they easily multiply and spread with these favourable weather conditions. One respondent said that because of warmer temperatures, diseases are moving northwards unlike before, so illnesses that were initially not common in North America, for example, are becoming more common. He did not go further to give any examples and went ahead to give some positive effects of climate change, which are categorised under the "better climate conditions" category.

Changes in weather and climate patterns were the next group of climate change effects that respondents discussed, and twenty-four people mentioned one or more ways in which they think the weather or climate has changed. Warmer temperatures, longer summers and shorter winters, more rainfall than normal were the most explained effects under this category. It was mentioned by one respondent that because of the melting of the ice caps, the Inuit people are experiencing all kinds of changes in their environment and way of life, just like the polar bears are being affected by the melting of the ice- they are unable to hunt for food and travel the routes they normally travel because of the thinning ice. To another respondent, changes in weather patterns are probably the one thing that has been seen in the last years as an effect of climate change. While some people talked about considerable changes in temperatures and excess rainfall, others went further to relate these temperature changes to the increased strength in ocean currents and the increasing salinity of ocean water. A few people thought that in as much as climate change has negative effects on some areas, other places benefit from the same effects so to them it is a positive effect. These were the responses that were categorised under "better climate conditions" in the analysis. An example

of such is the increase in rainfall that may be negatively affecting farmers here in Canada, reducing their crop yield, meanwhile the farmers in other drought-prone countries or areas are seeing it as a positive effect as it rather increases their yield. For farmers, depending on where they are, they either get far less yield or too much yield for the crop that they planted, and this in the opinion of a respondent is because of the way climate change is affecting weather patterns. One respondent, who criticized Ontario's renewable energy policy with so much anger, clearly stated that climate change, like any other thing has both challenges and opportunities;

"Think about it critically, there has to be benefits somewhere. Some places are going to have longer growing seasons, some places are going to thrive, their fish stocks are thriving from climate change. There has to be places where if there's increased rain in many areas, does that not imply that in certain areas, desert areas are going to reduce? Does that not mean that certain kinds of crops are going to do better, maybe others do worse for sure? Doesn't that inherently imply that?"

In his opinion, the reason why the benefits or "opportunities" as he calls them, are not known is because the IPCC reports do not want to promote the positive effects climate change has. He confidently explains that this was because the benefits of climate change "do not fit the agenda" which he says is to propagate the negative effects only. The effects that climate change has on plant and animal species was discussed by fourteen respondents, who mostly talked about the polar bears and how their hunting and movements are being adversely affected by the melting of the ice. Also, because of fluctuations in temperature, delayed winters, much more precipitation than normal, unfairly hot and dry summers, droughts etc. which are as a result of climate change, animals don't get to hibernate at the time when they should. Their cycles, according to one respondent, are being changed by the effects of climate change and so they are awake during the time when they normally should hibernate because the warmth is extended and there is no cold to trigger their hibernation. What will happen next is that they will be awake at a time when they have least food to eat and that is risky for such animal species. Bees that are normally very useful in the pollination of a lot of plants, are also affected leading to a decrease in crop yield. Migratory patterns of birds and insect populations have changed, and some respondents think it is because of climate change. Some plant species that do better in colder temperatures are beginning to disappear as the climate is getting unexpectedly warmer even during the time when it is supposed to be colder.

5.6 Self-assessment on level of awareness on Ontario's RE policy

Interview respondents were expected to do a self-assessment on how informed they think they are about renewable energy policy in Ontario. The majority of respondents said that they were somewhat informed about renewable energy policy in Ontario, with a total of twenty-six respondents, while sixteen claimed to be very informed and five said they were not very informed. There was one respondent who was not asked to assess his level of awareness because he had already started discussing the policies even before getting to that question, so the researcher thought it wise to just let him talk without necessarily asking him directly how informed he thinks he is. For this reason, the total number of responses was forty-seven not forty-eight like it ought to be. Among those who said they were somewhat informed and very informed, most of them know more about what the province is doing with regards to solar energy (FIT and MicroFIT program) and very few were really familiar with wind energy. Those who live in the suburban areas seemed to be more informed about wind energy than those who live in central Ottawa for instance. Many of the respondents living in Ottawa who were not familiar with wind turbines said they could not comment deeply on wind turbines as they have not experienced it, while a few said what they know about wind turbines is based solely on the media and so they could not talk much on that. In most cases, respondents acknowledged that they have not read the exact policy documents and could not quote its contents, but they can discuss it based on what is being done in the province and some blamed the government for not making its policies available enough for people to inform themselves. About three respondents, in answering this question said they may not be able to discuss at length about the provincial government's policy on renewable energy because they don't have enough data on all the different sources of renewables and suggest that the government makes data more available and accessible to all.

5.7 Thoughts concerning Ontario RE policy

In relation to the self-assessment on their level of knowledge about Ontario renewable energy policy, respondents were asked to give their thoughts on the policy. Most people gave different views that could be categorised into various category of responses, some gave both what they saw as positive and what they saw as negative aspects of Ontario's RE policy. Responses here were diverse but could be summarized under five main categories; bad policy poorly implemented, good

policy poorly executed, negative, positive and not sure. Two respondents said in their opinion, Ontario's renewable energy was bad and poorly implemented. Roger Graves, for example states in his interview that

"Renewable energy in general has been a disaster wherever it has been implemented, claiming that both wind and solar energy are inherently unreliable. He blames renewables for the rise in electricity prices in Ontario as well as in Germany which, he says, is the "poster boy" for renewable energy".

Not only is the policy bad but the manner in which it has been carried out doesn't seem right to some respondents, in that the government did not think through the implementation, neither did it do a cost-benefit assessment before investing in renewables. In their opinion, Ontario should have started by going for renewables at a smaller scale, so as to test its effectiveness before deciding whether it was worth going on a larger scale. This, according to some people has made Ontario get into increasing debt. One lady who criticized Ontario's RE policy had this to say to support her argument after claiming that the policy initiative on wind energy is short of logic or reason:

"Ok, so the wind companies that are going to do these things, the government has promised them X amount of dollars for every megawatt they produce, and in many cases, the energy is actually not even used. It's curtailed and sold to New York and Michigan at a reduced cost if not a negative cost and so the Ontario taxpayers are paying for this loss. In other words, wind is producing only about a sixth to seventh of all the other energy sources, but it is only a small relative amount of energy which is not even needed, and this energy is already being sold off. If you're looking at it in comparison to, for example if you were to start a small business to produce a product, and the product was costing you more than what you were selling it for. Well, it's so ridiculous, we keep continuing on that road and this is what I see in Ontario. Why are they continuing to produce a minimal amount of energy through wind turbines and it is not necessary and it is costing them? It is ridiculous and that is why I say it is short of logic or reason".

The second category that I named "good policies poorly executed" saw the highest number of respondents, fifteen, who just said the policy is good, but the manner of execution is not good, reason why the government is facing a lot of opposition to its policies especially from the rural populations. Six respondents thought that the RE policy in Ontario is highly politicized, claiming that policy is supposed to be done with the longer term in mind irrespective of which political party

is in government at any given time. Also, a policy such as that for renewable energy aimed at saving the planet should be done in such a way that it has nothing to do with politics but should be for the good of everyone living in Ontario. After explaining that putting an end to coal could have been done long before 2014 when it was done, one seemingly angry respondent went further to say that the reason why coal power generation was put to an end only in 2014 and not before, was because it was time for elections and so the government in place at the time needed to do something significant to be able to "catch the elections". Also, he claims that wind turbines are only installed in areas where the Liberals don't get enough votes, in typically "non-liberal seat" areas, reason why, in his opinion, there are wind turbines before Windsor but none in Windsor itself where there are a lot of liberal seats. It should be noted that even though the respondent claims that these were facts, I have no way of justifying or verifying them. Another way in which some respondents thought that RE policy is highly politicized in Ontario, is that they believe that for wind energy for instance, the only reason why the present government is investing in them to the extent of putting the province into debt, is because it fills their pockets to the detriment of tax and ratepayers. Also, the fact that those wind turbine contracts are always carried out by big conglomerates like Samsung and other companies from abroad, the way the contracts are negotiated does not seem right to some respondents who think that politicians do it more for their own interests than for the interest of the environment and the province. On the website of Ontario Wind Turbines, (2014), the GEA is being described as "the largest transfer of wealth in Canadian history, it takes money from the people, including the poor and middle class and gives it to large corporations". The policy has good initiatives that could be better executed or implemented than it is right now, respondents claim. Some respondents think that the MicroFIT program would have been better managed if the rates did not drop too fast within a short period of time, and also if they were made a bit more affordable than they are right now. They feel that it was better carried out when it just started but as time went by, the rates were reduced and even though the cost of installing the panels dropped, it still wasn't affordable to a majority of the population who would love to make use of such an opportunity.

The difference between the first two groups of respondents mentioned above was that the first group did not see the need for renewable energy investments and so felt that the policy was not good. They undoubtedly did not appreciate the implementation which is not surprising, given that they think the policy is already bad. One respondent who was of the opinion that the policy is bad and poorly implemented, when asked his thoughts about Ontario's RE policy had this to say:

“Renewable energy has been a disaster wherever it has been implemented. The poster boy for renewable energy is Germany. Electricity prices have soared as a result of their renewable energy policies, and long-term harm is being done to the German economy because manufacturing, which is the backbone of the German economy, is being shifted offshore to jurisdictions with lower energy costs. Moreover, owing to the inherent unreliability of wind and solar power, plus the German policy of shutting down their nuclear energy plants, much of German electricity production now relies on coal-fired power stations. CO2 levels in Germany are actually rising, not falling. Ontario is following along the German path. As a result of Ontario’s renewable energy policy, our electricity prices are among the highest in North America. Our economy is being hollowed out as manufacturers leave for less costly jurisdictions. One of the side effects of wind and solar power is that their inherent unreliability requires that backup power sources must be constantly available in case the wind stops blowing or the sun stops shining. In order to achieve this, backup sources such as gas-fired plants must be constantly spinning, ready to be linked in to the grid at a moment’s notice. This is a horribly expensive and wasteful way of running a power supply system.”

This excerpt tells us that in the respondent’s opinion, renewable energy is already bad irrespective of how it is executed and here in Ontario the policy is poorly implemented. This was also the case with another respondent who stated that she thinks the policies are “bad and definitely not well implemented”. To stress her opinion, when asked what her thoughts towards RE policy in Ontario are, she makes this statement:

“I think there is a complete mismanagement of this entire portfolio of renewable energy. Actually, if I can even summarise it in a couple of words, I would say that clearly wind and solar are energy sources that basically defy all logic in the environment.

When asked to clarify what she means by that, she continues by saying:

“I would say the policies are bad and definitely not well implemented. The reason why I say that wind and solar defy all logic is because we could look at the case of wind and solar definitely and I think there is lot of data to back this up. They are intermittent and very unreliable, and you have to think of the cost of putting on the energy. They are certainly not green energy, and this brings us to the issue of the magnets that are within these turbines, the use of concrete, tons and tons of concrete, leaching of chemicals into the earth, a lot of unpredictable harm that we are not sure of.

There are certainly health issues there that are also a major concern of mine too. I think Health Canada has not resolved all of the issues there and that's still under investigation, but I can't do enough better than it is collected by environmental ministry to show that people do have various concerns living close to particularly wind turbines. There is the issue with birds, animals, to the immediate environment, property value and so on. I think the government has been implementing wind and solar projects without any regard to the cost effectiveness."

The second group saw the need for renewable energy but thought that the manner in which it was implemented was not the best in their opinion. One reason was that the land that has been used for the installation of some wind projects is prime agricultural land, used in the place of unproductive land, which affects farmers negatively because they loose productive land and that reduces their crop yield.

