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Iceland's Environmental Saga: Motivations for Sustainable Action and Belief

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Iceland's Environmental Saga: Motivations for Sustainable Action and Belief

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Abstract:

During the past several decades, a global discussion has grown about sustainability and how it can provide solutions to the world's mounting environmental problems. One way to make sustainable implementation more successful is to examine the specific motivators for the environmental decisions of individuals and how they vary from place to place. In this thesis, I explore how environmental incentives that originate at different scales affect individuals, and how the individual's specific cultural experience mediates those incentives. Iceland provides an interesting case study for examining sustainability motivators for individuals because its extensive development of renewable energy resources seems like the embodiment of global sustainability goals. Further, due to its small population and geographic remoteness, it is easy to assume that Iceland is culturally homogenous and therefore that widespread sustainable actions and beliefs exist. However, the incentives for sustainability in Iceland that stem from different scales are negotiated through the unique conditions of Icelandic culture. The specificity of Icelanders' sustainability motivations demonstrates that we need to examine the individual experience of "sustainability" in order to determine how sustainable policies, practices, and ethics can be implemented and strengthened in places where people's livelihoods are not immediately affected by environmental change.

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Introduction

From Starry-Eyed Tourist to Cognizant Traveler: The Research Story

In early June of 2015, I stood in the high-vaulted entryway of *Hellisheiðarvirkjun*, Iceland's largest geothermal power plant. The plant sits on the edge of *Hengill* volcano, just southeast of Reykjavík, Iceland's capital. Tall greenish-black mountains rise behind *Hellisheiði* and an open plain stretches in front, with barely a tree or building blocking the view to the horizon. The clouds were high on the day I visited, and from the observation deck I could see pipes zig-zagging down the nearby hillside and steam erupting from enormous geothermal pumps. A tour guide explained that *Hellisheiði* provides the city of Reykjavík with electricity, which is generated using steam extracted from the geothermal vault beneath it. It also provides Reykjavík's hot water, he said, and motioned to a map depicting a complex piping system. Pipes bring hot water from *Hellisheiði* to every home and building in Reykjavík and underneath every street so they do not need to be plowed in winter.

I asked the tour guide why Iceland implements and utilizes so much geothermal energy. Was there some kind of nation-wide drive for sustainability that led Icelanders away from fossil fuel use and toward renewable energy? The tour guide said that no, Icelanders use so much renewable energy simply because it is available. If instead there were an abundance of coal, Icelanders would use that for electricity and heating. But Iceland is located over the Mid-Atlantic Ridge, so it is practically gushing with geothermal resources. In addition to renewable energy from geothermal power production, Iceland's many glaciers provide rivers and streams that are ideal for hydropower production. The tour guide explained that he thinks renewable energy implementation has nothing to do with an inclination towards sustainability or resource conservation, but instead with resource availability and the economic convenience resulting from that availability.

Hearing the tour guide's perspective turned my preconceived notions about Iceland upside down. I had traveled to Iceland with the image of a perfectly sustainable country in my head. From my limited knowledge of Iceland's renewable energy and beautiful, seemingly untouched landscape, I assumed that some sort of collective drive for sustainable practices and conservation exists among Icelanders. I concocted a vision of a stark, cold landscape dotted with hydro-powered farms, and a hardened population driven by centuries of isolation to conserve the limited resources of their North Atlantic island. Iceland seemed a Scandinavian utopia primed with answers to the world's environmental troubles. If Iceland had succeeded thus far in the environmental realm, then I thought there must be some sort of long-standing cultural attitude or national identity that predisposed Icelanders toward conservation, sustainability, and environmental action.

What I eventually realized, however, was that I not only assumed Icelanders' commitment to the environment drove their renewable energy projects, land management practices, and environmentally conscious practices of daily life, but also that this ethical motivation is all that it takes to achieve sustainability. I quickly recognized that there are many other drivers at play. My visit to *Hellisheiði* revealed the role of resource availability and economic convenience in renewable energy implementation and as I began conducting interviews with Icelanders, I realized that these two factors also affect their every day environmental decisions. To complicate matters, Icelanders' perception of their surroundings as wild, unique, and a reflection of Icelandic identity is another incentive for them to hold certain sustainable beliefs, although these qualities of landscape off of which Icelanders base their beliefs are socially constructed.

I conducted this research during the summer of 2015 and spent time in both the capital city of Reykjavík as well as the more remote region of the Westfjords. I conducted interviews with Icelanders about their environmental conservation practices, waste management practices, and their beliefs regarding the conservation of Iceland's wilderness. Some interviewees' responses tended to vary between the two geographic regions, but other answers were very similar across the regions. While Reykjavík is located above a geothermal rift, providing residents with an abundance of geothermal energy, the Westfjords are geothermally cool, since the ever-expanding Mid-Atlantic rift has slowly pushed this now remote area away from the country's hot center. Cables bring geothermal energy from the southern hot spots to the Westfjords, but this distance makes heating and electricity more expensive for Westfjords residents, so different attitudes toward energy conservation in daily life exist there. In contrast, there was much less variation between these two regions in how people were motivated to manage waste or how they felt about wilderness conservation. Decisions to recycle or not recycle, to preserve landscape or use it for renewable energy expansion, stemmed from incentives that were not tied to region, but to the nation or even the globe. Ultimately, the interviews I conducted revealed that for Icelanders, there is no single incentive driving sustainable, or unsustainable, practices and beliefs. There are economic, ethical, and cultural incentives and these originate at different scales – global, national, regional and local – collectively shaping people's actions.

Iceland and Sustainability

During the past several decades, there has been a growing global discussion about sustainability and how it can provide solutions to the world's mounting environmental problems, especially climate change. Increased importance is placed on lowering fossil fuel emissions,

reducing environmental impacts, and conserving resources for our generation and future generations. One of the primary ways to initiate environmental change, according to the global discussion on sustainability, is to implement national policies that instigate sustainable action within that nation. Thus, understanding the motivators for the environmental decisions of individuals within a country plays a significant role in the success of sustainable policies there. This view highlights the fact that sustainability motivators vary from place to place. Also, it cannot be assumed that sustainability motivators are the same everywhere. Individuals will not only be affected by certain incentives that originate at different scales, but how those incentives are mediated through the individual's specific cultural and material experience. The particular conditions that exist at the sub-national level, especially cultural values and practices, will ultimately shape how individuals make environmental choices. National sustainability policies that take specific cultural conditions into account have the potential to be much more successful.

Iceland provides an interesting case study for examining sustainability motivators of individuals because it seems like the embodiment of global sustainability goals. Given the amount of energy generated from renewables, about 99%, it could be concluded that people are already motivated to be sustainable. Iceland also has a small population, is isolated, and is very socially integrated, which gives the impression of cultural homogeneity. However, assuming that Iceland is culturally homogenous, and therefore that all Icelanders practice sustainability or will be motivated by the same things, overlooks the nuances and constantly evolving aspects of culture.

Iceland also provides an important case study as a developed country where livelihoods are rarely negatively affected by climate change, especially compared to people in less developed, more vulnerable countries. Glacial movements have affected Icelanders' lifestyles in

the past, especially because of their reliance on land and temperatures for agriculture. Today many Icelanders are keenly aware of current rates of glacial retreat (Kolbert, 2006) and such visible evidence of climate change has likely spurred concern. But modern lifestyles will not be significantly affected and can continue as glaciers retreat further, so what other factors will cause Icelanders to respond to climate change? This question is also relevant for other developed countries and finding the answer requires an examination of the unique cultural, economic, or other processes at play in the lives and decisions of individuals.

For Icelanders, incentives for sustainable action and belief, primarily economics, ethics, and nationalism, originate at different scales and affect the environmental decisions of individuals. But individuals also influence and are influenced by cultural norms, so the way that Icelanders interpret different scalar pressures is mediated through cultural processes specific to Iceland. In order to understand the specific conditions of modern day Iceland, it is first necessary to explore Iceland's environmental history, which I will examine in the next section. Also, examining the evolution of the global sustainability discourse through the lens of scale will reveal how observing culture and sustainability at the individual level can enrich our understanding of how to successfully implement sustainability. Following this review of literature, I will examine the way that different motivators influence the sustainable practices and beliefs of Icelanders, along with the different scales from which these motivators originate. Interview results demonstrate that landscape and national identity are intertwined, indicating that motivations to preserve Icelandic wilderness, or use it for economic exploitation, come from nationalism and the national scale. Incentives to conserve energy vary by region, demonstrating the diverse resource availability and resulting economic conditions and conservation practices in different regions of Iceland. Growing awareness of fossil fuel use, energy consumption, and

waste management practices reveal that while local economic constraints exist, ethical motivations for conservation play an increasing role as Iceland interacts more with the rest of the world. Global influences and processes within Iceland create new cultural norms that influence how Icelanders make decisions that affect the environment.

Literature Review

Iceland's Environmental History and Background

Two Histories: Before and After World War II

Iceland's history can be generally divided into two sections: a period dominated by an agrarian economy from Iceland's settlement in 870 A.D. until World War II and a period of modernization following World War II. It is important to discuss the early period of Iceland's history because it explains the current state of Iceland's natural environment, which, according to Jared Diamond, "is the most ecologically damaged [of any] country in Europe" (Diamond, 2011). Today, seventy three percent of Iceland's land is affected by soil erosion, and only 28% of it is vegetated (Ólafsdóttir and Guðmundsson, 2001). This is largely because settlers and their descendants caused the erosion of 40% of the soil that existed before their arrival in Iceland, around the year 874 A.D. (Vésteinsson, McGovern and Keller, 2002). Over the course of a few centuries, birch forests were reduced from up to 40% of land cover to only 1% (Main, 2014).

When settlers from Norway arrived in Iceland, they imported their cultural structure and subsistence practices, clearing away trees for pastures and grazing sheep, goats and cattle (Vésteinsson, McGovern & Keller, 2002). At this time, Iceland's soils were thick and well developed, in some places 50 feet deep, so they may have appeared rich and robust, but they take much longer to form than Norwegian soils. Early settlers were accustomed to the more durable soils of southern Norway, but Iceland's colder climate and easily erodible soils, which are

partially comprised of volcanic ash, did not lend themselves as easily to grazing and agriculture (Diamond, 2011). Deforestation and loss of flora to grazing created a positive feedback loop that exacerbated erosion and made agriculture increasingly more difficult.

This process was even more devastating in the Highlands, which are located in central Iceland. When Vikings arrived, they would have seen high rolling hills completely above tree line, perfect land for pastures. But since the highlands are colder and drier than the surrounding land, the vegetation could not regrow quickly enough, eventually diminishing the highlands to brown desert (Diamond, 2011). There is archaeological evidence that early Icelanders recognized their limited environment. Many moved out of the highlands to lower elevations and began using wood more sparingly, but they had already caused much damage to the fragile environment (Diamond, 2011).

There is a lasting question, however, about how much damage settlers actually caused and what environmental processes might have been in place at the time to aggravate degradation. Ólafsdóttir and Guðmundsson (2001) discuss the occurrence of three major climatic shifts in Iceland, two prior to Viking settlement and one after, in which there were major changes in soil composition and vegetation types. Soil stratigraphy at sites in northeastern Iceland reveals how shifts in climate, in conjunction with elevation and topography, caused soil degradation and vegetation loss. During each of the three climatic shifts, temperature became significantly cooler, causing the ground to freeze, which ultimately depleted vegetation cover and led to soil loss (Ólafsdóttir & Guðmundsson, 2001). Anthropogenic intervention in Iceland's environment during the late 9th century accelerated the rate of soil erosion and vegetation loss, but there were other processes in play as well. Both human and natural process contributed to soil erosion and vegetation loss that eventually evolved into Iceland's modern environment.

Because of severe losses in environmental resources, much of Iceland's history before modernization is characterized by a sparse and marginal population, scraping a living from an unforgiving land (Magnússon, 2010). There were many times throughout Iceland's history, particularly in the 19th and 20th centuries, when significant parts of the population were killed by starvation or disease. Population pressures forced Icelanders back into the highlands in the early 19th century, but cooling weather trends in the 1850s and 1880s had catastrophic consequences for inland immigrants, forcing them off of their land. Agriculture remained the focus of the Icelandic economy until the beginning of the 20th century, but fishing was also important for farmers with access to the ocean (Magnússon, 2010).

Author Sigurður Gylfi Magnússon notes the presence of a particularly strong drive for survival amongst Icelanders of the 19th century. This drive allowed them to persist through the “harsh and often unforgiving world of [...] Iceland” (Magnússon, 2010, p. 140). Magnússon attributes Icelanders' perseverance to their cultural background, which springs from documented versions of the medieval period: the Icelandic sagas. The ability of 19th and 20th century Icelanders to cope with their harsh environment may have been inspired by the “unflinching stoicism” of characters in the sagas (Magnússon, 2010, p. 152). These literary works and the literary creativity that they inspired in Icelanders maintained a level of positivity that helped Icelanders survive the fluctuations in their environment. The changes that occurred, however, had comparatively minor effects on people's way of life and thinking, so that pre-World War II society was dominated by peasant values centered around economic constraints (Magnússon, 2010).

Despite severe poverty and economic constraints, Iceland's first environmental policies arose during the early 20th century. First came the protection of plants and animals, followed by

the Planting of Woodland and Prevention of Wind Erosion Act in 1907. Land preservation began in 1928 when Þingvellir, a historic as well as geological site, was made a National Park. This was especially spurred by Iceland's knowledge of the United States' National Parks movement (Baldursson, 2003). Þingvellir is characterized by unique rock formations created by the diverging Mid-Atlantic Rift. It is the site of annual parliament meetings, which began in the year 930 and lasted until the 20th century, despite shifts in government resulting from Danish rule that began in 1380 (Byock, 2010). The preservation of such a site exemplifies how nationalism, and concerns for remembering history and acknowledging unique landscape, became a driver of land conservation even during the most difficult period of Iceland's history.

Significant economic growth began during the first three decades of the 20th century, but it was the start of World War II that brought significant change to Iceland, moving Icelandic society into the global sphere (Karlsson, 2000). Both British and American troops occupied southwest Iceland between 1940 and 1945, permanently shifting the focus of Icelandic cultural outlooks outside country boundaries. However, engrained traditional thinking still united Icelanders. A focus on Icelandic heritage and history as well as new inputs from the outside world made Iceland "simultaneously local and global" and strengthened Icelandic nationalism (Magnússon, 2010, p. 237).

On the whole, World War II caused rapid economic and fundamental social changes in Iceland. These included the introduction of a quota system to manage fishing practices, less expensive food imports, demographic movement to more urbanized areas, a focus on education and skills training, and decreased manufacturing. Another significant change was the addition of the heavy industry sector, which required the harnessing of renewable energy to decrease energy prices (Magnússon, 2010). Before World War II, only small, domestic hydropower plants existed

in Iceland; the first was built in 1904. But commercial plants were built as economic needs for cheap energy prices arose during the post-WWII period (“Landsvirkjun.en,” n.d.).

Events following WWII began putting Iceland on the global political map and simultaneously intensifying Icelandic nationalism. One significant incident is the “Cod Wars” between Iceland and Great Britain, in which the two fought for control over the fishing zones around Iceland. After about a 25 year period between 1950 and 1975, and tense confrontations between Iceland’s small navy and British warships, Iceland gained control of a 200 mile Economic Exclusive Zone, reinforcing and providing a cause for Icelanders to unite behind nationalistic sentiments (Dodds and Ingimundarson, 2012; Magnússon, 2010).

Iceland’s economy and utilization of renewable resources also expanded as the aluminum industry became a major sector. The first smelter, the Rio Tinto Alcan aluminum smelter, owned by Alcoa, was built southwest of Reykjavik in 1969 and two more have been built since (Institute of Economic Studies, 2009). Iceland was able to attract heavy industry companies, such as Alcoa and Century Aluminum, because of its vast renewable energy supplies, primarily hydropower. These resources are not only abundant enough to satisfy the needs of energy intensive industry, but also can provide a less expensive and less emission-intensive option. Aluminum smelters in Iceland (powered by renewable energy) produce 1/7 of the greenhouse gases that aluminum smelters powered by fossil fuels in other regions do (Jóhannesson, 2005). Bauxite, the main ingredient in aluminum manufacture, is not mined in Iceland, but it is shipped there, often from Australia, for the less expensive smelting process (Thackara, 2011). Some believe that aluminum smelters are necessary in Iceland because selling energy to industry is one of the only ways for Iceland to expand its “clean” energy economy (Chu, 2011). A growing number of aluminum smelters also gave Icelanders a sense of pride because of their ability to

contribute renewable energy to this industry, thereby reducing global greenhouse gas emissions. However, increased demand for a hydropowered aluminum industry has also instigated a discussion about how Iceland's resources should be used and whether increasing the number of hydropower plants and aluminum smelters is in the best interest of Iceland's landscape and wilderness areas (Jóhannesson, 2005).

The Evolution of Modern Discourse on Renewable Energy and Environmental Protection

Discussions about how best to use Iceland's land and resources intensified in the early 1990s with disagreements among Icelanders on whether to address Iceland's soil erosion and deforestation issues. A group that Jóhannesson (2005) calls "green protectionists" argued that Iceland's landscape needed to be returned to its pre-settler state, so re-vegetation projects to reduce erosion and bring back forests were urgent. Others, called "dark nature protectionists," supported the barren look Iceland's landscape had attained by centuries of soil and vegetation loss, saying that this was what made Iceland's landscape unique (Jóhannesson, 2005).

This discussion was amplified by Iceland's participation in the Kyoto Protocol, under which Iceland was allowed to increase its carbon emissions by 10% from 1990 levels before 2012, while most other countries agreed to decrease their carbon emissions. Iceland was even allowed to increase emissions beyond 10% for industrial projects with high emissions (i.e. aluminum smelters). Several outlooks on how to utilize Iceland's resources to best address global climate change emerged during this time period, all of which stem from a sense of national pride. The first states that Iceland can help reduce global emissions by providing clean energy to aluminum smelters that would otherwise run on fossil fuels. A second proclaims that conservation of Iceland's unique landscape is a contribution to preserving the world's natural environment, which grew from the "dark nature protectionist" thinking. The last, which

corresponds to the “green protectionists,” proposes that Iceland’s lands are prime for reforestation and can be used to fix carbon in the ground. These last two particularly illuminate how nature and its outward appearance, either as it was when settlers arrived or in its current altered form, has become central to Icelandic nationalism and identity (Jóhannesson, 2005).

Growing awareness about resource use in the public realm was paralleled by development of environmental policy in the political realm. The Ministry for the Environment was founded in 1990 as a means for integrating environmental policy with Iceland’s other political goals (Ministry for the Environment, n.d.). Attempts for a national nature conservation policy culminated in the Nature Protection Act of 1999, which provided a nation-wide policy for “protecting habitats, ecosystems, biodiversity and landscapes” (Baldursson, 2003, p. 27). The Master Plan for Geothermal and Hydropower Development in Iceland was also developed around this time. The first phase took place between 1997 and 2003 and was intended to assess the most optimal places for renewable energy development. However, to the dismay of many Icelanders, the Master Plan failed to halt the development of *Kárahnjúkavirkjun*, an enormous hydroelectric power plant built in 2002 to provide energy to an aluminum smelter in east Iceland. A second phase of the Master Plan was initiated from 2004 to 2009 that placed more restrictions on areas that could or could not be developed for renewable energy (Steingrímsson, Björnsson, & Aðalsteinsson, 2008).

Emerging notions of Iceland’s role in the global environmental realm were further amplified by the building of *Kárahnjúkavirkjun*. Other hydropower projects had been built during the 1990s, but the building of *Kárahnjúkar* particularly upset many Icelanders because it had unusually widespread and negative environmental impacts, such as the destruction of native species’ habitats. The initial Environmental Impact Assessment for the project, written by the

State Planning Agency under the Master Plan, recommended Iceland's government deny the project because of the ensuing destruction it would cause to "virgin" land, soil and wildlife (Sólnes, 2003; Chu, 2011). However, the Minister for the Environment, Siv Friðleifsdóttir, disregarded this on the grounds that economic expansion in east Iceland was more important and that losing land and habitat to the reservoir was not a good enough reason to halt building plans (Sólnes, 2003; Dreamland, 2010). *Kárahnjúkar* is an important example of the contrasting views of how best to use Iceland's resources. While hydropower plants provide clean energy and allow Iceland to expand economically, they also cause severe destruction to soil and habitats. While some people support this economic expansion and feel it is Iceland's role to provide clean energy to the world in as many ways as possible, others feel that it is more important to preserve Iceland's unique landscape and environmental sphere.

There are currently multiple attitudes towards nature among Icelanders. Jóhanesson claims that Icelanders currently feel guilty about past environmental degradation and feel the need to combat soil erosion through reforestation. As a result, the Soil Conservation Service is currently working on afforestation projects (Scandinavian Journal of Forest Research, 2003). There is also the belief that Iceland can provide a sink for carbon emissions through trees as well as volcanic soil, a favorable condition for carbon sequestration (Jóhanesson, 2005). There are also still debates about whether to expand hydropower plants or not. A recent proposal to build eight hydropower plants, all approved by the Master Plan, was favored by the majority of voters ("Saving Iceland » Century Aluminum," n.d.). In contrast to the Icelanders in favor of reforesting Icelandic landscape, Magnússon describes: "A rift has built up between the land and its people—at least, a significant section of society seems perfectly happy to leave behind a trail of scorched earth wherever it sets its foot" (p. 268).

Fluctuations in Economics and National Pride

Despite controversy over land use and renewable energy, Iceland's growing economic sphere helped it emerge as a modernized, affluent and successful state by the early 2000s, a significant achievement for a previously marginalized society. In a speech to the Walbrook Club in London in 2005, President Ólafur Ragnar Grímsson described the success of Iceland's business sector. He proudly attributed this success to the aspects of Icelandic entrepreneurship that arise from Iceland's heritage. Among the prominent factors he identified are a strong work ethic, collaboration, and risk taking that correlate with a sense of "Viking adventure" (Magnússon, 2010).

But the sense of national pride that had emerged over the past several decades splintered when the economic crisis of 2008 hit. The economic boom of the previous decades led many Icelanders to be particularly extravagant, exploiting their newfound affluence. This culminated when a group of businessmen assumed control over much of Iceland's economy by investing in three of Iceland's banks (Ingimundarson, 2010). As Iceland's economy centralized into these three banks, the banking sector became several times larger than the rest of Iceland's economy. When the three banks collapsed in the fall of 2008, Iceland's economy tanked almost overnight, having an "overwhelming effect on Iceland and its population" (Vaiman et al., 2010, p. 260). Unemployment and inflation rapidly increased and many wondered how one of the world's most prosperous countries had taken such a blow from the global financial crisis (Vaiman et al., 2010). While previously one of the most debt free countries in the world, Iceland became one of the most indebted countries after a bailout from the International Monetary Fund (IMF). According to Ingimundarson (2010), "the 2008 banking collapse [...] destabilized such national identities and self-perceptions of Iceland as a highly developed and modern state" (p. 34).