"I believe in renewable energy and in particular what the Ontario government is going for, what they have implemented under the GEA is a whole bunch of solar panels and in our area, my municipality, there's 145 hectares of prime agricultural land that was used for the installation of solar panels. Instead of putting the solar panels in marginal land where farmers can't grow anything, they put them in prime agricultural land, which was stupid. It's fine to have green energy but people still have to eat and where do we get our food? We get our food from the farmers, it's unexpected to do that. With wind turbines, again it's the same situation. Their carbon footprint is not as big as solar panels, but the major effects affect more people, only because of the size of them, the potential health problems that might transpire as a result of the noise, the companies that are pushing this province, they don't answer any of the questions that people ask and that is sad. That's not right, and the government seems to go with whatever the companies say, well, they are the experts, so they are right. Well, that doesn't make any sense at all. You have to be able to question if you want to come up with something new, you've got to prove that your product is safe, and you have to answer all the concerns that people would have to ensure that the product is safe. Like I've often said that whenever there's a wind turbine installed in an area and I am healthy and as a result of the wind turbines I start feeling sick, regardless whether it's in my head or whether it affects me, it's something that's happening to me, I'm still being treated by a doctor. So, the medical costs are still there, whether it's in the person's head and that seems to be what's with a lot of the companies who like to say "oh, it's all in their heads". Well, it's something because

the person is being treated, there's a cost there, but they don't seem to look at that. It's the location of the GEA, the concept was good except for the application of it that was wrong."

In the opinion of some respondents, like we see in the extract above, RE policy is good but the way it has been carried out is not good, it affects farmers, people's health and the economy. One respondent summarizes it thus "Ontario has good policies implemented with no foresight", meaning that the provincial government did not do a proper testing and cost-benefit analysis before jumping to implement the policy and so a good policy ended up badly.

The policy on renewable energy in Ontario was criticized by three respondents for not being democratic especially for the fact that rural populations, who have seen farmland being destroyed in order to install solar panels and/ or wind turbines were never consulted before the execution of these projects. The Green Energy Act is described by some people as being undemocratic because it stripped municipalities off their rights to make any decisions affecting their area of jurisdiction and population. During interviews with respondents living in and around the rural areas where wind and/ or solar farms have been installed, they seemed to be really bitter about the way the government has gone through its renewable energy deployment. Most of these people were members of advocacy groups like Wind Concerns Ontario and Ontario Wind Resistance. The reasons they gave for resisting the installation of renewable energy sources in their communities were mainly that they were not given a chance to say if they wanted these turbines or panels or not and it was "forced down people's throats" as one respondent puts it. Also, they claim that the installation of wind turbines or solar farms has divided their communities, some farmers were given money as compensation for their land that was used for the installation and started supporting the policy while turning against the other farmers who were fighting against. This put the community in conflict as neighbours turned against each other and even families were disrupted. Quoting one angry respondent who says he does not criticize the GEA but hates it for being undemocratic, he says:

"Well, the day the Green Energy Act was announced by Dalton McGuinty, in his opening speech he said, "and the NIMBYs won't be able to stop this". Now, keep in mind that I was not a NIMBY at the time and that was in his initial speech. So, already, there is that act was created with a dominos situation, bad guys good guys. He was a good guy and people opposed to the act were the bad guys. That's the foundation for the social disruption that happens from wind projects,

because he immediately dispersed them and then they have been dismissed, they've been marginalized, processes have been put in place to prevent them from doing anything, from appealing or from participating in decisions and basically, he said "well, we are going to put wind turbine facilities where you live and you can't do any damn thing about it, I don 't care what you think". So, that was the foundation for the cost which is the social disruption cost. So, now we have communities that are divided, seriously divided. There is a social cost for this, I don't know how to put a price on it but friendships, families have been broken in halves because of this and communities in general".

Seven interview participants thought that the government's policy on renewables is not enough yet and would like to see more being done and better implemented. In this category, respondents suggested that one of the reasons why the initiatives carried out as part of Ontario's RE policy are not yet enough is that the government does not invest in advertising and educating people on the various rebates and programs that are available and so many people are unable to efficiently make use of such programs. One farmer feels that the energy policy in Ontario is "too little too late, they haven't done enough, and they should have done it sooner" and thinks that the policy put in place has not curbed carbon emissions. This seems to be an exaggeration on the part of this respondent as data from the province has often shown some reduction in carbon emissions especially after the phase out of coal in 2014. A female respondent, Julianna Foster, says "There's not enough being done fast enough to reach the targets that are necessary to mitigate climate change, to keep us below the 2 degrees Celsius that we need. Nothing has been done, we are way behind other countries and that's way short of what we need to transition to clean energy sources. There's nothing yet in place, we've got buildings that are still being built with insufficient insulation for this part of the world, we've got transit systems that are still way behind the time, and we're not putting up wind power or solar power. We are going along as if we don't know about climate change". When asked why she thinks that way even with the wind power and solar projects in Ontario, she replies that she is aware that there are a few wind and solar projects around but, in her opinion, it's not enough to reach our commitments and targets.

Under the "negative" category of thoughts, thirty-one respondents in total had different reasons why they think RE policy in Ontario is not good. Six respondents mentioned the increase in hydro prices as the reason why they don't have positive thoughts on the renewable energy policy in

Ontario. The hydro price according to kilowatt rates is not high but the delivery charge that is added to it makes it unnecessarily high especially to those in the rural areas. Respondents claim that this has helped to widen the divide that exists between urban and rural communities in Ontario and has created what Margaret Benke and Jane Wilson refer to as energy poverty situation. The main worry most respondents gave even when asked the effects that Ontario's RE policy has had on them and the economy was the price of hydro. It is not only affecting humans but also pushing industry out of the province because of high functioning costs and adversely affecting the economy. In the words of Roger Graves who emphasises on his view that renewable energy is a disaster wherever it has been implemented, he says "as a result of Ontario's renewable energy policy, our electricity prices are among the highest in North America. Our economy is being hollowed out as manufacturers leave for less costly jurisdictions". Surprisingly, some of those who thought that Ontario is doing well generally in the renewable energy sector complained about the effects of high cost of electricity and how it affects industry especially energy intense manufacturing, as some have left for Quebec and the US where energy is less pricy.

Added to the price of electrical power, some respondents in the "negative" category, nine in number, are of the opinion that wind and solar energy are not environmentally beneficial as the government makes them seem. The reason being that turbines, according to respondents are made of substances that are harmful to the environment and that makes them "not green", in their opinion. Also, the fact that the turbines affect people's health makes them not green in the eyes of some respondents who feel that to be able to confidently say an energy source is "green", it should be beneficial to humans and the environment, but solar panels and wind turbines are made from harmful substances and cannot therefore be considered environmentally friendly. Ruby Mekker explains that the magnets used inside turbines is made of the metal neodymium, which according to her in 2011 killed a lot of farmland, put major waterways in jeopardy and made people ill in China because of leaching into the soil. She goes further to say each turbine needs 150 pounds of those magnets, meaning that the amount of neodymium that will leach into the soil from a wind farm is extremely high, and so they do not benefit the environment as such. In her opinion, even when turbines are installed in the ocean, not on land, leaching affects the fish and aquatic life, which will also be harmful to humans who consume them. One lady added that the concrete that is used to drive wind turbines into the ground, chemicals are being released into the earth and may cause a lot of harm to the soil, food production, wells and definitely to human beings. The acres

of land that is transformed into a wind or solar farm, the trees and vegetation that are cut down produce release carbon dioxide, which is a greenhouse gas into the air, which contributes to climate change, so because of that, some critics of Ontario's energy policy think that wind and solar energy should not be considered green. To contrast this point of view, another respondent says that a bit of non-renewable material goes into any form of energy generation as even solar panels require raw materials which may not always be renewable, but if managed effectively, the mineral elements in wind turbines can be presumably recycled. A respondent Bob Thomson, says that people complain about the wind turbines making noise that affects people's health, but hydro transmission lines also emit electromagnetic radiation which causes health problems, and no one talks about that. For this reason, there should always be some form of assessment before investing in these sources of energy so that any downsides can be better managed especially on human health.

On the economic viability of energy policy in Ontario, six respondents claim that since wind energy is being produced in excess and the province sells the excess at a loss to neighbouring provinces, that negatively affects the economy because it is already costing taxpayers lots of money to build the systems that generate the electricity. They say it costs about eleven cents to produce a kilowatt hour of electricity but when there is an excess, it is sold to Quebec at four cents a kilowatt, incurring a loss of seven cents per kilowatt sold. Some respondents claim that, that is the reason why electricity is expensive, because someone has to cover for the loss the government makes from selling power to Quebec at a loss and that is energy consumers. Another reason why Ontario's RE policy is not economically viable, in the opinion of some (six) respondents, is that wind and solar for instance are unreliable and intermittent, so the province has had to spend more money for natural gas as backup, in case the wind fails. Wind is only produced when wind blows so mostly at night and that is the time of the day when it is least needed or used and Ontario, they say does not have that much sunlight to keep solar energy as a reliable source of energy. Critics claim that the money spent on the construction of wind and solar farms does not stay in Ontario, as it goes to foreign companies and does not therefore bring any form of economic growth. While some people propose hydro to replace wind energy, others think that nuclear should rather be used in the place of wind and solar which are less reliable.

The effects on communities especially the health effects were not forgotten by some three respondents who said the vibrations that come as a result of the wind turbines turning to produce energy, affect people who live up to a few kilometres away from the wind farms. Also, the sound and noise produced when these turbines turn affect people's ability to sleep and consequently affects their health. Margaret Benke explains how the noise from turbines affects humans:

"So, they are high maintenance machines, but in the process, they produce sound, lots of sound and because in the day time the sun heats the earth, and then you have a parabular noise that goes up into the air from the ground, it's not so bad during the daytime. But at night, when the ground cools off, then you end up with a parabular curve where the noise comes down towards the earth like an umbrella".

Related to the noise from the turbines is the complain these respondents give that they are unable to sell their property because once a potential buyer hears that there are wind turbines in the area or a project is being planned there, no one is interested in buying. Their property values drop immediately wind farms are installed in the community. Ruby Mekker gives an example, to emphasize her point, of a four-bedroom two-storey house in Brinston and the owner is unable to sell it even at a hundred thousand dollars, she says as soon as you say turbines, no one wants to come there.

Even though the majority of respondents seemed to give only a negative opinion on the RE policy, there were about thirteen who said they saw Ontario moving in the right direction in the energy sector. Five of these respondents said they liked the fact that Ontario's energy policy gives them the opportunity to invest locally on renewable energy projects through the Ottawa Renewable Energy Co-op (OREC) and also be able to make use of the rebate programs that come as part of the policy. Not only does it give them some money, but they also feel like they are doing something helpful to the environment and the province too. Among those who said they had positive thoughts about Ontario's RE policy, there were some who said just for the fact that the province is providing people with incentives to help them transit to renewables and help fight climate change and save the environment, they think it is a good thing. One respondent said he likes the policy because it has given him the chance to read more about renewables and understand how they function, contrary to fossil fuels. Only one respondent said she was not sure what her thoughts were, towards Ontario's renewable energy policy.

5.8 Effects of RE policy on individual consumers

Question eight was meant to find out from respondents, the effects that they think Ontario's RE policy has on them as individual consumers. Some of the respondents thought that they had been affected mainly negatively, some thought both positively and negatively while a few (five) thought it had no significant impact on them. There were nineteen respondents who thought that the policy affected them positively for various reasons; the incentives provided by the policy to consumers, the joy that comes with knowing you may be paying a bit more for power, but you are contributing in your own little way to save the planet, being able to make good use of those tips on how to consume less energy offered by the policy, like using energy consuming activities during off-peak periods and finally being able to benefit from incentives like the MicroFIT program and generate power from renewable sources. There were some respondents who believe that there is no way in which renewable energy policy could affect them negatively, when it helps to fight climate change and save the environment for both present and future generations. In that sense, even though they acknowledge that hydro rates have gone up within the last few years, they think it is for a just cause, environmental protection and saving the planet. Some were more concerned about the companies and industry that have come up in the renewable energy sector, creating jobs and boosting the economy, though the GEA for example has been criticized for not creating as many jobs as promised when it was passed.