There are different theories on exactly what caused Iceland's economic crisis. The basic explanation states that even more rapid economic growth than in the previous years progressed to the point that the investors, who at the time also controlled the political sphere, were unable to handle the rapid expansion. The centralization of the Icelandic economy also played a significant role (Ingimundarson, 2010). In addition, many Icelanders attribute the drastic collapse to corruption within the private sector that controlled Iceland's economy prior to 2008. However, Vaiman et al. (2010) argue that there are other factors involved, including history and cultural background. They claim that the same qualities that President Grímsson mentioned as positive qualities of Iceland's business sector, such as a closely-knit community, egalitarianism, adventurism, and risk-taking, may actually have played a role in the ultimate collapse (Vaiman et al, 2010).

Despite the severity of the economic collapse, as of 2015, a full recovery is in progress in Iceland. While the collapse itself was incredibly detrimental and more severe than other countries' financial crises, Iceland managed to maintain a relatively low unemployment rate (Darvas, 2011). Peter Dolman, Iceland's IMF Mission in Chief, attributes rapid economic regrowth to high performance in certain economic spheres, namely the fishing industry and tourism (Hammar, 2015). The fishing industry was the largest economic sector before the economic crisis, and now it has regained a central position (Ingimundarson, 2010). Tourism is also a rising industry. It has grown from a virtually nonexistent part of Iceland's economy in the 20th century to one of its major sectors in the 21st century (Jóhannesson and Huijbens, 2010). According to the World Travel and Tourism Council for Iceland, tourism provided 10% of Iceland's GDP in 2010 and is still growing. Expansion of renewable energy to supply heavy industry with electricity has also aided recovery from the crisis. But there is a growing

realization that renewable energy expansion needs to be limited in order for tourism to succeed because tourism relies on the wilderness quality of Iceland's land sought by tourists, which is undermined by the presence of energy plants (Sæþórsdóttir et al., 2011).

The economic crisis degraded Icelanders' self-perceptions, but a sense of inferiority and a need to prove oneself had been embedded in the Icelandic mindset even before this. National low self-esteem may stem from early colonial roots, since Iceland was a colony of Denmark for several hundred years. Icelanders have historically cast themselves as "victims" or "underdogs," especially during the Cod Wars of the 1950s and 1970s (Ingimundarson, 2010). President Ólafur Ragnar Grímsson's speech during the economic boom in 2005 described the reasons behind Iceland's economic success, which, according to Magnússon, exemplifies the "bluff and bluster indicative of a sense of inadequacy" (2010, p. 261). Claims such as Grímsson's have a long history in Iceland to the extent that self-glorification may be part of Iceland's cultural heritage. Even recently, a high proportion of news articles in Icelandic papers have to do with Iceland's exterior recognition, as though Icelanders are concerned with whether or not the rest of the world notices them and what outsiders' perceptions of Iceland are (Andersen, 2015). For environmental protection agencies, such as the Soil Conservation Service and the Forest Service, it is especially important to research and record Iceland's environmental approaches so that these approaches can be "recognized and valued" (Jóhanesson, 2005, p. 504). Proving self-worth represents another part of Iceland's national identity and while it is not necessarily nationalistic, it may amplify Icelanders' sense of nationalism.

Iceland's historical and modern context provides a basis for understanding the development of Icelanders' perceptions of their natural surroundings and their country. Connections with land are perceived because of history. A sense of national pride has developed

as a result of Iceland's marginalization. Economic success is spurred by rising nationalism and renewable energy expansion. Conflicting interests arise for the future of Iceland's land and its economic potential. All of these factors are important for understanding the motivations behind the environmental decisions Icelanders make in their everyday lives.

Incentives, Scale, and the Sustainability Discourse:

Given the historical and modern context of Icelanders' relationship with their environment, we can now examine how the experience of scale affects the way sustainability manifests in the everyday decisions of Icelanders. The lens of scale reveals how sustainable practices and beliefs do not singularly originate at global or local levels and that incentives affecting individual decisions from one scale do not permeate all scalar levels. Geographic definitions of the concept of scale illuminate some of the assumptions and gaps within the sustainability discourse about how individuals are influenced and motivated to adopt sustainable lifestyles.

An examination of the sustainability discourse itself is essential to understanding where the idea of sustainability comes from, what sustainability is, and how attempts to implement it have been carried out. The discourse often centers on the argument that the current global economic system of capitalism is not sustainable because of its exploitative nature. Many authors examine the extent to which current economic and political systems will have to shift to ensure the longevity of Earth's resources. But throughout the discourse, there is a general assumption that sustainability implementation will largely occur on global or national scales and that ethics will be the primary driver of a shift toward sustainability, with economics as a constraint. I agree that ethics are essential to igniting a sustainable movement, and indeed this movement has already begun. But there is more complexity, particularly scalar complexity, to the ways that

individuals are motivated by economics, ethics, culture, or other factors that the discourse does not acknowledge. While some of the literature recognizes the fact that individuals play a role in initiating sustainable change, there is no close examination of how individuals, who live in specific places with particular cultural experiences, will be motivated to make changes in their daily lives, only the assumption that ethics or morality will be the driving force.

In the absence of policies enacted on global or national levels to enforce sustainability, it is the individuals who drive sustainable change. When there is no immediate reason to live sustainably, either because law enforcement or because of immediate threat to livelihood, we need to examine why individuals make the environmental decisions that they do. Then shifts toward sustainability can be made even in places where reduced environmental impact may not seem necessary. For example, while most Icelanders are aware of how their actions contribute to atmospheric warming and the consequences of warming in Iceland and in other parts of the world, most do not change their fossil fuel use habits because they are not significantly affected by these consequences. Increased gas prices, however, could mediate fossil fuel use, because spending more money will directly affect individuals, and lead to more conservative driving habits. This exemplifies how incentives already at play, such as economics, can inform new sustainability policies and means of implementation. A complete shift towards sustainable living may never be universal, but acknowledging the scalar dimensions of the incentives that cause people to act more consciously toward the environment will allow a more encompassing and effective approach to the sustainability issue.

But it is not just the way that individuals experience different scalar influences that defines their sustainable practices and beliefs, but also the presence of cultural norms. The specific ways in which culture evolves in different places will affect the manifestations of scalar

influences in the lives of individuals. Understanding the unique combination of scalar and cultural experiences in specific places will provide unique insights into more successful ways of implementing sustainability from local, to national, to global scales.

Scale and Sustainability Incentives

For people in Iceland, the factors of economics, nationalism, or ethics incentivize some type of conservation action or perspective in everyday life. Examining this observation through the lens of scale illuminates how phenomena occurring at different locations or proximities to the individual influence everyday decisions and conceptions about the environment. Agnew (1993) defines scale as a concept that “refers to the spatial *level*, local, national, global, at which the presumed effect of location is operative” (p. 251). Regional scale is often added as a level between “local” and “national,” referring to a subnational area that is larger than individual municipalities (Herod, 2003). For interviewees, the local scale includes Reykjavík, Ísafjörður and Bólungarvík, while the larger areas surrounding the city or town (for example the Reykjanes peninsula in the southwest of Iceland or the Westfjords peninsula in the Northwest) define the regional scale. Factors that manifest at the local and regional scales, along with the perceived factors of the national and global scales, influence how Icelanders make conservation or waste management decisions and conceptualize the importance of wilderness and renewable energy. Scale demonstrates how incentives for sustainability originate at different levels of geographic proximity, revealing that individuals carry out sustainable actions or beliefs based on input from a variety of scales.

Specific sustainability incentives, however, are not necessarily fixed to a certain scalar level. Instead, incentives often manifest at multiple scales, allowing movement and exchange between scales. It is widely argued among geographers that scalar levels should not be discussed

as discrete, fixed, or static categories, but instead as fluid (Agnew, 1993; Herod & Wright, 2002; Herod, 2003; McCarthy, 2005). Agnew (1993) argues that scale is a process involving movement through complex networks, not necessarily just along the local to global binary. McCarthy (2005) similarly revokes the local-global binary and says that neither one of these is necessarily more important or more powerful than another. Scales are unbounded, with politics moving not within them but among them. These complex interconnections do not allow for a simple binary comparison.

It is also important to address how the concept of environmental problems has become linked with the global scale, making a jump from localized environmental issues to global generalizations. Herod and Wright (2002) note that global climate change is widely interpreted as a phenomenon that will have similar effects everywhere, while it will actually affect localities differently. Barnett (2007) discusses the uneven distribution of climate change effects in which the countries with the highest fossil fuel emissions, which are also more economically developed, experience very few effects of climate change, while countries that emit the least amount of fossil fuels, usually poorer countries, are more prone to its negative effects. This spatial inequality is often overlooked such that environmental changes that actually occur at localities are generalized to one global environmental crisis. Furthermore, individuals who live in more economically developed countries may be aware that Earth's climate is changing, but their livelihoods are not seriously affected. Deciding to reduce one's environmental impact then becomes a factor of morality of the individual and whether or not they want to do the "right thing" for the planet, making a jump from the global to local scale.

McCarthy (2005) discusses how solutions to "global environmental problems" (p. 734) are often proposed on local levels. He notes his concern that scale can easily fall into two

opposing levels, the local and the global, but also illuminates that it is problematic to discuss environmental problems and their solutions as only existing on two scales, since they exist and interact on all scales. In the context of Iceland, we can consider how concerns about a “global environmental crisis” provide an incentive for environmental action at the individual scale and how that may be mediated through phenomena occurring at the national or regional scale.

The interviews I conducted revealed how individuals in Iceland experience scalar pressures that influence their environmental perspectives and conservation choices. Reoccurring themes in the interviews showed that certain incentives are often tied with certain scales. Constraints such as time and money often function at an individual or local level, influencing decisions about transportation between places or domestic energy conservation. Decisions based on economics are often tied with the self-interest of the individual. The availability of renewable or other resources, which determines the economic constraints or benefits of conservation practices, pertained to the regional level. The role of economics in determining environmental impact also comes from the global scale because people consume resources from the global capitalist system, which is inherently exploitative (Smith, 1984; Harvey, 1997), so it is impossible to completely reduce environmental impact as a participant in this system. Conservation of natural resources, especially wilderness areas, has also increasingly become part of an Icelandic national identity, demonstrating how the concepts of nation and national scale influence individual decisions. While not all interviewees discussed their concern for global environmental wellbeing, those who did demonstrated that this concern drives an ethical motivation to conserve resources and live with minimal environmental impact, even if it is not completely attainable.

However, the scalar incentives for sustainability in Iceland are much more complex and intertwined. More often than not, there are multiple incentives present at each scale. For example, on the national scale, the decision to either conserve wilderness for its inherent and “Icelandic” qualities or utilize natural resources in the wilderness both stem from a sense of nationalism, but the second perspective is driven more by economics. While economic motivations are most often what drives interviewees’ decisions to conserve or utilize resources and energy in their home, town, or city, ethical motivations are also present. People conserve because they believe it is the right thing to do, which is a concept that many interviewees said comes from influence from abroad and growing knowledge of global environmental problems. But the need to address “global environmental problems” is mediated through conceptualizations of nation and region. People’s opinions of how Iceland as a nation should use its natural resources, either for preservation or economic development, come from a need for Iceland to help the rest of the world, either by contributing its vast wilderness or by reducing greenhouse gasses by expanding renewable energy development for heavy industry (Jóhanesson, 2005). Also, the way people perceive the amount of resources in their region, for example water or geothermal energy, affects how much they choose to conserve, despite their knowledge of a global need to conserve resources. In these examples, we can see how the generalized concept of the global environmental crisis is intertwined with the other scalar manifestations of conservation incentives.