On the other hand, there were those who said that Ontario's renewable energy policy has a lot of negative effects on them as individual consumers. The most common of all was hydro prices, with about sixteen respondents saying that the price of hydro is too high and does not help people especially with low or fixed income to live a better life. Among them, were a few who said they understand that the high hydro prices are not just for used energy but also meant to cover maintenance of the infrastructure and help provide revenue for the government to start other projects, but still think that the rates are higher than normal. One among the sixteen said that the economy is most affected by the increase in the price of electricity, as that challenges competition, which used to be one of Ontario's economic strengths. The second negative effect mentioned by eight respondents was the effects on rural communities, health effects from the noise and vibrations from wind turbines, disunity between those community members who benefitted from the installation of wind and/or solar farms versus those who did not benefit, the divide between the

rural areas and the urban areas (where, respondents claim, urban areas use more energy but rural areas suffer the consequences more), energy poverty hits the rural areas far more than the urban folks and finally rural communities having no say in environmental and social policy. Those were the reasons that a group of respondents who were angry that the RE policy affects rural communities gave to clarify their claim. Four people said that Ontario's RE policy is too costly to taxpayers and is raising the province's debt really fast, due to huge sums of money being spent on the installation of wind and solar which respondents think are intermittent and unreliable, compared to hydroelectrical power for instance. A respondent explains that even though the government claims that hydro rates have dropped by 25%, the difference between what we as Ontarians are paying for hydro now and what we are supposed to be paying, will be paid by our kids and grandkids in the future, which still doesn't help the province as such. Another respondent, Ruby Mekker, gives this to explain Ontario's level of debt:

"How are we ever going to get Ontario out of the billions of dollars of debt? What about the health of people? Why keep spending money to foreign countries when our hospitals need money, our schools need money? I was a special education teacher, how are our addictive children, how about our alcohol children, they need help more than she (Premier Wynne) needs more wind turbines. I'll tell you something just as we talk, check Randy Hillier's website, right now, the debt is at 313 billion 864 million (313,864) dollars, it is going up more at 10.000 dollars a minute".

It is hard for me to verify if these figures are correct because this information is not accessible on any of the government official websites that I consulted but most of the critics of RE policy claim that the province's debt is skyrocketing daily. I consulted Randy Hillier's website and it showed information on the rate at which Ontario's debt is increasing, that I could not also verify. The destruction of farmland, on which solar and wind farms are constructed was another cause for concern to one respondent who said the government could as well install those farms in areas where the land is less productive or unproductive. In that way, it would not affect farmers, rather than installing them on prime agricultural land which is still good for cultivation, even though the farmers got compensated financially for the land. The effects on property value in those areas where wind farms have been constructed was a concern to three people who said they were unable to sell their property because once people know that the property is within a few kilometres of a wind farm, no one wants to buy it.

5.9 Effects of RE policy on other people, animals, economy and the environment.

Interview participants were asked to give the effects that they think the RE policy in Ontario could have on other people, animals, the economy and the environment and the responses here were many. There were six people who acknowledged that they were not aware of any effects, they were not informed and could not talk much on that, while there were three people who said the RE policy had only positive effects on other people, animals, the economy and the environment. This means that initiatives aimed at encouraging the use of renewables to replace fossil fuels, thereby protecting the environment could not have a negative effect on any living thing. Those who said this were mostly those who were of the opinion that renewable energy is the right way to go if we, as a province, country or world are ever going to fight climate change and save the planet for our own good and that of future generations. The effects on other people were mostly negative as respondents claimed that farmers are affected, rural communities are disrupted by the installation of wind and solar farms without their consent or participation, the reduction in property values around these farms, health problems emanating from the noise made when turbines turn to produce energy and finally the lack of democracy in the implementation of the policy in Ontario. On the effects that Ontario's RE policy may have on animals, respondents talked about bees being killed by turbines along side birds and bats. This also affects farmers as they rely on bees for the pollination of some of their crops. One respondent said that some turbine projects have been carried out on birds' migratory routes and so birds are getting killed as they fly into the blades of the turbines and they fear that it may lead to extinction in bird species. Leaching from solar panels and wind turbines, respondents claim, will affect the soil and aquifers which will in turn affect animal and cattle food and therefore be a danger to cattle, same as the vibrations created on the ground when turbines turn. Farmers will then be affected because their cattle cannot produce enough milk for both subsistence and commercial purposes. A respondent who wanted to stay anonymous confirms this claim with this statement:

"I have looked at documentaries on public condemnation which farmers in Ontario referred to illness on the part of their cattle, cattle have been in the proximity of wind turbines, you know that's the impact from the information I have, and it was testimonials by farmers from areas where wind turbines have been built and therefore to the effect that it would affect their cattle".

On the economy, eleven respondents said that they were positive that the renewable energy policy will have positive effects on Ontario's economy, especially in the long run and three people also said that the development of renewable energy has created many industries in that sector and of course jobs, thereby promoting economic growth. This was not how all respondents perceived the effects on the economy as five people thought that the policy has rather brought loss of jobs and consequently poverty to the province than it was before, others said Ontario is less competitive because of hydro prices which have chased away many industries and companies, especially manufacturing firms which are energy intense, to neighbouring Quebec and New York, where electricity is cheaper and affordable. High losses and debt incurred by the provincial government to establish wind and solar farms, and other initiatives of the renewable energy policy, were said to also have a negative effect on the economy of the province, according to fifteen respondents.

5.10 Political ideology or affiliation of respondents

Each respondent was asked to tell their political ideology or affiliation between the two main ideologies in Canada; namely liberal/ progressive and conservative. Twenty-nine out of the forty-eight respondents identified themselves with the Liberal/ progressive ideology while nine identified with the conservative ideology. Some five respondents said they do not belong to any of the ideologies and were not affiliated to any political party whatsoever in Canada, four owned up that the ideology or party they identify with depends on the issue at hand. They could be conservative for fiscal issues because they trust that the conservatives spend wisely but they are liberal when it comes to social policy, for example. So, they could not say it in black and white, what ideology or party they support or vote for, it all depends on the platform that each party presents during elections. One respondent insisted that the Green ideology should not be ignored because they have all the good ideas when it comes to environmental issues and he identified himself with them. One male respondent said he used to be conservative when it concerns energy policy, but he thinks the conservatives were very lax in their approach and so right now, he is leaning more to the liberal ideology on energy, though he does not identify with any political party. He claimed that their platform is good for social policy and the environment is top on their agenda. In response to this question, some respondents made it seem bad to belong to the conservative party as they clearly said they could not belong to that ideology. One of those who said it depends

on the issue at hand, claimed that he identifies with the progressive liberal side on social issues but with the conservative on fiscal issues, because he says:

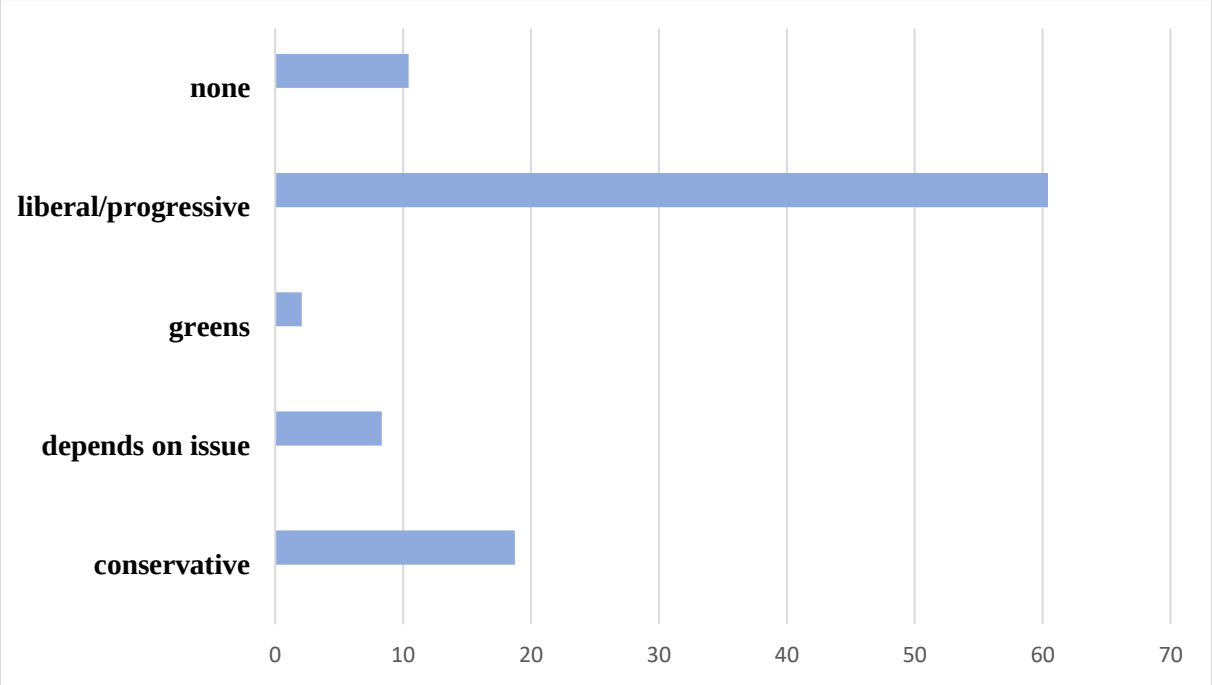
"I don't believe that you need to spend yourself into extreme debt in order to look after social issues".

This statement shows that the liberals are not good with spending public funds and reflects the thought that the liberal government is presently in debt, so the conservatives may be better when it comes to public spending. Charlie Remus added that Canada does not have only two ideologies but five, including the National Democrats, the Greens, and finally those who are in line with whatever party deems itself most environmentally conscious. He called the fifth group "the elementals", to which he identified personally. Most of those who identified with the liberal ideology said they are moderate liberal, same for those who identified with the conservatives. A few said they considered themselves very liberal especially with regards to the way the Liberal government handles environmental issues. But those who identified with the conservatives said they were moderate conservatives and conservatives, only one female said she was very conservative now. The frequencies of different political ideology groups as indicated by respondents are show below on table six while the percentages of the different political ideology groups among respondents are represented in figure two below.

Table 6. Political ideology and frequency among respondents

Political ideology	**Number of respondents(n=48)**	**Percentage out of the total**
Conservative	9	18.75%
Ideology depends on issue at hand	4	8.33%
Green	1	2.08%
Liberal/progressive	29	60.42%
None	5	10.42%
Total	**48**	**100%**

Figure 2. Political ideologies and their frequencies in percentages



5.11 Influence of political ideology on thoughts about RE policy

When interview participants were asked what influences their thoughts on Ontario renewable energy policy, they gave responses that were classified under various categories. There were quite many respondents who did not understand what the question required of them, so the researcher had to ask them the same question using different words. In some cases, when asked what do you think influences your thoughts on RE policy in Ontario? They would ask for clarification, in which case the interviewer continues by asking "your environmental values or political ideology? I realised that it became much easier for respondents to answer this question when asked directly, though in some cases it appeared as if they were limited to picking one between environmental values and political ideology. Some who thought that their thoughts were influenced by something other than environmental values and political ideology gave a different response, some said their educational background for example. Most of the respondents (twenty-five out of forty-eight) said that their thoughts on renewable energy policy in Ontario are influenced by their environmental values, which they explained as their concern for the environment as a person, while six people explained that their ideology influences their thoughts when it aligns with their concern for the

environment. Four people claimed that their political ideology drives their thoughts about Ontario's renewable energy policy, but they also said the reason why their political ideology influences their thoughts is because the environment is part of their political ideology. Three people explained that their views about the environment is what determines their political ideology, meaning that they support the ideology with the best platform for environmental issues. A few gave responses like their thoughts are influenced by their educational and/ or professional background or scientific data and about three people were uncertain about what they base their thoughts on. For those who claimed that their thoughts were influenced by scientific data, they said they read a lot about renewable energy and how it has been implemented in other countries, so they are in a better position to judge when it is managed properly or not. It became a bit hard to tell whether people just felt uncomfortable to acknowledge that their thoughts on RE policy were determined by their political ideology and found it easier to say their environmental values influence their views or they were being honest about it.