Because phenomena that occur at different scales are so instrumental in affecting the way people perceive their surroundings and the way they choose to conserve, we cannot assume that awareness of global environmental problems is enough to incentivize sustainability in people’s everyday lives. While people may be ethically motivated to change their lifestyles to address the

environmental issues that have negative global effects, either now or in the future, most will still not adopt completely sustainable beliefs or lifestyles because of different scalar pressures. These motivations include the need to maintain financial stability, pressures to promote and maintain a sense of nation, and the presence of the global capitalist system; the latter perpetuates environmental exploitation, constraining the extent to which people can be sustainable. But given the current economic system, it is important to examine how individuals react to different scalar pressures and perceive their role within the global environmental issue. Sustainability is often considered an achievement that will take place on the larger scales of nation and globe. This is probably true when considering the economic and political shifts that need to take place, but looking at scalar motivations for individuals will provide a starting place to gain a better understanding of how changes need to occur and how to make them most effective. An examination of the sustainability discourse will provide an understanding of how the issue of implementation has been handled so far, how suggestions for economic and political change are being made, and how the discourse addresses the role of scale in initiating change and implementation.

The Sustainability Discourse

Examining the evolution of the discourse on sustainability and Iceland's role within it illuminates assumptions within the discourse about the roles of scale and culture in incentivizing the sustainability decisions of individuals. The sustainability discourse began to emerge when the *Report of the World Commission on Environment and Development: Our Common Future* (1987), better known as the Brundtland Commission, coined the term "sustainable development." This and other global governmental summits, in particular the United Nations Conference on Sustainable Development (Rio Earth Summit), outline global goals for incorporating sustainable

action into today's economic, political, and social systems. One output of the Rio Earth Summit is the Local Agenda 21, which is a plan to implement sustainable development at the national level. Iceland is one of the nations that has signed on, so the Agenda 21 provides insight on how Iceland has agreed to participate in sustainable action.

The governmental discussion around sustainability and the environment has been coupled by a growing literature geared toward the public. It specifically explores the possibilities for sustainability in the context of capitalism. First, it is important to discuss how conversations about sustainability, both in the governmental and public realms, primarily revolve around balancing the longevity of environmental systems and resources with the demands of the current economic system. While a political economy critique exists, in which the capitalist system is replaced in order to preserve environmental resources, this study will focus on how sustainable action occurs in tandem with capitalism and what that means for incentives behind these sustainable actions.

It is also necessary to explore how the sustainability discourse addresses incentives for sustainable practices and beliefs among individuals, from what scalar levels these incentives originate, and the role of culture in influencing individuals. While other incentives are mentioned, including economics, ethics are the main motivator of sustainable actions embedded within the discourse. Some sources name ethics as the foremost initiator of worldwide sustainability, in importance and supposed success. For others, there is a deeply engrained, but not openly discussed, assumption that actions and beliefs will stem from environmental concerns. Furthermore, there is even less discussion about how these motivations will vary across scales. As Icelanders demonstrate, ethics are present as a motivator, but they do not always determine people's sustainable practices and beliefs. Economics, nationalism, and culture

are all intertwined contributors to the environmental decisions Icelanders make. These incentives are the result of phenomena occurring at different scales and the way these phenomena are mediated through the culture of a specific place. The sustainability discourse should involve more active discussion about the cultural variations that exist on smaller scales, so policies need to be implemented that acknowledge these variations. This cultural analysis will lead to a better understanding about how people will be motivated to practice sustainability so that sustainable implementation can be more effective.

From Globe to Nation: The Global Discussion on Sustainability

Global conferences on environment and development have laid the groundwork for discussions about sustainability and how to achieve sustainable goals within the current economic framework. The first of these, the United Nations *World Commission on Environment and Development* of 1987, resulted in the Brundtland Commission, which defines the term “sustainable development” as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (p. 16). One of the main focuses of the Commission is to explore how human effects on the environment can be mitigated by changes in the economic and political spheres.

The Brundtland Commission describes how both the environment and the economy can succeed if certain systematic changes are implemented. The Commission argues the need for “the international economy [to] speed up world growth while respecting [...] environmental constraints” (p. 78). There is an urgent need to be less materially intensive in various sectors of the economic sphere so that these sectors can be both more economically and more environmentally efficient. This will involve reducing human exploitation of the environment by shifting away from fossil fuels towards renewable energy and implementing new forms of

industry that conserve natural resources. Achieving this to the fullest extent will require the integration of supranational and multilateral institutions and governments.

Overall, the Brundtland Commission calls for changes within the current political and economic systems. The lack of ultimate or binding action that the Commission calls for has been highly criticized. Adams (2008) criticizes the Commission on the grounds that its definition of sustainability is too vague to warrant a paradigm shift and that “it did not demand radical change of policy direction” (p. 4). But the Rio Earth Summit does follow through with many of the Brundtland Commission’s ideas, particularly those pertaining to sustainable development through economic, political, and social change. One of the Summit’s most important results was the Agenda 21, a contract under which nations agreed to work toward sustainable goals. However, the Summit has also been criticized on the basis that it still did not implement major change. A follow up of the Rio Earth Summit produced by the United Nations Environment Program (UNEP) in 2011 states that there has been “limited progress on environmental issues achieved, and few real ‘success stories’” so that “all components of the environment [...] continue to degrade” (p. 90). There is still need for further and more committed action toward establishing systems that conserve environmental resources.

A second United Nations Conference on Sustainable Development, or the Rio+20 Earth Summit, in 2012 assessed progress since 1992. It was also a way to remind nations of their commitments to sustainable development, implementing a “green” economy, and renewing political commitment to environmental policy. While there were many stories of successful implementation of goals from the first Rio Summit, the assessment of the Local Agenda 21 concludes that implementation did not go as well as planned. According to the United Nations Development Program (UNDP), “the unfinished business of Agenda 21 lies chiefly (though not

entirely) in the realm of implementation” (p. 7). The Agenda 21 was successful in some places, but there were also failures that revealed the constraints of working toward a green economy and the difficulties of attempting to implement local environmental policies from national and international scales.

Assessing how Iceland has followed through with implementing Agenda 21 goals sheds light on the country’s current stance in the global environmental discourse. *Report no. 1/03: Local Agenda 21 in the Nordic Countries—National Strategies and Local Status* concludes that Iceland has been slower to discuss strategies for implementing Agenda 21 goals than other Nordic countries. Concrete initiatives did not take form in Iceland until 1998, when a campaign was issued to engage Iceland’s municipalities in a sustainable agreement. However, there was little guidance given to these municipalities for how they should instigate sustainable changes, supposedly for the purpose of encouraging “local innovation and intuition” (Norland et al., 2003, p. 40). In 2000, when the campaign was over, a declaration to continue with sustainable practices was signed by Iceland’s local authorities in which they proclaimed a “real commitment towards sustainable development as the core of any decision” (Norland et al., 2003, p. 40).

A more successful implementation of the Local Agenda 21 followed this statement in 2002 when the document *Welfare for the Future: Iceland’s National Strategy for Sustainable Development* was created. This document is Iceland’s response to the protocol outlined in Agenda 21 and outlines sustainability goals to achieve between 2002 and 2020. These goals include the policy changes that need to occur in order to implement sustainability goals as well as how these changes will be integrated with the economic sector. *Welfare for the Future* also outlines the specific sustainability measures that need to be taken, which pertain to the conscious utilization of resources, maintaining a healthy and safe environment, and protecting Iceland’s

nature. While Welfare for the Future acknowledges that individuals will play a role in achieving sustainability goals, there is still no assessment of what might influence people's decisions to act sustainably or not. Understanding why people make certain decisions will make environmental policies stronger, which is why it is important to examine the scalar and cultural motivations for individuals.

The Sustainability Discourse in the Public Realm

The groundwork that has been outlined by global and national agreements on environment and development has set the stage for further discussion about how sustainable development can occur globally as part of current societal functions. This discussion has taken place more in the public realm as opposed to the governmental realm, but discusses governmental action to shift economic functions and national policies toward environmental conservation. For the most part, works in the literature discuss issues within the current economic system that exist because of its rate of environmental exploitation. Authors say that such rapid exploitation will eventually undermine the planet's ability to provide resources. Even so, these sources claim that both economy and environment can still succeed, at least to an extent.

Much of the public sustainability discourse is focused on the ways that declining natural resources will limit economic growth and how current systems must be altered to avoid ultimate societal collapse. In the early work *Limits to Growth*, Meadows, Randers, and Meadows (1972) discuss how "global ecological constraints (related to resource use and emissions) [will] have significant influence on global development in the twenty-first century" (x). The authors use computer modeling to demonstrate how late 20th century rates of economic, population and other growth could surpass Earth's resources. They provide several different scenarios besides

“business as usual” in which there are more promising outcomes than a total exploitation of Earth’s resources, but each would require significant changes in institutions, technologies and mindset. A revision of the first book titled *Limits to Growth: the 30 Year Update* (2004) demonstrates that now economic growth is on track to surpass ecological limits. There is now an even more urgent call to action for implementing economic and political policies that will minimize environmental impacts so that growth can continue.

Hawken and Lovins (1999) also discuss natural resources as a limit to environmental growth, but argue that the reason natural resources are declining is that they have been undervalued by the capitalist system. Natural capital has been undervalued similar to the way human capital (labor) has been undervalued according to Marx. The authors say capitalism should value nature the same way it values financial capital. They acknowledge that capitalism is destructive, but it also provides a way to maximize scarce resources by revolutionizing industry so that resources go farther. Ultimately, they argue for a “new industrial revolution” that changes industry so that economic growth can continue while reducing environmental impacts. The perspective of expanding economy while reducing impact is reflected in the way that some Icelanders view the expansion of renewable energy. While this expansion may have negative impacts on the land where it is developed, many Icelanders believe that by providing renewable energy to industry that would otherwise have a much larger impact, Iceland can expand its economy while reducing global greenhouse gas emissions (Jóhanesson, 2005).

Meadows et al. (2004) and Hawken and Lovins (1999) see natural resources as a limit to future economic growth and consequently as something that must be preserved for the sake of economic growth. Daly (1997) also sees environment as a limit to economic growth, but places the importance of the environment over the importance of economy. Similarly to Adams (2008),

Daly believes the term “sustainable development” is “still dangerously vague” to the extent that economists utilize the vagueness of the term to back up arguments that economic growth can continue even in the face of severe environmental limitations (Daly, 1997, p. 1). He argues for a curbing of economic growth, which will consist of a complete halt of physical growth and a focus on making qualitative improvements. Like Hawken and Lovins (1999), Daly holds the belief that the current economic model ignores ecological costs with economic growth, but he also critiques the outlook that environment and economy can both succeed. Only one of these can persist, and it should be the environment since economy will eventually collapse if resources run out. Ultimately, according to Daly, environmental resources should be preserved for their inherent qualities instead of for economic exploitation. Daly’s argument aligns with the perspective that some interviewees expressed in which Iceland’s wilderness, and that natural resources that comprise it, should be preserved for their inherent worth instead of for renewable energy development.

A significant number of the texts, such as those addressed above, that describe ways to bring sustainability into the modern world say that it must be accomplished by altering economic systems to decrease environmental degradation. For the most part, though, suggested changes function within the existing capitalist system and are not so drastic as to revoke this system. Many political economists, however, do call for a revoking of the capitalist system on the grounds that it positions nature in opposition to humans as a resource that is exploited. Smith (1984) claims that “the emergence of industrial capitalism is responsible for setting contemporary views and visions of nature” as something separate from humans (p. 1). He criticizes the capitalist system on the grounds that humans constantly produce and shape nature, creating a relationship that is only reinforced by the capitalist processes of exploitation and labor.