5.12 Assessing pro-environmental behaviour using the NEP on a 5-point Likert scale

The revised New Ecological Paradigm (NEP) scale, developed by Dunlap and Van Liere, (1978) uses a set of fifteen items to measure environmental concern or pro-environmental behaviour of individuals or groups of people and was used in this study. Using a 5-point Likert scale, interview respondents were asked to disagree or agree with each of the fifteen statements. The NEP scale is most often used to assess the relationship on environmental world views to attitudes on public policy (Anderson, 2012, p. 261). There were some respondents in this study who found some of the items vague or exaggerated in some way. One respondent refused to answer to about four items on the NEP Scale, claiming that the items were not applicable to him, these were items five, seven, eleven, twelve and thirteen. Two other respondents did not answer item two and three each, so the total number of responses for those items will be forty-seven instead of forty-eight, as shown on the table. The fifteen items of the revised NEP scale are a combination of both the Dominant Social Paradigm (DSP) and the NEP itself, with seven items (even numbered items) representing the DSP and eight odd number items for the NEP. The DSP represents the world view of endless progress, growth, abundance and attitudes that contributed to environmental degradation and so disagreeing to any of the DSP items would indicate pro-NEP responses. The majority of respondents however

answered all the items as expected and the responses, their frequencies, mean and standard deviations are shown in table 5 below.

Table 7. NEP Scale items, their frequencies, mean and standard deviation

NEP items	1 SD	2 D	3 N	4 A	5 SA	Total #	Missing	Mean	SD
1. We are approaching the limit of the number of people the Earth can support.	2.084%	14.583%	22.917%	29.166%	31.25%	100%	0	9.6	5.72
2. Humans have the right to modify the natural environment to suit their needs.	25%	33.33%	16.67%	18.75%	4.17%	97.92%	2.08%	9.4	5.17
3. When humans interfere with nature it often produces disastrous consequences.	2.08%	6.25%	16.67%	29.16%	43.75%	97.92%	2.08%	9.4	8.20
4. Human ingenuity will insure that we do not make the Earth unlivable.	16.67%	39.58%	22.91%	16.67%	4.17%	100%	0	9.6	6.18
5. Humans are seriously abusing the environment.	0	4.17%	12.5%	22.91%	58.33%	97.92	2.08%	9.4	11.21
6. The Earth has plenty of natural resources if we just learn how to develop them.	8.33%	20.83%	10.42%	39.58	20.83%	100%	0	9.6	5.94
7. Plants and animals have as much right as humans to exist.	0	6.25%	12.5%	29.17%	50%	97.92	2.08%	9.4	9.68
8. The balance of nature is strong enough to cope with the impacts of modern industrial nations.	39.58%	41.67%	6.25%	6.25%	6.25%	100%	0	9.6	9.04
9. Despite our special abilities, humans are still subject to the laws of nature.	0	0	14.58%	31.25%	54.17%	100%	0	9.6	11.05

10. The so-called “ecological crisis” facing humankind has been greatly exaggerated.	62.5%	20.83%	4.17%	6.25%	6.25%	100%	0	9.6	11.84
11. The Earth is like a spaceship with very limited room and resources.	0	22.91	18.75%	33.33%	22.91%	97.92%	2.08%	9.4	5.85
12. Humans were meant to rule over the rest of nature.	58.33%	25%	8.33%	4.17%	2.08%	97.92	2.08%	9.4	11.26
13. The balance of nature is very delicate and easily upset.	2.08%	10.42%	18.75%	37.5%	29.17%	97.92%	2.08%	9.4	6.80
14. Humans will eventually learn enough about how nature works to be able to control it.	14.58%	37.5%	29.17%	18.75%	0	100%	0	9.6	6.87
15. If things continue on their present course, we will soon experience a major ecological catastrophe.	4.17%	8.33%	6.25%	29.17%	52.08%	100%	0	9.6	9.86

Looking at the table and the frequencies of the responses, there is a general tendency for more people to agree or strongly agree to NEP items, indicating pro-environmental beliefs. Within the NEP scale, the items can be regrouped into five categories which are a mix of both NEP and DSP items: items one, six and eleven represent limits to growth, while items two, seven and twelve represent anti-anthropocentrism; three, eight and thirteen are for the fragility of nature's balance while four, nine and fourteen are for rejection of human exemptionalism. Human exemptionalism is the idea that humans, unlike other species, are exempt from the constraints of nature (Dunlap et al., 2000, p. 432). The last category is made of items five, ten and fifteen which represent the possibility of an eco-crisis. It would be important to note that each category is comprised of either two DSP items and one NEP or one DSP item and two NEP items. The high frequency of responses that disagree with the DSP even-numbered items also indicate pro-environmental beliefs with the highest percentages being with item ten where most people disagree with the statement that the so-called ecological crisis facing humankind has been greatly exaggerated. In the category "limits to growth", more than half of the respondents believed that there are limits to the growth for human societies by agreeing to all the items that make up this category, but it was surprising that more than sixty percent of respondents agreed that the earth has a lot of natural resources if we learn how to develop them, meaning that they disagreed to the DSP notion that there were no limits to how much growth human societies can obtain.

On the contrary, very few people disagreed to those items implying endorsement of the idea that there exist limits to the growth of human societies. For the category "anti-anthropocentrism", there were many respondents who rejected the belief that humans have the right to modify the environment to suit their needs and were meant to rule over the rest of nature, and at the same time almost eighty percent agreed that plants and animals have as much right as humans to exist. This indicates the pro-environmental belief that human beings are not supposed to dominate other living things to their own advantage because all living things have the right to live in the planet just like humans do. The majority of respondents think that the ecological crisis is real and has not been exaggerated, while only roughly about twelve percent of respondents agree that it has been exaggerated with a lower rate of uncertain respondents. Items three and thirteen in the category "fragility of nature's balance" got a high endorsement rate accepting the notion that human interference with nature often causes disruption in the balance of nature. About eighty percent of respondents rejected the belief that the balance of nature is strong enough to cope with the impacts

of modern industrial nations and this shows that people agree that nature is fragile and can be negatively affected by human activity. Looking at the frequencies in the category "rejection of exemptionalism", more than half of the sample disagreed that we could be ingenuous enough not to make the earth unliveable and agreed that irrespective of our special abilities as humans, we are still subject to the laws of nature. But the majority rejected the belief that we could ever be able to learn enough and be able to control nature.

The results in this category imply that people accept that humans are not exempt from the constraints of nature, which is a pro-environmental belief that nature has its way of reacting to how it is being treated by humans. The DSP items in this category (four and fourteen) also saw a high percentage of uncertainty shown by the response "neither". The items from the category "possibility of an eco-crisis" were endorsed by many respondents who agreed to the statement that humans are misusing the environment and we are bound to face a major catastrophe if things continue the way they presently are. If we are to look at the scale rather in terms of the NEP versus the DSP, we will notice that the NEP items got more endorsement, usually above average though with higher percentages of uncertain/undecided responses, while the DSP items got higher rates of rejection with less uncertain responses. Some of these items were limited by the missing values which represent the respondents who decided not to answer to one or more items on the scale. Overall, more people showed an endorsement of pro-environmental beliefs than the contrary.

Even though there was no question on the interview guide that asks respondents to suggest things they think the provincial government could do to make their energy policy better and gain more support, most of the respondents were asked to give some suggestions on what they think could be done. The answers to this question were many and different. A few respondents claimed that education should be one of the main ways in which the government tries to gain public support and this education should start from school children, from grade two until maybe ten, so that before they grow into adulthood, they better understand how climate change could be addressed. This meant that education on climate change should be included into the school curricula to ensure that children learn and know about climate change, how it is affecting us as humans and how it can be addressed, so as to better equip them on fighting climate change when they get older. Two other respondents said the government should educate people around the opportunities that they offer in the context of the renewable energy policy because people cannot make use of what they don't

know about. Also, people should be provided with a clear explanation on how we ended up having such increases in hydro rates.

Some respondents suggested that the provincial government instead of giving out wind and solar farm construction contracts to foreign conglomerates could invest more in collective ownership and community engagement. These respondents think that the level of opposition would have been less if the people living in the rural areas were given the chance to invest in generating renewable energy or if they had some form of ownership where they too could benefit, rather than the millions that are handed out to foreign companies at the detriment of the citizens themselves. One respondent says the federal government should eliminate the granting of subsidies and support for non-renewable energy and also do a better job at convincing people of the benefits of renewable energy. A lady concluded that all the opposition and resistance the government is facing especially concerning wind energy is because those wind farms do not bring any local benefit to the municipality where they are constructed and so the government should work more on local ownership to reduce the level of resistance. When one lady was asked what she thinks could be done, she responded by saying that Ontario government should stop investing in wind and solar which cost a lot of money with many health effects and use what they already have like hydro and nuclear. She went further by saying that Ontario already has hydro dams that just need to be maintained, same as nuclear plants and the maintenance will not cost the province as much money as the construction of the wind and solar farms. Jane Wilson, when asked what she thinks could be done to remedy the situation in the province now, suggests that the government should stop all the projects and do a feasibility study, which they should have done before investing such huge sums of money into wind and solar farms. She claims that such a study will help the provincial government better understand how to make good use of what they already have than invest in wind and solar energy which in her opinion are neither green nor renewable sources of energy.

Chapter 6. RESULTS AND DISCUSSION

6.1. Results

The results for this study are presented under three themes as highlighted in the literature review, for a better understanding. These themes are political ideology and affiliation, environmental values and socio-demographics/socio-economics.

6.1.1. Political Ideology and Affiliation

As discussed in available literature (Fast, 2013; Wüstenhagen et al. 2007) social acceptance of RE policy in Ontario has not proven to be easy to obtain especially at the market and community levels; the former which has to do with the willingness-to-pay and diffusion of new technology in households and corporate organizations while community acceptance focuses on local responses to the siting of wind farms and other RE infrastructure. The community level is facing a lot more opposition than the market level of acceptance and this is because people are able to use energy saving tips like time-of-use to reduce their energy consumption and consequently their hydro costs. People like the idea of renewable energy but are not necessarily willing to pay the extra cost that may come as a result of switching to renewables. The reason behind this unwillingness to pay extra may not necessarily be socio-economic but may come from a political standpoint where liberals are more willing to pay for environmental benefits, while conservatives are more willing to let free markets decide prices and costs. This study shows that people on a fixed or low income may resist Ontario's energy policy more because their wallets get hurt the most especially as they have a steady or already inadequate income. Also, respondents in the rural areas were more resistant to the idea of renewables because they think they are the most affected of Ontario and this relates also to why community acceptance has not also been easy to obtain after the passing of the GEA. This resistance from rural populations seemed a bit hard to understand given that most of them identified more with liberal ideology, who should be more pro-environmental than conservative ideology. They were less willing to identify themselves as conservatives given the interview subject matter. People have not received the installation of wind and solar farms with joy especially the rural communities and this is because they think that they have not been fairly treated in the decision-making process. One respondent angrily said:

"They are not situated close to the cities, so it is in rural areas, where they are not needed because people in rural areas use very little electricity. So, that's why you get into social conflict because

of the rural city divide. The major consumers of energy are in the cities, and they are the most wasteful people on this planet. Folks in the country are not as wasteful, nobody is perfect, but I would wage that city dwellers are about 9 on a scale of 1 to 10 as being wasteful, whereas rural folks are very cautious".

A lot of the respondents living in areas where either wind turbines or solar farms have been installed appeared to have the same feeling of being left unjustly treated in the process of implementing Ontario's renewable energy policy. This is the same case with First Nations communities in Ontario where the people claim that their agricultural lands were destroyed without their consent to create space for either wind or solar farms. What makes this resistance even worse is the lack of choice on the part of the citizens who feel that people should be given the chance to choose if they want something or not and the government should look into the reasons that may be causing resistance from the citizens. There are two groups of people who felt neglected, one of which felt left out of the decision-making process and the other who felt that they were excluded from the profits of RE projects that are being carried out in their areas of residence. So, while there are those who feel that renewable energy profits should benefit each and everyone and be locally owned, there are also those who just want their voices to be heard in the policy making process. The difference in opinion among these two groups seems to be political ideology, even though most of them claim to identify with the liberal ideology that should normally believe in progress for all and government involvement in the private sphere too. Should people who claim to have a liberal view then be against the government for not being included in profit sharing or ownership of RE projects? Given that contrary to conservatives who prefer less government regulation, liberals stand for more change and support government programs more. This therefore makes us understand that even those who claim to be liberal in their political views were typically conservative in their thoughts on RE policy, they just did not want to openly identify with the conservatives, especially concerning environmental issues.

As indicated in previous literature (Karatayev et al., 2016; Jänicke, 2010; Fischer et al., 2010) and by proponents of ecological modernisation theory, decision-making should be an important part of public participation in environmental affairs. The government and its institutions should be involved but not take a central role in making decisions on environmental issues affecting citizens. Findings from this study show that without public participation, policy implementation becomes a

hard task, as the government may not obtain the support of citizens as expected. In the case of the installation of wind and solar farms across rural Ontario, the government is facing opposition from the local people who think that democracy has been by-passed as they were not properly consulted. Even when they were consulted, their opinion about the policy and the initiatives was not taken into consideration, hence the local communities think that these wind and solar farms have been "forced down their throats, without their consent". They do not only blame the installation of these farms but the passing of the Green Energy Act in 2009, which took away power from the municipalities and put into the hands of the provincial government, making it hard for rural citizens to take part in what may affect them. The political and regulatory framework that is put in place during the implementation or execution of renewable energy projects would also determine the kind of reaction that the government will expect to get from its citizens. In the present study, the framework has been fully controlled by the government, with little or no control on the part of the citizens themselves who think they are directly affected. Those in rural Ontario for example, think that the construction of wind and solar farms in their neighbourhoods should be done with prior consultation from the municipalities in which these are to be installed. This is because, they think that the effects of these farms are directly felt by them even before those in the urban areas and so they should be able to give their consent in issues affecting their environment. If they are truly liberal as most of them claim, one would expect them to accept more government intervention and involvement than conservative leaning individuals and therefore not complain about not being included. Table eight below shows the different places of residence among respondents.

Table 8. Place of residence among respondents

Place of residence	**Number of interview respondents**
Urban	25
Rural/ suburban	23
Total	**48**

Most of the respondents from this study identified more with the liberal ideology than the conservatives but this does not however mean that they all support Ontario's renewable energy policy, given that some aspects of the policy affect their economic well-being. An example is those who think they like the liberal ideology because it is more concerned about environmental

protection than the conservative ideology, but they resist the investments that the government is making on renewables for the reason that it is "hurting their wallets" either as energy consumers or as taxpayers. This was common among rural respondents in this study as they supposedly get higher increases in hydro bills than their urban counterparts. Concerning this issue of economic concern, some respondents living in urban Ontario think that they really don't mind paying more for electricity and saving the planet or environment, but this could be because they live in the city and may not fully understand how high electricity costs in the rural areas are. Also, the rural populations living closer to the wind and/or solar farms have first hand experience and their views about these farms may not always be the same with those in urban areas who only hear about the farms but may not have lived near them. It seemed extreme, within the context of this study, to identify with the conservative ideology and most of the respondents who identified with the conservative ideology claimed that they "now" identify with them in issues concerning energy because they have been somehow disappointed with the manner in which the liberal government of Ontario has gone about implementing their renewable energy policy.

A few respondents claimed that they used to be liberal but have now, because of the energy policy, moved from the liberal to the conservative side of things. Surprisingly, most of them would not identify with a party but identify with an ideology because they say they are not affiliated to any party but during elections, they look at the profiles of contesting parties, then vote for the one that has a better strategy with regards to social, economic and environmental issues. People seem to feel uncomfortable when asked to identify to a party and so very few respondents were willing to openly say they are affiliated to this party or that but claim to identify with this or that ideology. While some claimed to identify with one political ideology in its entirety, others said it depends on the issue at hand, when it comes to fiscal matters, they prefer to be on the conservative side but on social matters, they lean towards the liberal ideology. This somehow gives the impression that the liberals have a better strategy on social matters than the conservatives, at least from the findings of this study. Political ideology influences the decision to either support or resist renewable energy policy but that is in combination with other things also fall in place like the economic aspects of the renewable energy policy.

Most of those who were critics of Ontario's renewable energy policy had three main reasons; the economic effects it has on people which include the increase in hydro prices or "energy poverty"

and increase in provincial debt which also affects taxpayers/ratepayers; the social effects which include disrupting communities, widening the gap or divide between the rural and the urban areas of Ontario, injustice and lastly the lack of democracy during the implementation of these RE initiatives. The most emphasised reason among the three was economic as it affects other areas of wellbeing, according to the respondents in this study. Criticism is not only limited to wind and solar projects but also to the Feed-In Tariff program and respondents in this study think that such a program should not exist only within the timeline of a particular government but should be on a longer perspective and economically affordable to whoever. The cost of installing solar panels through the MicroFIT program is still relatively high, though the price has dropped if compared to when the program was introduced in 2009. The FIT and MicroFIT programs have ended since the 1st of December 2017, leaving many people who were interested without the chance to get assessed or qualified. Respondents in this study think that the program was a great initiative but the economic cost limits it to a particular group of people who can afford to pay the thirty thousand dollars that is required as payment to get started.

If political ideology is the strongest predictor of attitudes and outcomes related to environmental issues as Hess et al. (2016, p. 20) claim, then the respondents in this study who criticized the energy policy should not be able to criticize because most of them identified with the liberal ideology with environmental policy, yet they are not in support of their energy policy. I would believe that political ideology influences environmental attitudes only when other factors such as socio-economic are in place. For example, if the government had given the local communities the chance to participate fully in the implementation of their renewable energy projects or if the transition to renewables had brought rather a reduction in the cost of hydro, then those who identified with the liberal ideology would have fully been in support of the policy. The policy is not necessarily bad as it has incentives that people can benefit from but the way it has been executed has brought adverse effects to those who are resistant, especially economically. It seems misleading in the context of this study to believe that people who dismiss environmental concerns are always of the conservative ideology and this is because among respondents, there were some who admitted that their thoughts on renewable energy policy in Ontario are driven by their values as a person and their environmental values, yet they identified with the conservative ideology. There were also some respondents who were critical about the energy policy but identified with the liberal

ideology, one respondent even said he is now turning to the liberals now because he thinks they got a better energy policy than the conservatives who were lax in their approach.

People understand ideology differently from what some authors have indicated and so the researcher may mean something else when talking about political ideology while the interview respondents may understand ideology in a different manner, especially in the context of environmental policy issues. By political ideology, I would mean a belief system or a set of beliefs "about the proper order of society and how it can be achieved" (Harring & Sohlberg, 2017, p.280). This would imply how a person expects the government to design policy and implement them in a way in which is pleasing to citizens. In the context of this study, the respondents did not seem to understand political ideology in the same way as the researcher, given that it was a study on environmental policy and public support. To them, their political ideology was in relation to whether they supported renewable energy policy or not and so most of the respondents, because they had mentioned environmental concerns as an important social issue, could not openly identify with the conservative ideology. In responding to other questions on the interview guide, it appeared they were more to the conservative side but when asked directly what their political ideology was, they claimed to identify with the liberal ideology. This indicates that they understood political ideology as a function of their support for environmental policy rather than the actual proper order of society and how it could be achieved. This may explain the high number of interview respondents who identified with the liberal ideology when asked about their political ideology. They think that you cannot be pro-environmental without being liberal and so it sounded a taboo to them to be conservative. It is surprising that even respondents who live in the country, that is rural Ontario, would not declare their conservative ideology, though one could gather from their responses to other questions that they were of a different opinion. It gave the impression that they understood their political ideology as a reflection of their environmental values and treated ideology as a direct connection to environmental values. One may conclude that the responses to Question 10 were a reflection to the responses to Question 1 and 2a where they had mentioned that environmental issues were of major concern to them and the reasons why. To therefore be able to better understand respondents' political ideologies, their responses to Question 7 and 8 are very crucial.

Ideology seems to influence how people view policy rather than determine the choices they make to either support or resist policy. This is because identifying with a particular ideology predetermines how you will view renewable energy policy and how you want it implemented. While liberal ideology believes in the separation of powers, free market and more competitiveness, conservative leaning ideology give priority to the status quo and traditional institutions and are more nationalistic in their views. These differences form the basis of the ideological divide that we see between liberal minds on one hand and conservative minds on the other and relates directly with their differences in opinion on the RE initiatives that have so far been implemented in Ontario. To deal with this difference in the conceptualization of ideology, not only the responses given to the question that asks political ideology of respondents will be considered but their responses to other questions on the interview guide will be used to determine their political ideology. For instance, the responses given to the question that deals with their thoughts on Ontario's RE policy will be analysed to pick out aspects that tell about the respondent's political ideology.

6.1.2. Environmental Values

In this study, even though most respondents claimed that their environmental values and concern for the environment played a major role in the way they relate to renewable energy policy, they also acknowledged that their views on the environment need to align with a particular ideology for them to support the existing policies. For example, those who said they supported and appreciated the Liberal government's policy on renewables, did so because the Liberal ideology of fighting climate change through the reduction of CO2 emissions, fell in line with the respondent's own personal belief in the existence of climate change and the need to fight it in order to save and protect the environment. The environment is a major concern to the respondents in this study and this reflects how much people worry about the way they may be affected by an unsafe environment. The fact that forty-three out of the forty-eight respondents who took part in the interviews mentioned that the environment is of major concern and importance to them, makes it possible to say that most people care about the environment and would do their best to protect it, be it through their lifestyles or daily decisions they make not to pollute or harm the environment in any way. Supporting energy policy may be one way in which people may show their concern for the environment but being able to support is determined by the manner in which the policy is

implemented and also how it affects human wellbeing. Among the respondents who criticize Ontario's renewable energy policy, most of them if not all acknowledge that climate change is real and is affecting not only Ontario but the planet, yet they do not appreciate the policy not necessarily because it does not address climate change or environmental concerns but because they think it has not been implemented properly. They feel that the policy has brought more adverse effects to their well-being than positive effects and that is the main reason why they criticize it. A majority of the respondents said the thoughts they had about renewable energy policy could be influenced by their environmental values or concern for the environment as some of them explained. This implies that for them to support a policy on the environment, it must aim at protecting the environment and also properly implemented to show how it will benefit the well-being of humans and protect the planet.

From the findings of this study, I realised that in as much as people like to engage in environmentally friendly behaviour as a way of playing their own part in protecting the planet, they do not enjoy when their cost of living has to increase because they are trying to be protective of nature. It is for this reason that many people will prefer to do the less costly things that contribute to a clean environment like sorting out their waste or recycling, using more energy efficient lights which usually may not be too costly but will help them save energy or use less energy, and follow tips on how to consume less energy in their homes. These are good ways of protecting the planet from harm and also saving energy, but the costs are negligible to consumers, but when it comes to behaviours that would noticeably increase their living costs, there will most often be some sort of resistance. It is the reason why the renewable energy policy in Ontario is facing criticism from some Ontarians who think that in as much as they would like the province to invest in renewable sources of energy to protect the environment, they the taxpayers and consumers should not bear the financial burden for doing so. This cost is worsened by the "artificial delivery charge" as one respondent puts it, which some people think is usually higher than what they pay for their energy consumption in the rural areas. One respondent who claims they have a solar farm on one of their farmlands explains how bizarre she thinks it is that their farm generates electricity and they are unable to use it because the power has to go through the grid before being sold back to her household, worse of all the delivery charge they pay is a third of their total electricity bill. She asks why they have to pay a delivery charge for electricity that is generated right on their property:

"We, as a rural household, have to pay for our power, we can't take power from that panel and we have to pay a very high delivery charge for our power, which is bizarre since we generate less than a hundred metres from our house more power than we could ever use in our household. We have to buy electricity from Hydro One, and we have to pay a delivery charge when we generate the power on our property. How insane is that? So, I'm just looking at our power bill now, actually because I have it next to my computer to pay, and we use less than a hundred dollars worth of electricity, but we pay sixty-seven dollars for delivery, almost 70% of what we consume extra. We pay another 70% on top of what we consume just for delivery. But we generate the power on our property, which is just insane. I can see the panels from our house, yet we pay for electricity".