According to this Marxist view, plans for implementing sustainability under current economic relations will not be effective because the capitalist system, by nature, will always destroy environmental resources.

Similarly, Harvey (1996) discusses how capitalism is not sustainable because it functions by exploiting both people and the environment. He explains, “Economic activity systematically produces environmental harm (disruptions of ‘nature’) and [...] society should therefore adopt a proactive stance with respect to environmental regulation and ecological controls” (Harvey, 1996, p. 377). For this reason, Harvey critiques the process of environmental harm with economic growth, which he calls “ecological modernization.” According to this theory, both the economy and the environment cannot succeed under the capitalist system, reinforcing Smith’s outlook. The political economy discourse, then, critiques much of the sustainability literature, given that it assumes capitalism will persist so changes in environmental exploitation must occur within this system. Daly’s work, however, is excepted since he acknowledges the improbability of environmental success with economic growth.

Harvey and Smith both make important points about how sustainability is unattainable under the current economic system, but it is also important to recognize the unlikelihood of an immediate revoking of capitalism. While the political economy discourse would certainly critique much of the sustainability discourse because it separates humans from nature or fails to call for a removal of capitalism, the existing literature on sustainability provides more realistic options for addressing the environmental crisis. Nevertheless, we have to recognize that given the current economic system, most people cannot live completely sustainably.

Many of the views put forward in the non-governmental realm of the sustainability discourse explain phenomena that influence people’s environmental decisions. But most of the

perspectives do little to discuss what will ultimately put the changes they propose into action, especially from the perspective of individuals, or assume that those changes will occur because of strong and widespread ethical motivations.

The Question of Ethics: Incentivizing Sustainability

There needs to be more acknowledgement of the fact that incentives for sustainable decisions and lifestyles are not as simple as a call to action or a change in ethics. The sustainability discourse is underlain by the assumption that all people everywhere will recognize the need to support planetary wellbeing and act on that realization. While ethics are undeniably present in environmental decision-making, they are not universal at all scales because of the other incentives at play. A strong environmental ethic has developed at the global scale, but individuals will also be influenced by the cost of resources in their immediate area, or the need to preserve wilderness based on its importance to national identity. The way in which ethics function as a sustainability motivator will also be intertwined with cultural norms and values, which involve integrating scalar phenomena in the decisions of individuals as an ongoing process.

Within the sustainability discourse, there are detailed examinations and complex explanations of how to alter economics, industry, or conceptions of our relationship with the environment, but little attention is paid to how individuals will be motivated to make those changes. It is often assumed that the switch to sustainability will occur universally based on the obvious need and ethical decision to change lifestyles. Sometimes, ethics are used as an argument for an urgent paradigm shift. Often, though, as I have summarized above, they are not discussed outright but simply inherent in the discussion of how environmental policies and practices will be developed. It is necessary to examine what motivations for sustainability exist

alongside ethics to fully comprehend why individuals make the environmental decisions that they do.

In some cases, a shift toward ethical concern for the environment is deemed essential for sustainable development. Daly is a particularly strong proponent of ethics as a necessary incentive for implementing sustainable change. He claims that often religion (referring to Christianity) is a better inspiration for changing lifestyles or policies than science. What the world needs is “a fundamental ethic that will guide our action in a way more in harmony with both basic religious insight and the scientifically veritable limits of the natural world” (Daly, 1997, p. 217). Religion is not necessarily essential, though, to inspire environmental action, according to Meadows et al. (2004). The prospect of a “sustainable, functional, and equitable but also deeply desirable” world is an opportunity that can be seized by a culmination of “ethics and vision and courage” along with “the human heart and soul” (Meadows et al., 2004, p. 263). The Brundtland Commission lists environmental concern, as well as humanitarian concern, as significant drivers of sustainable development. According to these sources, connection and commitment to the earth, a deep environmental ethic, will drive sustainable policies and practices.

Ethics also function in the sustainability discourse as an embedded assumption. Daly notes that environmental ethics are “suggested by the terms ‘sustainability,’ ‘sufficiency,’ ‘equity,’ [and] ‘efficiency’” (p. 219). “Sustainability” in and of itself is an ethic and therefore using this word conveys a moral dedication to the wellbeing of Earth, its people, and its resources. Even the Brundtland Commission’s definition of sustainable development involves ethics because it assumes that people will automatically be motivated to “do the right thing” and adapt their lifestyles so that future generations can benefit. The current conversation discusses

the transition to a sustainable society as something that will occur due to a change in attitude, which is necessitated by the fact that the current exploitation of environmental resources has to change. Meadows et al. (2004) say that “a transition to sustainability will require an active decision to reduce the human ecological footprint” (p. 252). The Brundtland Commission also describes “changes in attitude and objectives” (p. 55). It is assumed that a change in environmental treatment will occur because it is necessary. The problem with this assumption is that it is difficult to change one’s lifestyle when resources are still readily available and change does not seem necessary. The decreasing supply of natural resources is hard to foresee when there are few immediate effects.

The embedded assumption of ethics within sustainability applies universally across scales, especially in the Brundtland Commission’s plan for sustainable development. The Commission proposes that individuals will be persuaded to act with ecological concern through education, institutional development, and law enforcement. But education is one way of spreading ethical concerns, and institutional development and law enforcement will have to be carried out at a governmental level, which means that people in power must also have ethical motivation to implement policies. The Commission also states that the way to address severe environmental changes is through transformations of the political and economic system, and that people in positions of political power should take responsibility to implement policies that will change individual consumption patterns. But the motivations for people acting on these scales are not discussed. Since sustainability insinuates ethical drivers, ethics are the implied motivator. But for such scales as the political and economic system, other interests, such as economic growth or political success play a role and it is not guaranteed that environmental wellbeing will be a political leader’s priority.

One of the main drivers for ethical concerns is that if we do not act immediately, there will be consequences. Meadows et al. (2004) discuss the many consequences of overshooting the capacity of Earth's resources with economic or population growth. The Brundtland Commission lists the dangers of neglecting the environment that are already in play including increased carbon dioxide emissions, increased toxins and acidification, and loss of biodiversity. The switch to renewable energy is necessitated by the fact that if we do not move away from fossil fuel use there will be severe consequences for climate. The Commission clearly states that not only political leaders but also people of affluence should take the responsibility of implementing renewable energy alternatives because it is the right thing to do. Yet, despite the knowledge that Earth's resources and environment will continue to degrade, there still has not been major action to halt environmental exploitation.

It makes sense that ethics would be the primary motivator that is discussed for sustainability. The sustainability movement emerged with increasing environmental awareness and concerns of after World War II. The primary reason for bringing the sustainability discussion to the world's attention is that many believe we have a commitment to our environment. Environmental ethics are the root of the sustainability discourse, whether the environment is considered a source for economic growth, and for that reason must be conserved, or an entity to be preserved for its inherent qualities. It is for these reasons that authors like Daly, Hawken et al., and Meadows et al. wrote books explaining how best to utilize, or preserve, nature in tandem with the economic system.

For some, ethics is the missing link between the scientific information about our deteriorating environment and initiating action to stop it. In the introduction to the book *Moral Ground: Ethical Action for a Planet in Peril* (2010), Kathleen Dean Moore and Michael P.

Nelson note that people are failing to act on global environmental issues even as scientists and activists are spreading information about our negative impacts on the environment and how to change those impacts. They believe that a change in moral outlook is needed to incentivize the major changes the environment requires to support future generations. This shift in perspective has not yet occurred because “a piece is largely missing from the public discourse about climate change, namely an affirmation of our moral responsibilities” (Moore and Nelson, 2010, p. xvii). And it’s true; ethics often exist only as an embedded assumption in sustainability literature. Moore and Nelson aim to bring ethics and morality into the public realm by integrating “moral wisdom” from around the globe and inspiring the world’s population to act. The arguments they bring together throughout the book are valid and relevant, involving moral arguments that there will be consequences if we do not act or pointing out that we should do what is right or virtuous. Moore and Nelsons’ ideas connect the individual to a sense of global environmental responsibility, instead of imposing obligation on the individual as some of the other literature does. However, there is still little or no recognition of other sustainability drivers that may complicate whether or not people can act purely based on morals in their text.

There are attempts to incorporate other incentives, such as economics, in the discussion of how to put sustainability into motion. Hawken and Lovins (1999) discuss how people will likely act based on self-interest, so preserving resources needs to be profitable. An assumption of economic motivations is also embedded in the work of Meadows et al. (2004). These authors say resources must be preserved in order to keep the economy going because if resources are completely exploited, the economy will collapse. However, this discussion of economics does not consider how specific conditions at smaller scales could lead to a greater or lesser need for economic incentives for conservation.

Methods for incentivizing sustainable development at the governmental level are also discussed. For example, the Brundtland Commission points out that energy efficiency is more cost-effective, which could be an incentive for people to implement more energy efficient systems like renewable energy projects. Also, the Commission notes that energy savings fluctuates with prices, so implementing increased energy prices can result in decreased use, which is an economic incentive for individuals to consume less. However, the Commission does not acknowledge how this might be achieved at the governmental level and whether the motivation will also exist there.

Follow-ups to the Brundtland Commission, especially the Rio+20 Summit and Agenda 21, do a more in-depth job of assessing how to implement sustainable development. Agenda 21, like the Brundtland Commission, is founded on the principle of acting on sustainable development out of ethical concern for planetary wellbeing and before it is too late. But it also recognizes the need for “provision of economic incentives” by national governments so that sustainability occurs in tandem with economic efficiency for those governments and individuals (Agenda 21, 1992, p. 42). The Rio+20 Summit focuses on how to operationalize the “green economy,” which will involve “pricing ecosystem services or [...] using financial incentives/disincentives to spur environmental protection or promote sustainable use of natural resources” (UNDP, 2012, p. 5). It also acknowledges that national interests and priorities will play a role in the success of these implementations. This is an important improvement from earlier documents because instead of falling back on ethical motivations to spur economic and political change, the role of economically efficient and self-interested decisions between individuals and national governments and how these will affect sustainability is recognized.

There has been a shift in recent years in government policy literature on sustainable development towards incentives other than ethics that will instigate changes in economic and political systems that reduce environmental impacts and conserve resources. However, there is still little investigation of the different incentives, besides ethics, that are created through the specific culture norms and conditions of different places that will cause individuals to practice sustainability. Looking solely at ethics simplifies the task of instigating sustainable change, but more incentives need to be investigated for success. This is illustrated by the failures of Agenda 21, which highlight that there are many constraints on a nation's success with sustainable development, such as economics and need for policy change. While *Welfare for the Future* takes the need for these changes into account, it still only focuses on the national level. It is important to explore the dynamics experienced at the individual level that come from the regional, national, or global level to better understand the decisions people make about how they interact the environment. Iceland provides a case study that demonstrates the importance of examining the motivations of sustainable action and belief for individuals. The conclusions that can be drawn from Iceland emphasize the need for a shift towards further acknowledgement of drivers such as economics, nationalism, and culture within the sustainability discourse and how they manifest differently in different places at different scales. Future sustainability policies can then be informed by these drivers, which will hopefully make them more successful.