This excerpt gives some explanation on how critics of Ontario's energy policy think about its effects on their economic well-being. Some of the respondents said they understand that the delivery charge helps to maintain infrastructure and cover other running costs, but that charge should not be higher than the cost of energy that any household consumes, and that is part of the reason for the criticism that the government is facing from most rural households. Another part of the hydro bill that some respondents mentioned was the Global Adjustment (GA)Fee, which is paid by all electricity consumers and is included in the electricity rates. One of the critics claimed that this fee is almost half of the total bill and that is what the government uses to finance the losses they incur from selling power to neighbouring Quebec and the US at a loss. The Ontario Energy Board (OEB) explains the GA fee as the difference between the guaranteed price that electricity generating companies get for the electricity they produce and the money the generators earn in the wholesale marketplace. According to the OEB, the GA fee also covers the cost of some conservation programs (OEB website, 2018).

Most of the respondents in this study say they have environmentally friendly practices as a lifestyle and would want the best for the environment but that should not bring them a financial burden. This indicates that economic considerations also play a role in the way environmental values can affect public support for renewable energy policy. People seem more likely to support policy when it comes with economic gains than when it comes with losses especially at an individual level as an energy consumer, they think that protecting the environment or nature should not be costly if everyone is doing their own fair share in their daily routines to not harm the environment. One can say that environmental values and political ideology influence people's

thoughts about renewable energy policy in Ontario but that is dependent on the economic implications of the policy. Liberal-leaning people want to support policy to protect the environment but not when it comes at a cost to them, so economic considerations should be taken into account, in the implementation of RE policy.

6.1.3. Socio-demographics / socio-economics

Even though demographic characteristics like age, educational status and income were not directly collected from interview participants for this study, some conclusions could be drawn from the sample that are in line with the findings of previous authors. Most of the respondents were estimated to be between the ages of twenty-five to seventy-five years, some even mentioned their ages during the interview. The younger respondents who were mostly residents of central Ottawa were less critical of the renewable energy policy in Ontario and also less informed, contrary to respondents who were on retirement and living in the rural areas. The reasons behind this was that younger people are still working and have a better income as compared to those on retirement who are on a fixed income, implying that the effects of the renewable energy policy, like the increased cost of hydro for instance may not necessarily be felt by those who are still in active work life. One of the young interview respondents was very positive in his thoughts about Ontario's renewable energy policy and even though he acknowledged that the price of hydro is increasing in the province, he appreciates the fact that the government is incentivising people to invest in RE through subsidized programs. This is similar to the findings of Sardianou and Genoudi's study (2013, p. 1) that concluded that those who are still active in working life seem to be more accommodating towards the extra cost of electricity than those on low or fixed income like retired persons who always showed some sort of bitterness towards RE policies for bringing about a rise in the cost of energy. Karlstrøm and Ryghaug (2014, p. 658) also found in their study conducted in Norway that opposition is stronger among older people contrary to younger people among whom support is stronger. Socio-economic factors like occupation and income may affect the level of knowledge, perception and use of renewable energy sources as indicated in Karytsas and Theodoropoulou (2014, p. 481) and this has proven to be true within the context of the present study. There are two categories into which respondents for this study could be classified – those who think that Ontario's renewable energy policy is a bad policy poorly implemented and those who think that it is a good policy poorly executed, the former of which was less common. Those

who claimed that Ontario's RE policy was bad and poorly implemented did not see any good thing about the policy and thought it less important. They thought that environmental issues tend to be exaggerated and highly politicized, do not contribute any significant improvement to the environment of Ontario as the environment is much better right now than it was some years ago. Also, going for renewable energy at a larger scale was a step towards failure as the provincial government, in the opinion of these respondents, had little or no way of testing the effectiveness and efficiency of renewables before investing in them. One of the respondents in response to the question on social issues, did not mention the environment until when asked why he did not, he said:

"Environmental issues tend to be greatly exaggerated, for political reasons. I am old enough to remember what the environment was like 50 or 60 years ago. Believe me, our present environment is much, much better. All industrial societies seem to pass through the same phases. In phase 1, an industrial capability is developed, which results in a great deal of environmental damage. Streams and rivers are fouled, the atmosphere is choked with smoke. Britain in the 19th century was a prime example of this. In phase 2, the industrial capacity enables the accumulation of considerable wealth. In phase 3, some of this wealth is used for environmental remediation, and serious attention is paid to preventing future environmental contamination. Canada is now in the latter stages of phase 3".

This respondent doubted the occurrence of climate change, claiming that there is very little evidence that climate change is happening because most of what we experience today and claim to be as a result of climate change, had been experienced in previous centuries.

For the majority of the respondents, the policy was good, but the implementation or execution was lacking, which makes it hard for the government to gain the much-needed support from Ontarians especially those in the rural areas. This group of respondents gave different reasons to justify their point of view, one of which was highly politicized and not oriented to long-term goals. Renewable energy policy in their opinion should be for the long term and not short term and should also not depend on the type of government that we have in power at the time when the policy is set up.

One can say that it is political ideology that puts people in different positions when it comes to how they view policy. The way a person views renewable energy policy is a function of how he or she wants the society to be run which is related to political ideology.

During the data collection, I happened to interview about ten people who are energy consumers as well as professionals working with climate change institutions or the Canadian government, they saw the transition to renewable energy as the right direction that should be taken in order to save the planet. About nine out of the ten respondents were less critical about Ontario's renewable energy policy and understood that governing is not always easy and so there will be setbacks in the implementation of the policy at some point but that does not mean that the policy is bad. One of them said that the increase in energy cost is noticeable but he is ready to pay the extra and use cleaner sources of energy than to pay lower bills and use dirty sources of energy. Their point of view is also related to their socio-economic status as they are still working and have access to more income than retired person for instance. Also, because they are more knowledgeable about renewable energy and how it works, they look at policy in a different way. While all respondents for this study were somehow educated, those who had a university graduate degree or less had stronger criticisms of the energy policy than those who had higher certificates than a university degree. One of the respondents was currently a lecturer at a university and had less critical opinion on renewable energy, he says even though there is much yet to be done in Ontario regarding renewable energy, a lot has been done already in the right direction.

The theory of ecological modernisation which emphasises on merging the economy and the environment rather than putting one against the other, helps to better understand the choices that the Ontario government has made to ensure economic growth while making sure that the environment is protected. It has not yielded as much economic gain from the perspective of energy consumers but has helped the environment to become cleaner and safer. The coal phase out in 2014 has improved air quality in Ontario, even though some skeptics think that the air was already getting better even before the phase out. The implementation of Ontario's renewable energy policy may not have brought about as much economic growth especially in the short term but will definitely bring not just economic growth but also a cleaner environment as well in the long run. It is clear that economic factors play a crucial role in how people react to initiatives geared towards environmental protection but if properly implemented, the economy can grow while the

environment gets improved on. As Mol and Jänicke (2010, p. 19) explain that political modernisation involves the integration of environmental aspects into sectoral policies like the energy, transport or agricultural sector, the Ontario government has succeeded in considering the environment in policies affecting the energy sector for example. This can be supported by the coal phase out and also the incentives provided to energy consumers to help improve the energy sector. The question that comes to mind is this: has the province been successful in maintaining both economic growth and environmental protection? To a greater extent, and from the findings of this study, I would say that Ontario has been somehow successful, but it seems a bit too soon to judge as things are promising in the long term especially on the side of the economy.

Ecological modernisation is supposed to include citizens in decision-making on environmental issues and not exclude them. In the Ontario case, the passing of the Green Energy Act in 2009 took away participation rights from municipalities and gave the provincial government monopolistic rights in environmental decisions. In this sense, the provincial government has not handled public participation in the right manner by excluding citizens from participation and reducing their rights to policy making. There hasn't been that shift from an imperative policy style to negotiated solutions as ecological modernisation theorists proposed (Jänicke 2010, p. 35). Some people feel that they are forced to accept all renewable energy projects and initiatives irrespective of how it affects them. This exclusion from negotiations and policy making in general, has increased the level of resistance and criticism that the government is facing especially from people living in the areas where renewable energy projects have been deployed, rural Ontario in this case. So, there are two main reasons for resistance; economic (increases in hydro costs) and political (lack of democracy in the decision-making process). Another economic reason, though less common, that was given by interview participants is the huge sums of money that the provincial government has put into wind and solar energy projects, which they claim has put the province into debt and will consequently affect taxpayers. While there may be no doubt that Ontario RE policy has helped to improve the environment, the economy may have not witnessed tangible improvement to make us say with certainty that ecological modernisation has succeeded in Ontario. It seems, from findings of this study, as though the environment is getting better at a much faster pace while the economy is getting better at a slower pace. This tells us that both economy and environment can be improved without comprising any of them, but they may not necessarily move at the same pace.

This does not however mean that the EM theory does not apply well to this research, it gives us a better understanding of the various initiatives that Ontario has put into place to ensure environmental protection and also a broader perspective on the meaning of political ideology. The innovations that have been carried out in the sectors of energy, transport and agriculture are part of an ecological modernization scheme to ensure a cleaner and healthier environment. The investments in new transport systems like the light rail transit that is under construction in Ottawa is an example of integrating environmental aspects into sectoral policies which is a goal of ecological modernisation. In an era of ecological modernisation, politics takes on a different notion where citizens expect more cooperation from their government than before, more dialogue and negotiation between the different government institutions and citizens. The citizens therefore expect the government to be more inclusive in its manner of dealing with solutions to environmental problems and this is strongly tied to political ideology and belief systems. While the conservatives would not want environmental reforms to be a burden on the economy, the liberals are more open to spending more on environmental protection. There may have been some shortcomings on the part of the provincial government in the course of implementing its energy policy but that does not make the policy any less of an EM program. Results of this study also tell us that ecological modernisation can hardly succeed without political modernization and show us how crucial political modernization is in the EM process. Environmental protection cannot be successful if the relations between the state and its citizens are not reorganized.

Before conducting interviews, potential participants signed a consent form on which they gave their consent to be interviewed and indicated their preference on whether they would like their names mentioned in the thesis or prefer to stay anonymous. For those who preferred to stay anonymous, their responses were used in the data analysis, but their names were not mentioned in the thesis, while those who indicated that they prefer their names to be mentioned in the thesis, had their names mentioned in the analysis. It is for this reason that some respondents' names appear in the text, while others are withheld.

Chapter 7. RECOMMENDATION AND CONCLUSION

7.1. Recommendation

The findings of this study show that the government of Ontario needs to do more when it comes to the implementation of the renewable energy policy, so as to increase the level of public support from Ontarians. One of the things that could be done is education and creation of awareness on the benefits of renewable sources of energy as opposed to fossil fuel. The reason why I say so is because some of the respondents do not seem to understand that renewable energy sources are cleaner and less polluting than fossil fuel, so they seem to resist whatever is being done concerning renewables. Creating a higher level of awareness among individuals on the benefits of less polluting sources of energy may take time to produce good results but is definitely needed. The provincial government should do more on informing people on the different incentives that the renewable energy policy has, because some people do not know how they can benefit from provincial incentives and so tend to be resistant to what they don't fully understand. The most popular initiative of Ontario's renewable energy policy appears to be the MicroFIT program and not everyone understands how it works, most people only know that it is expensive, but they are not aware that there are other less costly incentives that they could benefit from as home owners, such as coupons for buying more efficient light bulbs. People can therefore go for the incentive that suits their socio-economic conditions and not necessarily for more costly ones like the MicroFIT, but they need to be aware of the existence of less costly incentives.

Another thing that the Ontario government could do to increase the level of public support, is to make electricity cheaper especially for the rural areas and for person with a lower or fixed income. This is because the main reason why respondents criticize Ontario RE policy is that it made electricity more expensive, thereby affecting them economically. If the provincial government could provide incentives to individuals to switch to renewable energy without any increase in their energy costs, I believe from the findings of this study, that people would be more supportive of renewable energy policy. People are interested in protecting the environment and polluting less but they are not willing to do so when it comes at a significant cost to them. It becomes even worse for those who are retired and have a fixed income and low to moderate income earners, because paying high rates for energy hurts their well-being significantly and increases their chances of resisting renewable energy policy. There is a general feeling among Ontarians that electricity is a

basic necessity and should not be expensive especially with the use of renewable sources of energy, so I think that if it is made cheaper, there will be more public support for renewable energy policy.

In the process of policy-making, a bit more participation should be given to the municipal government, so as to make it more democratic and give inhabitants of areas where renewable energy projects are going to be carried out. Rural inhabitants, through their municipal governments, should be able to have a say in policy-making and decisions affecting their area of jurisdiction, so that the provincial government does not have monopoly. One way in which such participation could be encouraged is through public ownership of projects, where the government can give rural inhabitants the possibility of investing their money in the deployment of renewable energy projects rather than bringing in foreign companies who buy land from a few people and then make profits from the projects. This approach will go a long way to reduce conflict within communities and also encourage the people to support RE policy, given that they benefit from the projects through joint ownership.

Further research and cost-benefit analysis could be done by the provincial government prior to starting renewable energy projects, and they can start on a small scale and then assess how well the small-scale projects go before going large. In this way, the government will be able to identify the loopholes and make amends before investing huge sums of money into projects of a larger scale. It would be easier to successfully handle the large-scale projects if the provincial government had before now carried out such projects on a smaller scale, they would have addressed all the shortcomings at the initial stage of the projects. In any case, it is still not late for Ontario's provincial government to work on achieving a higher level of public support from its citizens and ensure a better implementation of its renewable energy policy.

7.2. Conclusion

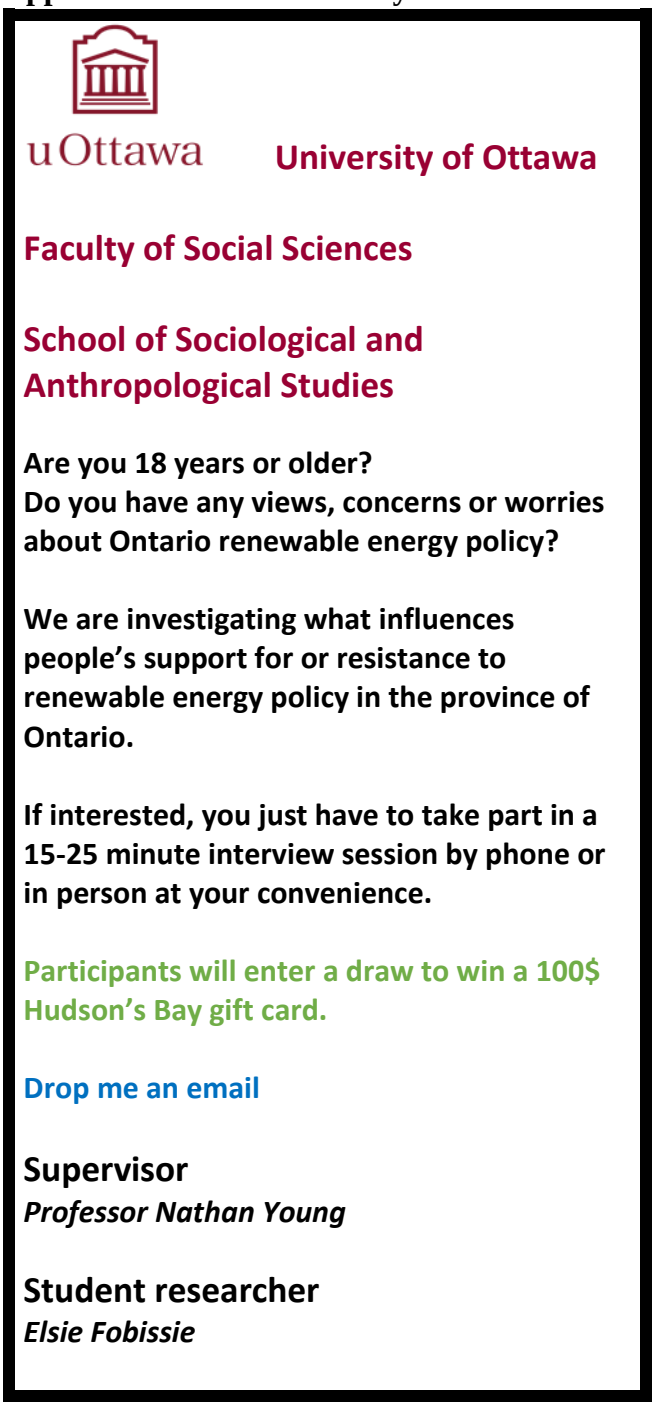
Public support for renewable energy policy is affected by environmental values and political ideology, they both give directions to people's decisions on whether to support or resist policy as an individual's environmental values determine which political ideology he or she will identify with. This does not however mean that everyone who identifies with a particular ideology either supports or resists environmental policy as other factors such as economic come to play.

Identifying with the Liberals for instance in the context of Ontario, may mean that you have pro-environmental values and want environmental protection but that may not directly imply that you support renewable energy policy. The relationship between environmental values and political ideology on one hand and public support on the other is not direct as this is also affected by economic factors. Looking into issues regarding public support for Ontario's renewable energy policy, one can notice two things that need to be considered when making policy namely the economic effects that the policy may have, and the policy-making process should be democratic. These are the two main reasons why people resist energy policy, when the policy has an adverse effect on their wallets, either as energy consumers or as taxpayers and when they feel they are not given a say in the implementation of renewable energy projects and initiatives.

It would be good for policy makers to always do a cost-benefit analysis before they start implementing any renewable energy projects so that they can better understand how the policy will affect people's economic well-being as well. Also, people should be given the opportunity to participate and have a say in policy-making, especially those who ill be directly affected by the deployment of certain technologies. The resistance that the Ontario provincial government is facing is made worse by the monopoly that has been given to the province at the detriment of the municipalities. Findings of this thesis will enrich the literature on the factors that influence public support for renewable energy policy and also help policy-makers to better understand how to go about the implementation of such policy. Further research should be carried out on how on the economics of RE policy so as to reduce the level of resistance that the government may face from its citizens. A high level of public support can be attained if economic and political factors are well thought and well addressed as people want to be able to have a say and also protect the environment without spending a lot of money.

APPENDIXES.

Appendix 1. Recruitment Flyer



Appendix 2. Initial Contact Letter

Thank you for accepting to participate in this study. I am **Elsie N. Fobissie Blese**, a Masters student at the Department of Sociology in the University of Ottawa, currently carrying out research in partial fulfilment of a Master of Arts degree. My supervisor is **Professor Nathan Young** and can be contacted using phone number **613-562-5800 (ext. 2668)** or by email at **nyoung@uottawa.ca**. This study aims at examining the views and perceptions of renewable energy policy in the province of Ontario, Canada as well as factors that influence people's decisions to support or resist such policy, by use of interviews to get the opinions of energy consumers and ratepayers in the city of Ottawa. The interview should last between 15 – 25 minutes, your participation is voluntary and can be withdrawn at any time without any negative consequences whatsoever. You may also decide to remain anonymous throughout the study. Please do not hesitate to ask me any questions or express your concerns at any time during the interview.

Thank you.

Bibliography

Abacus Data, 2017. Accessed on http://abacusdata.ca/political-risk-climate-action/

Anderson M., 2012. "New Ecological Paradigm (NEP) Scale". Berkshire Publishing 260-262.

Barr S., 2008. "Environment and Society: sustainability, policy and the citizen". Aldershot, England; Burlington, VT: Ashgate, c2008.

Batel, S., Devine-Wright, P., Tangeland, T., 2013. "Social acceptance of low carbon energy and associated infrastructures: A critical discussion". *Energy Policy* (58) 1-5.

Auditor General of Ontario Annual Report, 2011. Chapter 3. Section 3.03. "Electricity Sector-Renewable Energy Initiatives" Pp 87-120. Accessed on http://www.auditor.on.ca/en/content/annualreports/arreports/en11/303en11.pdf

Bailey, A.J., 2010. "Population geographies and climate change". *Progress in Human Geography* 35 (5) 686-695.

Business Dictionary, 2018. Accessed on http://www.businessdictionary.com/definition/policy.html

Climate Ready, Ontario's Adaptation Strategy and Action Plan 2011-2014. https://www.ontario.ca/document/climate-ready-adaptation-strategy-and-action-plan-2011-2014

Converse P.E., 2006 (1964). "The nature of belief systems in mass publics" Critical Review 18 (1-3) 1-74.

Corraliza J.A., Berenguer J. 2000. "Environmental values, Beliefs, and Actions: A situational approach". Environment and Behaviour 32 (6) 832-848.

De Matteis Alessandro, 2017. "Decomposing the anthropogenic causes of climate change" *Environment, Development and Sustainability* 1-15.

Demirbas A. 2006. "Global Renewable Energy Resources". *Energy Sources Part A: Recovery, Utilization and Environmental Effects* 28 (8) 779-792.

Deignan B., Harvey E., Hoffman-Goetz L., 2013. “Fright factors about wind turbines and health in Ontario newspapers before and after the Green Energy Act”. *Health, Risk and Society* 15 (3) 234-250.

Devine-Wright P., 2005. “Beyond NIMBYism: towards an integrated framework for understanding public perceptions of wind energy”. *Wind Energy* 8 (2) 125-139.

Devine-Wright P., 2007. “Reconsidering public attitudes and public acceptance of renewable energy technologies: a critical review”. *Economic and Social Research Council* working paper 1.4 1-15.

Dietz T., Fitzgerald A., Shwom R. 2005. “Environmental values”. *Annual Review of Environment and Resources* 30 335-372.

Dunlap R.E., Van Liere K.D. 1978. “The New Environmental Paradigm: A proposed measuring instrument and preliminary results”. *The Journal of Environmental Education* 9 (4) 10-19.

Dunlap R.E., Van Liere K.D., Mertig G.A., Jones E.R., 2000. “Measuring endorsement of the New Ecological Paradigm: A Revised Scale”. *Journal of Social Issues* 56 (3) 425-442.

Dunlap R.E., Xiao C., McCright A.M. 2001. “Politics and environment in America: Partisan and ideological cleavages in public support for environmentalism”. *Environmental Politics* 10 (4) 23-48.

Ewing J.A. 2017. “Hollow Ecology: Ecological Modernization Theory and the Death of Nature”. *Journal of World-Systems Research* 23 (1) 126-155.

Fairbrother Malcolm, 2016. “Trust and public support for environmental protection in diverse national contexts”. *Sociological Science* 3 359-382.

Fast S., 2013. “Social acceptance of Renewable Energy: Trends, Concepts and Geographies”. *Geography Compass* 7 (12) 853-866.

Fielding, K.S., Head, W.B., Laffan, W., Western, M., Hoegh-Guldberg, O., 2012. “Australian politicians’ beliefs about climate change: political partisanship and political ideology”. *Environmental Politics* 21 (5) 712-733.

Fischer D.R., Fritsch O., Andersen M.S.,2010. In P.J. Arthur Mol, David A. Sonnenfeld and Gert Spaargaren (eds), the Ecological Modernisation Reader: Environmental Reform in Theory and Practice (28- 41) London and New York: Routledge.

Fraj E., Martinez E., 2006. "Environmental values and lifestyles as determining factors of ecological consumer behaviour: an empirical analysis". Journal of Consumer Marketing 23 (3) 133-144.

Gawel E., Strunz S., Lehmann P. 2014. "A public choice view on the climate and energy policy mix in the EU – How do the emissions trading scheme and support for renewable energies interact?". Energy Policy 64 175-182.

Gromet D.M., Kunreuther H., Larrick R.P. 2013. "Political ideology affects energy-efficiency attitudes and choices". *Proceedings of the National Academy of Sciences of the United States of America* 110 (23) 9314-9319.

Gross, R., Leach, M., Bauen, A., 2003. "Progress in renewable energy". *Environment International* 29, 105-122.

Halder P., Prokop P., Chang CY., Usak M., Pietarinen J., Havu-Nuutinen S., et al. 2012. "International survey on bioenergy knowledge, perceptions, and attitudes among young citizens". Bioenergy Research 5 (1): 247-261.

Halder P., Pietarinen J., Havu-Nuutinen S., Pöllänen S., Pelkonen P. 2016. "Perceptions and attitudes regarding bioenergy among science teachers: results from a cross-national survey". Biofuels 7 (2) 131-139.

Harmon-Jones E., Harmon-Jones C., Amodio D.M., Gable P.A., 2011. "Attitudes towards emotions". *Journal of Personality and Social Psychology* 101 (6) 1332-1350.

Harring N., Sohlberg J. 2017." The varying effects of left-right ideology on support for the environment: Evidence from a Swedish survey experiment". *Environmental Politics* 26 (2) 278-300.