Culture and Environmental Practices

When considering how and why Icelanders formulate beliefs about environmental treatment or decide to take environmental action, it is important to ask if these beliefs and actions stem just from the individual or if cultural processes affect the individual. According to Hall (1995), culture consists of “the systems of shared meanings which people who belong to the

same community, group, or nation use to help them interpret and make sense of the world” (p. 265). Culture constructs identities, giving a sense of who you are and where you come from, and these identities are constantly being produced and reproduced. The idea of culture is often conceptualized as something that is concrete, bounded, and homogenous, with a fixed interior that contrasts with the exterior. But especially with the presence of globalization, the accelerating speed at which ideas are transferred between places, culture cannot be conceptualized as a fixed entity but instead must be understood as a process (Hall, 1995; Sewell, 2008). While cultural norms may seem rooted in history, they are constantly changing and being rewritten in the present. Culture is created through a recursive system in which individual practices reiterate the requirements of norms and norms dictate the actions of individuals.

Culture occurs in this constantly changing way not only because it is a process, but also because that process involves struggle. Williams (2008) describes culture as “the outcome of meanings we produce in our everyday lives,” but there are constant struggles over those meanings. While one meaning may be dominant, there are always people and ideas that challenge it. When previously subordinate ideas become mainstream, there are still people who adhere to old norms.

The definition of culture as an ongoing process of struggle is reflected in the way that an environmental culture is forming in Iceland. There was general consensus among interviewees that Icelanders as a group are fairly unconcerned about their environmental impact and make poor decisions regarding waste and conservation. This non-conservational definition of Icelanders represents a more bounded, static view of Icelandic culture. Interviewees also noted a shift towards more environmental practices over the past couple of decades and said that many people are acting against older non-conservational norms in favor of more sustainable action and

beliefs. Changes in Iceland's cultural norms have occurred because of influence from other parts of the world, a growing awareness of global environmental problems, and a realization of threats to Iceland's landscape. While some people will adhere to new environmental norms, people with different opinions will still contest the meanings of these norms. Understanding that culture is heterogeneous because of the conflicting perspectives of collective meanings is essential to analyzing why Icelanders make the sustainability decisions that they do. Examining changing norms and meanings and where these changes come from is part of comprehending the different scalar incentives that influence the decisions of individuals.

Methods

The research for this thesis was carried out based on a multi-sited design aimed to explore sustainability practices and incentives within Iceland, which informs the discussion of what sustainability motivations are at play for individuals. I conducted the research when I traveled to Iceland as part of a study abroad program through the School for International Training (SIT) during the summer of 2015. The program included a research component through which I could carry out my research. The research itself consisted of interviews conducted at three locations: Iceland's capital, Reykjavík, and two towns in the Westfjords (the northwestern peninsula of Iceland), Ísafjörður and Bolungarvík. During the study abroad program, I spent three weeks in the Westfjords and one month in Reykjavík, allowing me to engage in participant observation and gain a better understanding of how incentives for sustainable action stems from different scales. Spending time in different areas especially shed light on the way beliefs and actions were either consistent or inconsistent between localities and regions, demonstrating the local, regional, national, or global origin of incentives.

Interview questions were based primarily on three topics: sustainable practices, sustainable beliefs, and changes that have occurred in the sustainable actions and beliefs in Iceland over the past several decades. Questions about sustainable practices focused on several specific topics, which included fossil fuel use, domestic energy (heating and electricity) and water consumption, and waste management. Questions about sustainable beliefs centered on how people perceived the importance of wilderness conservation. People also described their sustainable beliefs as reasons to carry out sustainable practices.

The first two topics were partially derived from sections of *Welfare for the Future: Iceland's National Strategy for Sustainable Development*, a document that outlines Iceland's sustainability goals for 2002 until 2020. The sections I chose described sustainability goals that could be reached with the help of individual action or that may be affected by strong beliefs. The sections on which I focused are: Wilderness Conservation (for its inherent and economic qualities), Increased Utilization of Renewable Energy (including reductions in fossil fuel use and more renewable energy projects), and Reduction and Improved Handling of Waste. Other aspects of sustainable practices emerged in interviews as interviewees described practices that they thought of as sustainable. This addition mostly included energy and resource use in the home, more specifically, why or why not people felt the need to conserve water, heat, and electricity.

The final topic, how sustainable beliefs and practices have evolved over time, was something that I found necessary to discuss after spending my first couple of weeks in Iceland. Many people I talked to, not just interviewees, described Iceland's past as not environmentally oriented. But people also said that that has changed over the past couple of decades, especially since people became aware of the threats of renewable energy projects to Iceland's land around the 1970s. I decided to ask interviewees about whether or not they noticed changes in

environmental practices during the past several years. This inquiry shed light on how cultural norms surrounding the environment have changed, especially in recent decades, and for many people are motivators for sustainability (See Appendix A).

The interview process itself involved finding interviewees and conducting interviews. Potential interviewees were people who had lived in Iceland for at least two years and who are over age 18. People I met in Iceland through SIT were asked to participate in interviews. They included my host family or people referred to me by the SIT program leaders (See Appendix C, Appendix D). The interviews themselves were semi-structured with prepared questions that were altered and added to over the course of the interview process. They were 15 to 25 minutes long and audio recorded, with the interviewees' permission.

Additional research was conducted through an e-mail survey. Participants were contacted through the SIT program leaders and given the option of answering the survey questions and returning them to the researcher. The survey questions were largely the same as the interview questions, but more focused on obtaining quantitative than qualitative data (see Appendix B). As a result, the surveys are supplementary to the data collected through interviews and this thesis primarily focuses on analyzing interview results. For quantitative interview data, see Appendix E.

One main limitation that exists in the methodology is that interviewees were obtained through a study abroad program that had to do with sustainability and renewable energy. This could have skewed interview results because it is possible there was a higher representation of environmentally conscious people than there would have been if I had found interviewees another way. Also, the research was designed to explore how individuals living in Iceland make decisions about sustainability, not to be representative of the entire nation. The entire range of

views about sustainability held by Icelanders might not be represented in the interviews conducted.

All subjects were informed that they were not required to participate and not required to complete the interview or survey. Institutional Review Board approval of research was gained through the SIT program.

The Saga: Scale, Culture, and Sustainability Incentives in Iceland

The word “saga” in English comes from the original Icelandic word that loosely means “history.” The meaning of the word “saga” is somewhat ambiguous because the Icelandic Sagas, narrative records of the lives of prominent people and families during Iceland’s medieval period, are part history and part myth, such that “saga” translates more directly to “story” than it does to “history.” Nevertheless, Icelanders treat these texts as reliable records because they provide unique insight into the cultural values and structures of Iceland’s past. I call this study of sustainability practices and beliefs in Iceland “Iceland’s environmental saga” because it is a story comprised of constructions and cultural processes that is still evolving. The way that Icelanders think about the environment, their relationship with it, and the resulting manner in which they treat it, is a chronicle that has yet to play out. This is because the stories that Icelanders are told and tell themselves about the environment and how they should treat it are constantly being recreated. The environmental decisions Icelanders make are influenced by perceptions of scalar influences, which are mediated through the ever-changing presence of culture.

In this study I examined four types of sustainable action or belief: fossil fuel use and global climate change, waste management, domestic energy and resource conservation, and renewable energy and wilderness conservation. For Icelanders, ideologies that originate at different scales drive incentives to either conserve and be concerned about conservation, or not

conserve nor be concerned with how actions impact the environment or about the general state of the environment.

Economics often function primarily as an incentive to conserve resources like fossil fuels and domestic energy and resources because they are expensive. However, in regions where energy is less expensive (i.e. in the south where geothermal energy is abundant) fewer people are likely to conserve or believe in the importance of conservation. In this way, sustainable action is a function of economics as both individual self-interest and local or regional availability.

Sustainable beliefs, rather than actions, are also tied to economics because of ways in which being sustainable can benefit Iceland's national economy. Some Icelanders believe that building more renewable energy projects is the best way to benefit the economy, while others say that these projects will ruin Iceland's wilderness, which is a more valuable commodity due to the rise of tourism.

The debate over whether or not Iceland's land should be used for economic benefit connects closely with wilderness conservation, landscape ideology, and nationalism. Another perspective of how Iceland's resources are best used is that Iceland's wilderness is one of the last 'pristine' wildernesses in Europe so it should be preserved because of its inherent qualities. The idea that Iceland's wilderness should be completely preserved is tied to sustainable belief rather than action. It connects with the concept of sustainable land management and is very much a part of how Icelanders conceptualize nature preservation as part of sustainability. The need to preserve Iceland's landscape connects deeply with a national landscape ideology and identity. For example, Icelanders often think of themselves as survivors in an unforgiving, cold, and barren land. While the landscape of Iceland today is completely changed from the landscape that existed during Iceland's settlement, people assume that the modern appearance of Iceland's

landscape is also its historical appearance and connect their identity with its timeless qualities. Because of their constructed connection with landscape, many individuals support the care and management of wilderness. However, many people do not support major reforestation projects, which would transform the landscape they know and identify with.

Local availability of resources is also a major driver for waste management and domestic energy and resource use. Recycling implementation has driven a widespread movement towards more sustainable waste management practices. But when recycling infrastructures are not readily available, not all Icelanders will take the time to manage their waste sustainably. When considering the need to save water, most Icelanders agree that there is not really any need to conserve this resource because clean water is so abundant in Iceland. Similarly, for people living in the south, there is not really any need to conserve geothermal energy because there is virtually an unlimited supply.

For both of water and waste management, however, there is an underlying ideology of ethics. Many people ask, why should I waste something when I do not need to? They want to do things like recycle, turn out the lights, or shut off the water because they believe it is morally the right thing to do, even given the abundance of resources. There is also an underlying ethic for fossil fuel use. Many people feel they shouldn't drive because they want to reduce their carbon and greenhouse gas emissions.

But where does this ethical motivation come from? Iceland does not have a social history marked with environmental ethics. If anything it is marked by survival and frugality, which is perhaps where economic constraints on sustainable action come from. But many Icelanders talk about an emerging environmental consciousness and culture in Iceland. Iceland's rising environmental culture stems partly from exterior influences. Knowledge about conservation has

traveled to Iceland as people travel to and from the country, and Iceland has also increasingly become part of the global discussion on climate change. Part of the rise of environmental ethics within the country may actually be nationalistic or economic because proving its sustainability achievement may be a way for Iceland to gain more attention from the rest of the world. But it also stems from the recreation of cultural norms that pertain to environmental practices. There are increasingly more people who both believe in and practice sustainability, at least to the best of their abilities, as a result of global, national, and regional influences mediated by Icelandic culture. The results from the interviews and surveys I conducted tell the story of how today's Icelanders are influenced by the culmination of scale and culture, creating unique, evolving conditions under which individuals are motivated to make environmental decisions.

Sustainability and Land Management

Preserving Icelandic Wilderness: Landscape Ideology and National Identity

To Icelanders, the landscape of their country is unique, iconic, and a symbol of Icelandicness. Even from an outside perspective, Icelandic landscape and wilderness seems to be something special. The amount of glacial and volcanic activity in Iceland has resulted in very beautiful and unusual geological formations. The rugged appearance of Iceland's steep, treeless mountains, the imposing formations of the fjords, and the barren fields of volcanic debris produce an ambiance of struggle and survival typically associated with the idea of wilderness. Of course, this ideology ignores the history of degradation Iceland has experienced, but regardless, Icelanders feel connected to the natural environment that surrounds them. Many agree that land and wilderness must be preserved because of the unique and inherent qualities of Iceland's landscape. I argue that this is due to a national identity connected with landscape ideology.