Harring N. Jagers S.C. Matti S., 2017. "public support for pro-environmental policy measures: examining the impact of personal values and ideology". *Sustainability* 9 (5) 1-14.

Hess, J.D., Mai D. Q., Brown, K.P. 2016. “Red states, green laws: ideology and renewable energy legislation in the United States”. *Energy Research and Social Science* (11) 19-28.

Hu, S. Jia X., Zhang X., Zheng X., Zhu J., 2017. “How political ideology affects climate perception: Moderation effects of time orientation and knowledge”. *Resources, Conservation and Recycling* (127) 124-131.

Huber J. 2010. “Ecological modernization: Beyond scarcity and bureaucracy. In P.J. Arthur Mol, David A. Sonnenfeld and Gert Spaargaren (eds), the Ecological Modernisation Reader: Environmental Reform in Theory and Practice (42- 55). London and New York: Routledge.

International Energy Agency, 2000. “Energy Policies of IEA Countries”. Paris, France: OECD/IEA. Accessed on www.iea.org.

International Energy Agency, 2015 Review. “Energy Policies of IEA Countries” Canada: OECD/IEA. Accessed on www.iea.org.

Intergovernmental Panel on Climate Change, 2007. “IPCC Fourth Assessment Report: Climate Change”. Accessed on https://www.ipcc.ch/publications_and_data/ar4/syr/en/mains1.html

Intergovernmental Panel on Climate Change, 2014. “IPCC Fifth Assessment Report, AR5: Climate Change Glossary”. Accessed on http://www.ipcc-data.org/guidelines/pages/glossary/glossary_fg.html

International Petroleum Industry Environmental Conservation Association, 2012. “Climate Change: A glossary of terms, 5th Edition.

Jänicke, M., 2010. “On ecological and political modernization”. In P.J. Arthur Mol, David A. Sonnenfeld and Gert Spaargaren (eds), the Ecological Modernisation Reader: Environmental Reform in Theory and Practice (28- 41) London and New York: Routledge.

Jänicke M., Jörgens H. 2010. “On ecological and political modernization”. In P.J. Arthur Mol, David A. Sonnenfeld and Gert Spaargaren (eds), the Ecological Modernisation Reader: Environmental Reform in Theory and Practice (28- 41) London and New York: Routledge.

Jost J.T., Federico C.M., Napier J.L., 2009. “Political ideology: its structure. Functions and elective affinities”. *Annual Review of Psychology* 60 307-337.

Jost J.T., Nosek B.A., Gosling S.D., 2008. “Ideology: Its resurgence in social, personality and political psychology”. *Perspectives in Psychological Science* 3 (2) 126-136.

Jung, N., Moula, E.M., Fang, T., Hamdy, M., Lahdelma, R. 2016. “Social acceptance of renewable energy technologies for buildings in the Helsinki Metropolitan Area of Finland”. *Renewable Energy* (99) 813-824.

Karlstrøm H., Ryghaug M., 2014. “Public attitudes towards renewable energy technologies in Norway. The Role of Party Preferences”. *Energy Policy* (67) 656-663.

Karytsas S. Theodoropoulou H., 2014. “Socioeconomic and demographic factors that influence publics’ awareness on the different forms of renewable energy sources”. *Renewable Energy* 71 480-485.

Konstadakopulos D. 2007. “The limits of ecological modernisation in Canada’s Atlantic province”. *British Journal of Canadian studies* 20 (2) 187-210.

Kopnina H. 2011. “Applying the New Ecological Paradigm Scale in the case of Environmental Education: Qualitative Analysis of the Ecological Worldview of Dutch Children”. *InFactisPax Journal of Peace Education and Social Justice* 5 (3) 374-388.

Longo B. S., Baker O. J., 2014. “Economy “versus” Environment: The influence of economic ideology and political identity on perceived threat of eco-catastrophe”. *The Sociological Quarterly* 55 (2) 341-365.

Luthra S., Kumar S., Garg D., Haleem A., 2015. “Barriers to renewable / sustainable energy technologies adoption: Indian perspective”. *Renewable and Sustainable Energy Reviews* (41) 762-776.

Manning P., Vince J. 2010. “Municipalities and the Green Energy Act: Benefits, burdens and loss of power”. *Municipal World* 5-8.

McKitrick Ross R., 2013. “Environmental and Economic Consequences of Ontario’s Green Energy Act”. Fraser Institute.

McKitrick Ross R., Ren Kenneth, 2013. “Green disaster; Ontario is throwing away its long-standing competitive edge with the highest electricity costs in North America”. National Post.

Minar D.W., 1961. “Ideology and political behavior”. Journal of Political Science 5 (4) 317-331.

Mol A.P., Jänicke M., 2010. “The origins and theoretical foundations of ecological modernisation theory”. In P.J. Arthur Mol, David A. Sonnenfeld and Gert Spaargaren (eds), the Ecological Modernisation Reader: Environmental Reform in Theory and Practice (17-27) London and New York: Routledge.

Mol A.P.J., Sonnenfeld D.A. 2000. “Ecological modernisation around the world: An introduction. *Environmental Politics* 9 (1) 1-14.

Murombo Tumai, 2016. “Legal and policy barriers to renewable and sustainable energy sources in South Africa”. *Journal of World Energy Law and Business* (9) 142-165.

Natural Resources Canada, 2016. Accessed on http://www.nrcan.gc.ca/energy/renewable-electricity/7295#what

Nawrotzki R.J. 2012. “The politics of environmental concern: A cross-national analysis”. *Organisation & Environment* 25 (3) 286-307.

Oldham John, 2012. “Attitude”. *Journal of Psychiatric Practice* 18 (4) 229.

Olson-Hazboun S.K., Krannich R.S., Robertson P.G., 2016. “Public Views on Renewable Energy in the Rocky Mountain Region of the United States: Distinct Attitudes, Exposure, and other Key Predictors of Wind Energy*”. Energy Research and Social Science* (21) 167-179.

Ontario Chamber of Commerce, 2017. Accessed on www.occ.ca

Ontario’s Climate Change Strategy, 2015. Accessed on https://www.ontario.ca/page/climate-change-strategy

Ontario Energy Board, 2018. Accessed on https://www.oeb.ca/industry/tools-resources-and-links/information-renewable-generators/what-initiatives-are-available

Ontario Energy Board, 2018. Accessed on https://www.oeb.ca/rates-and-your-bill/electricity-rates/understanding-your-electricity-bill

Ontario Landowners Association, 2016. Accessed on www.ontariolandowners.ca

Ontario’s Long-Term Energy Plan, 2017. Accessed on https://files.ontario.ca/books/ltep2017_0.pdf

Ontario's Long-Term Energy Plan, 2017. Accessed on https://www.ontario.ca/page/ontarios-long-term-energy-planOntario's Ministry of Energy, 2014. Accessed on https://news.ontario.ca/mei/en/2014/04/creating-cleaner-air-in-ontario-1.html

Ontario Wind Resistance, 2017. Accessed on www.ontario-wind-resistance.org

Paravantis, J.A., Stigka, E., Mihalakakou, G., Michalena, E., Hills, J.M., Dourmas, V. 2018. "Social acceptance of renewable energy projects: A contingent valuation investigation in Western Greece". *Renewable Energy* (123) 639-651.

Rajkobal P., 2013. "Ecological modernisation and citizen engagement". *International Journal of Sociology and Social Policy* 34 (5/6) 302-316.

Richards G., Noble B., Belcher K., 2012. "Barriers to renewable energy development: a case study of large-scale wind energy in Saskatchewan, Canada". *Energy Policy* 42 691-698.

Salleh A., 2010. "Climate strategy: Making the choice between Ecological Modernisation or living well". *Journal of Australian Political Economy* 66 118-143.

Sardianou, E., Genoudi, P., 2013. "Which factors affect the willingness of consumers to adopt renewable energies?" *Renewable Energy* (57) 1-4.

Sauter R., Watson J. 2007. "Strategies for the deployment of micro-generation: Implications for social acceptance". *Energy Policy* 35 2770-2779.

Schultz P.W., Gouveia V.V., Cameron L.D., Tankha G., Schmuck P., Franek M., 2005. "Values and their relationship to environmental concern and conservation behavior". *Journal of Cross-cultural Psychology* 36 (4) 457-475.

Schultz W.P., Zelezny L., 1999. "Values as predictors of environmental values: evidence for consistency across 14 countries". *Journal of Environmental Psychology* 19 (3) 255-265.

Schwartz S.H., 1992. "Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries". *Advances in Experimental Social Psychology* 25 1-65.

Schwartz S.H., Bilsky W., 1987. "Toward a universal psychological structure of human values". *Journal of Personality and Social Psychology* 53 550-563.

Smith Nicholas, Leiserowitz Anthony 2012. “The rise of global warming skepticism: Exploring affective image associations in the United States over time”. *Risk Analysis* 23 (6) 1021-1032.

Smith W.N., Grant B.B., Desjardins R., Kroebel R., Li C., Qian B., Worth D.E., Mcconkey B.G., Drury C.F., 2013. “Assessing the effects of climate change on crop production and GHG emissions in Canada”. *Agriculture, Ecosystems and Environment* 179 139-150.

Stern, P.C. (2000) “Towards a coherent theory of environmentally significant behavior”. *Journal of Social Issues*, 56 407-424.

Stokes, L. C., 2013. “The politics of renewable energy policies: the case of feed-in tariffs in Ontario, Canada”. *Energy Policy* 56 490-500.

Thørgensen J., Grunert-Beckmann S.C. 1997. “Values and attitude formation towards emerging attitude objects: from recycling to general waste minimizing behavior”. *Advances in Consumer Research* 24 182-189.

Toronto CityNews, 2018. Accessed on http://toronto.citynews.ca/2018/04/04/even-strong-climate-change-believers-dont-get-carbon-pricing-survey-shows/

Toronto Sun, 2016. “Green energy puts Ontarians in the red”. Retrieved on http://www.torontosun.com/2016/04/12/green-energy-puts-ontarians-in-the-red

United Nations Framework Convention on Climate Change, 1995. Greenhouse Gas Mitigation Assessment guidebook, chapter 9. Retrieved from http://unfccc.int/resource/cd_roms/na1/mitigation/Resource_materials/Greenhouse_Gas_Mitigation_Assessment_Guidebook_1995/chap09.pdf

Van Tatenhove J.P.M., Leroy P. 2010. “On ecological and political modernization”. In P.J. Arthur Mol, David A. Sonnenfeld and Gert Spaargaren (eds), the Ecological Modernisation Reader: Environmental Reform in Theory and Practice (28- 41) London and New York: Routledge.

Verbruggen A., Fischedick M., Moomaw W., Weir T., Nadaï A., Nilsson J.L., Nyboer J., Sathaye J., 2010. “Renewable Energy Costs, Potentials, Barriers: Conceptual issues”. *Energy Policy* (38) 850-861.

Von Borgstede C., Andersson M., Johnsson F., 2013. “Public attitudes to climate change and carbon mitigation – Implications for energy-associated behaviours”. *Energy Policy* (57) 182-193.

Wan C., Shen G.Q., Yu A., 2015. “Key determinants of willingness to support policy measures on recycling: A case study in Hong Kong”. *Environmental Science and Policy* 54 409-418.

Wan C., Shen G.Q., Choi S., 2017. “A review on political factors influencing public support for urban environmental policy”. *Environmental Science & Policy* 75 70-80.

Weiss, G.T., Burke M.J. 2011. “Legitimacy, Identity and Climate Change: moving from international to world society?” *Third World Quarterly* 32 (6) 1057-1072.

Winfield M., Dolter B., 2014. “Energy, economic and environmental discourses and their policy impact: The case of Ontario’s Green Energy and Green Economy Act”. *Energy Policy* (68) 423-435.

World Resources Institute, 2017. “Data Visualization of GHG Emissions chart”. Accessed on http://www.wri.org/blog/2017/04/interactive-chart-explains-worlds-top-10-emitters-and-how-theyve-changed

Wüstenhagen R., Wolsink M., Bürer M.J., 2007. “Social acceptance of renewable energy innovation: An introduction to the concept”. *Energy Policy* (35) 2683-2691.