National identities stem from nationalism, which is an ideology and a political practice, which asserts that the group of people to which one belongs (nation) should have its own geographic territory (state). Citizens of a nation often associate certain cultural, religious, or political practices with their nation and feel a sense of belonging within it because they share the same practices or beliefs. While the nation may seem like an ancient entity that has always tied a group of people together, nations are actually a much more recent creation. It is easy to think of nations as “natural,” and assume that they are defined by their “primordial ties to ethnicity and language” (Flint & Taylor, 2011, p. 195). But only during approximately the past 200 years, since the beginning of the industrialization period, have ideas of culture been tied to political demands (Gellner & Breuilly, 2008). Nationalism exists as an ideology that utilizes cultural or ethnic identity to conceal the political processes that help create the nation-state. Anderson (1983) explains that nations are “imagined communities” because it is impossible to know every person in a nation, and yet there is a deep sense of camaraderie between citizens. Also, nations are thought of as limited; they include a certain territory and people. Therefore, nations are not only imagined as involving a specific group of people, but also as a being tied to a certain area of land. Citizens of a nation often do not notice the existence of the nation because it is naturalized and unquestioned in everyday life. However, to maintain the longevity of a nation, it is necessary to have an underlying sense of nationalism so that it can be reawakened in times of crisis (Billig, 1995).

Perceptions of landscape, the image of a nation’s territory, are similarly created through cultural and historical processes. The idea of landscape emerged during the 15th century with artistic representations of “natural” views. As a result, landscape became something that is observed, but Cosgrove (1984) explains that landscape is actually created through social

participation that occurs through historical and cultural processes. Landscape is an ideology because it is “not merely the world we see, it is a construction, a composition of that world” (Cosgrove, 1984, p. 13). In developing an understanding of the human relationship with the environment, we are actually assigning cultural meanings to surrounding landscapes so that they become a “reflection of these cultural identities, which are about *us*, rather than the natural environment” (Greider & Garkovich, 1994, p. 2). The physical environment becomes landscape when social and cultural meanings are reflected on it. In this way, landscape becomes a reflection of the self (Greider & Garkovich, 1994). Mitchell (1996) adds another layer to the process of landscape construction. He argues, “Landscape is [...] constructed out of the struggles, compromises, and temporarily settled relations of competing and cooperating social actors” (p. 163). There are constantly conflicting interests that create and recreate social meanings within landscapes.

As an extension of this, imbuing landscape with cultural meanings is part of the process through which national identity becomes connected with territory. An inherent aspect of nationalism is a nation’s claim to certain land or territory and the pursuit of controlling that land. One way of gaining control is to cast meanings that reflect the goals or identity of a nation onto a landscape so that it is understood as part of the nation. Williams and Smith (1983) argue that “‘the land’ occupies a [...] pervasive place in the ideology and enterprise of nations and nationalism, [and is] intrinsic to the very concept of a national identity” (p. 1). Landscape gains such pervasiveness through historical interactions that occur between nature and society (Jones & Olwig, 2008). By connecting itself with a certain landscape, a nation can explain itself and its characteristics by the characteristics of that landscape, which hides the political factors involved in the creation of the nation. Dibben (2009) explains, “Aligning the nation with land, and with

the natural features of that landscape, is one means by which nations construct themselves as given by nature rather than defined politically” (p. 135). Landscape is a means through which nations can solidify the relationship between their identity and their surrounding territory.

Another concept central to the construction of nation is defining the nation in contrast with “external others” (Jones & Olwig, 2009, p. x). Jones and Olwig (2009) argue, “Regional place identity is a sense of belonging and attachment to an identified region, distinguished from other regions” (p. xi). The social construction of regions occurs when their specific characteristics are defined, especially the physical environment or landscape, to distinguish them from other places. Identities are then constructed in accordance with the specific landscape of a region that is unique from that of other regions.

Iceland has been socially constructed as a nation whose characteristics stem from aspects of the surrounding environment. The harsh weather, difficult living conditions, and barren appearance of Iceland seem to define not only a distinct geographic context, but also characteristics of the nation (Dibben, 2009). The way Icelanders conceptualize the land around them, especially as wild, pure, and harsh, has evolved from shared historical knowledge. Hastrup (2005) argues that “landscape is deeply marked by history and meaning for Icelanders” because of the way it has been remembered through language, poetry, the written record of the first settlers of Iceland (*Landnámabók*), and place-names (p. 53). These memories revolve around subsistence activities and struggle with the harsh, untamed land and difficult weather conditions, creating “grand historical narratives [that] are shared vehicles of a national identity, firmly rooted in nature” (p. 60). Modern landscapes in Iceland are constructed by transferring historical aspects of land, especially the pure and harsh qualities that were present at the time of settlement, so that landscape is perceived as timeless and historically, as well as literally, pure (Hastrup, 2005).

Icelanders use this understanding of the land to shape their understanding of themselves as well as the nation as a whole.

Similarly to Hastrup, Dibben (2009) states that Icelandic “identity draws on its land, language, and literature to create the idea of a ‘natural’ relationship between the land [...] and the nation” (135). The process of remembering Iceland’s settlement and past through language and literature formulates an idea of Icelandic identity as something that has been shaped by the physical environment. But assuming that identity has been determined by environment is actually part of the process in which cultural meanings are inscribed on the surrounding land. The relationship with the environment is then defined in a certain way, which produces landscape. In the case of Iceland, the way environment is perceived through cultural meanings creates a landscape through which Icelanders can construct a unique national identity.

The naturalization of the human relationship with the environment hides the actual political processes that occur as part of nation construction. By defining Icelandic landscape as something that has a unique effect on Icelandic people, Icelanders can differentiate themselves from people in other nations. This is important for Icelanders because their identity has often been threatened, especially by Danish influence during Denmark’s colonization of Iceland. Danish rule ended in 1944, but the United States built a military base in Keflavík in 1941 and the occupation did not end until 2006. This, along with increased influences from global media, has created a perceived threat to Icelandic identity (Dibben, 2009). As a result, defining Icelandic wilderness and solidifying Icelanders’ relationship with it has become more and more important.

Icelandic landscape is most commonly defined, or rather constructed, as pure, wild, vast, harsh, and therefore unique. These ideas have largely evolved from perceptions of the timeless quality of Iceland’s landscape. Even though Iceland’s inhabitants have drastically changed the

constitution of the physical environment, characteristics of the landscape that would have existed before or during the time of settlement, especially purity and wilderness, are transferred to the modern conceptualization of landscape (Hastrup, 2005). Conversely, the modern appearance of the land, which is very open, uninterrupted by trees, and minimally vegetated, is assumed to also be its historical appearance, even though Iceland used to be far more vegetated than it is today. Dibben (2009) claims that “the sense of space provided by a landscape free from trees and buildings” contributes to a sense of nationalism (p. 138). The dramatic, vast, and barren appearance of Icelandic landscape makes it seem unique compared to other places, and therefore as a place that produces a unique people. The unique qualities of landscape are also derived from the perception that much of Iceland is “wild.” Given the small population and the idea that Iceland’s land is the same land that settlers lived on, it is widely believed that much of Iceland is an “untouched wilderness.” This contributes to Icelanders’ sense of national pride because their territory includes one of the last wildernesses in Europe and therefore is a unique part of the world (Jóhannesson, 2005).

The ways in which national identity and landscape ideology are connected contribute to the discourse surrounding environmental conservation in Iceland. According to this discourse, natural Icelandic landscape “should be protected based on two main claims: first, that it constitutes an important part of Icelandic identity, which is distinct from that of other nations [...] and, second, that Iceland’s natural landscape can make a unique international contribution” to the world (Dibben, 2009, p. 143). Icelandic identity and nationalism are deeply connected with Icelanders’ perceptions of their environment as unique and wild. There exists a “long-held nationalist ideology in which threat to land is positioned as threat to nation” (Dibben, 2009, p. 146). While the existence of Icelandic landscape is often naturalized in everyday life, threats to

landscape reawaken the need to protect this aspect of Icelandic identity. Because Icelandic national identity is so connected to the purity of the land, threats to this purity, such as industrialization and construction, ignite “a rhetoric of nationalism in support of [a] protectionist cause” (Dibben, 2009, p. 146). The way that Icelanders talk about wilderness conservation is tied with ideas of landscape ideology and nationalism. Preserving the unique and wild qualities of Icelandic wilderness and maintaining its vast and barren appearance are considered extremely important for many Icelanders, suggesting that the connection between landscape and national identity is an incentive for conservation in Iceland.

For the vast majority of interviewees and survey participants, wilderness conservation was very important, especially in areas with unique ‘Icelandic’ qualities. Among interviewees, there were differing opinions about to what degree landscapes should be utilized or preserved, but here we will focus on perspectives that supported the preservation of Icelandic wilderness. Many interviewees and participants agreed that certain parts of Iceland’s natural environment should be preserved. These included the highlands (the central region of Iceland), waterfalls, areas with visible geothermal activity, wilderness or beautiful nature, and areas with endemic vegetation and wildlife. Several participants noted the importance of preserving “untouched nature” and “unspoiled wilderness” as well as visually stunning areas that do not exist anywhere else (A.M. Korneliusdóttir, personal communication, July 16, 2015; Þ. Pétursdóttir, personal communication, July 20, 2015). The areas that seem most important to preserve are considered unique to Iceland and not something that occurs in Europe or in many other parts of the world.

The perception of Icelandic wilderness as unique, however, is underlain with the assumption that it has always been this way. Most participants overlooked the history of environmental degradation that has produced Iceland’s landscape, instead noting how modern

activities, such as building renewable energy projects and increasing tourism, are ruining the ‘naturalness’ and the uniqueness of the wilderness. Some specifically noted the negative impacts of large hydropower plants. Sentiments mainly center around the fact that hydropower plants harm the environment because of their widespread impact and that they are “not beautiful to go [...] and see” (V.P. Bjornsson, personal communication, July 14, 2015). There is generally more opposition to hydropower plants than geothermal plants because geothermal plants are not as big and therefore do not obstruct views as much. Anna Margret Korneliusdóttir also noted that land impacted by geothermal extraction is more reclaimable than land impacted by hydropower. Her largest concern about the *Kárahnjúkar* hydropower plant is that the reservoir it created covers vegetation that will probably never be reclaimed (A.M. Korneliusdóttir, personal communication, July 16, 2015).

Another related concern is the amount degradation resulting from aluminum smelters powered by large hydropower plants. Óli Kristjánsson and Kári Johansson both noted the need to recognize air pollution and degradation from aluminum smelters, but do not know exactly what the impacts might be (Ó.G. Kristjánsson, personal communication, July 21, 2015; K. Johansson, personal communication, July 5, 2015). Patrycja Wistock Einarsdóttir feels there is a lot of secrecy surrounding the impacts of aluminum smelters so that people do not know how they could negatively impact land. She says, “It’s sad that we need to use our nature for some aluminum smelter that doesn’t do us any good” (P.W. Einarsdóttir, personal communication, August 3rd, 2015).

Participants also expressed concerns about the increasing number of tourists in Iceland ruining the natural aspects of Iceland’s wilderness areas. These included the physical impacts on the land as well as the fact that there is no longer solitude or quiet spaces, especially near

particular attractions. Korneliusdóttir summarized these concerns, saying that now you have to look much harder for “an element of untouched nature” (A.M. Korneliusdóttir, personal communication, July 16, 2015). In these sentiments about increasing tourism and renewable energy projects, there is an overall concern with keeping landscape the way it is, in its “natural” form, and limiting negative impacts.

Knowledge about the historical formation of Iceland’s landscape is not completely missing from participants. Two interviewees, Þórunn Pétursdóttir and Brynhildur Davidsdóttir, noted the ways in which Iceland’s settlement and development have negatively affected Iceland’s soil and vegetation. Both women have a deep understanding of these phenomena because of their professions. Pétursdóttir works for the Soil Conservation Service and Davidsdóttir is a professor in the Environmental and Natural Resources Department at the University of Iceland. Pétursdóttir first noted how many Icelanders think of the Highlands as the “unspoiled nature of Iceland” but adds that “it is not unspoiled” because it has a history of erosion (Þ. Pétursdóttir, personal communication, July 20, 2015). Davidsdóttir has a similar perspective, that when people look at Iceland’s landscape, especially in the Highlands, and think of it as pristine they are wrong because what they are seeing is Iceland’s biggest environmental problem: erosion (B. Davidsdóttir, personal communication July 21, 2015). But many other areas show signs of degradation and erosion as a result of poor land management techniques in the past that are often overlooked. Pétursdóttir explains how people make assumptions about land near Reykjavík:

It’s beautiful, and all this you can see far away and there’s the lava [...] and then you can see the landscape which are not so fertile, which are not so vegetated, and [you think that’s] because it’s [the land] is so harsh. No, it’s not because it’s so harsh, it’s because of

unsustainable land use in the harsh environment. [It's because of] the unsustainable land use because it was not like this. So [...] this is what you see and then you think this has always been like that. (Þ. Pétursdóttir, personal communication, July 20, 2015)

Péturdóttir and Davidsdóttir both agree that reforestation action needs to be taken in order to return Iceland to the state it was in before settlers arrived.

But most Icelanders do not see beyond the appearance of modern landscape, so instead of supporting goals to return Icelandic landscape to what it once was by reforesting and vegetating certain areas to decrease erosion, most people are focused on preventing any kind of change to the landscape. Many Icelanders are not so concerned with the history of the environment, but instead people “like the country as it is today, without much vegetation” (B. Davidsdóttir, personal communication, July 21, 2015). This means that many people are against restoration projects that will drastically change the appearance of the land. Pétursdóttir comments on this saying, “some people are against the restoration [and] afforestation is also a huge debate here in Iceland” (Þ.Pétursdóttir, personal communication, July 20, 2015). Icelanders feel very connected to nature, but do not like trees or anything that will block the view. Þórhildur Jónasdóttir is one interviewee who expressed her views on this subject. She says that while she thinks it is important to grow more trees in Iceland, she does not want them to be “in the way of anything” (Þ.B. Jónasdóttir, personal communication, August 4, 2015).

The same idea exists for building projects, such as renewable energy plants or aluminum factories. Gray calls aluminum smelters “pollution for the eyes,” especially if they are built in a particularly beautiful area (R. Gray, personal communication, July 22, 2015). Jónasdóttir says, “I would not want factories to be there [in a beautiful area] in the way and in the photos” (Þ.B. Jónasdóttir, personal communication, August 4th, 2015). Davidsdóttir describes how built

structures, and even trees, are a central issue to the Icelandic psyche. Icelanders have gotten used to open land and now much prefer it to big cities. They would much rather have space and be able to see long distances, which is why many people are so upset by restoration or construction projects that would obstruct the long, open views of Iceland's "pure" landscape. This ideology of an expansive, uninterrupted, "natural" environment has become connected with Icelandic identity. Icelanders have developed "a deep, deep, deep pride about the environment" and therefore many agree that land preservation that sustains the current appearance of the land is extremely important (B. Davidsdóttir, personal communication, July 21, 2015).

Interview results demonstrate that landscape free from obstructions and in its "pure" form is an important part of Icelandic national identity. Several interviewees discuss how their ideal "nature" is unimpeded by both trees and buildings. This is explained by the ways in which Icelandic landscape is constructed as vast and open spaces. It also adheres to the ideology of landscape, in which a vast, sweeping view of land is unobstructed. Many people are concerned about maintaining this quality because it reflects their idea of Icelandic national identity.

Iceland's landscape as wilderness is also specific to identity. Anthropogenic interruptions to the Icelandic landscape are considered negative impacts because they destroy the "wild" and "pure" qualities, which are so inherent to Iceland's landscape ideology. The perceptions interviewees demonstrate about wilderness and the importance of its preservation stem from the social construction of what wilderness is. Sæþórsdóttir, Hall, and Saarinen (2011) explain,

Although the notion of wilderness often invokes meanings and images referring to wild, remote, and untrammled natural areas, untouched by human influences, many of these areas are the products of human activities that reflect past relationships with the environment and current preferences and values. (p. 249)

There is no recognition of how humans have historically impacted land to undermine its quality as “wilderness,” only the belief that land appearing to have no anthropogenic influence is “untouched.”

There are two viewpoints, however, about what Icelandic landscape should look like, which are represented in interviews. Both are historical and nationalistic. The opinion that Iceland should remain a vast, barren land and should stay the same as it is today aligns with Jóhanesson’s (2005) “dark nature protectionists.” These Icelanders assume that the land around them has a timeless quality. It has always been pure and wild and humans should leave it alone as much as possible. The “untouched” quality of Iceland’s land is part of what makes Iceland and its people unique. The other perspective on how to preserve Icelandic landscape aligns with Jóhanesson’s “green protectionists,” who want more vegetation and trees to be planted, which will return Iceland to its pre-settler state. Jóhanesson says this perspective stems from a nationalist morality because reforestation projects would reduce soil erosion and restore the health of Iceland’s environment. Another nationalistic claim is that by planting more trees, Icelanders can help the global climate by providing a carbon sink. While interviewees did not explicitly express their viewpoints to the same extent as Jóhanesson’s categories, the two perspectives are generally represented in the contrast of interviewees who want to maintain the current landscape, and those who see the benefits of changing it. Both of these viewpoints expressed by interviewees demonstrate Icelandic concerns for preserving wilderness and limiting the amount of economic exploitation of natural resources, especially by construction projects and the tourism industry.

The Land Use Debate: Wilderness, Renewable Energy, and Tourism in Economic Discourse

Interview and survey participants express several different viewpoints on how land should be used, or not used, in Iceland. First is the argument that Iceland's landscapes are unique and pristine and should be disturbed as little as possible to preserve their inherent worth. That inherent worth is imbued with the value of preserving the landscapes connected with Icelandic identity. Then there are two arguments in Icelandic discourse that suggest how Iceland's land can be used for the economic benefit of the country. One suggests that it is important to expand renewable energy projects, but the other states that Iceland's land should be utilized primarily for tourism, though this would require very careful management. Most interviewees who responded on this topic agree that some sort of balance needs to be reached between using resources for renewable energy, implementing availability to tourists, or preserving land for its inherent qualities. Each of these ultimately has a nationalistic incentive connected with it because certain degrees of landscape conservation somehow benefit Iceland as a nation, either as a representation of identity or because it allows some sort of economic benefit.

For some interviewees, it is important to conserve wilderness, not exploit it for its potential economic benefits. An area of particular concern is the Highlands, which many think of as Iceland's major wilderness area and which has increasingly been considered for renewable energy exploitation or as a tourist destination. The creation of Iceland's Highlands as wilderness took place through ideological historical processes. Sæþórsdóttir, Hall and Saarinen (2011) explain, "The Highlands were initially used by the early settlers and farmers, then feared and avoided for centuries, before being admired by thousands of domestic and international tourists" (p. 251). The centuries of disuse gave the Highlands the reputation of an uninhabited area, positioning them in opposition of civilization and therefore as wilderness. Preserving this area is

imperative to many Icelanders because the idea of expansive, quiet, open land is connected with the Icelandic experience and because they feel it is important to protect Iceland's unique landscape. Davidsdóttir articulated the sentiments of interviewees who were concerned about the preservation of the Highlands when she said, "the Highlands are worth much more inherently than any industry could make there [economically]" (B. Davidsdóttir, personal communication, July 21, 2015).

Interviewees who discussed the economic uses for Icelandic wilderness often suggested some kind of combination of tourist use and renewable energy use, but renewable energy projects should only be built in non-unique areas. There is an acknowledgement among these interviewees that some kind of exploitation of Icelandic wilderness is inevitable. Bjornsson described the necessity of building renewable energy plants in places that are not important tourist destinations. He says that as a function of what they are, hydropower or geothermal plants ruin the natural environment and therefore should not be built in any sightseeing areas (V.P. Bjornsson, personal communication, July 14, 2015). Gray says that he is in support of building renewable energy plants if "it is in the greater good of the country," but he does not believe they should be built in areas that people, both tourists and Icelanders, frequently visit (R. Gray, personal communication, July 22, 2015). Similarly, Korneliusdóttir says she believes that some hydropower plants are built in areas that are not unique, so she is not upset that they were built. Since there are so many waterfalls in Iceland, some of which are "small or insignificant," she supports building hydropower plants that utilize these areas. Geothermal plants should only be built in places where there is no visible geothermal activity, since those activities are unique to Iceland and important as tourist destinations (A.M. Korneliusdóttir, personal communication,

July 16, 2015). These perspectives represent how support of wilderness utilization arises from a nationalistic motivation to support economic growth.

Another perspective on land use argues that the land should be preserved as much as possible while also being utilized for the tourist industry. This stems from the nationalistic belief that Icelandic landscape in its most untouched form is a representation of Icelandic identity, but also the realization that some type of exploitation needs to occur in order for Iceland to benefit economically. Therefore, practicing landscape conservation, as opposed to complete preservation, provides a compromise between the various options for Iceland's landscape. Utilizing wilderness as a tourist destination will allow Iceland to benefit economically, and also provide another reason to maintain the "wild" and "unique" qualities of the landscape, since "wilderness and pristine nature are the most important attractions of the country's highland areas" (Sæþórsdóttir, Hall, & Saarinen, 2011, p. 250; Oslund, 2011). Davidsdóttir explained her perspective on the way the Icelandic public sees this issue. She says she thinks there is a rising realization that Icelanders could expand either the renewable energy industry or the tourism industry, but that the two do not go hand in hand because of the effects industrial projects have on landscape. For this reason, more and more focus is being placed on bringing people to Iceland instead of expanding industry. Davidsdóttir said that Icelanders' strong connection to landscape and the realization that the country needs to benefit economically is "one motivation to protect for a different kind of economic development, not to maintain or conserve something completely, but open it up for tourists instead of industry" (B. Davidsdóttir, personal communication, July 21, 2015). Maybe for others who are more concerned with Iceland's economic success instead of preservation of landscape, there is "not a focus on protecting nature

for nature, but protecting nature for economic benefit” (B. Davidsdóttir, personal communication, July 21, 2015).

The need to protect Icelandic wilderness for the benefit of the tourist industry has become a rising topic of discussion and study. The conclusions of these studies reinforce the perspective some interviewees expressed in which economic exploitation is a motivation for preserving Icelandic wilderness. The way that wilderness is defined in this context also reinforces the Icelandic landscape ideology in which “pure” land is open and uninterrupted by structures. Ólafsdóttir and Runnström (2011) investigate the percentage of wilderness, or “untouched” land, remains in Iceland to assess the extent to which tourists can experience “pure Icelandic wilderness.” Their investigation is based on the proximity of land to cities or roads as well as viewshed analysis. They conclude that the best estimate of the remaining wilderness in Iceland is derived from viewshed analysis because areas from which one can see anthropogenic influences are not an accurate representation of Icelandic wilderness, for either Icelanders or tourists (Ólafsdóttir & Runnström, 2011).

Studies have also been conducted to assess how tourism will increase or decrease based on how Iceland develops its wilderness. Two studies concluded that further developing Iceland’s wilderness areas, especially the Highlands, by building proposed hydropower plants or even increasing services infrastructure will deter tourists because they think of the Highlands as a “natural” area without buildings or industry (Sæþórsdóttir, 2010a, Sæþórsdóttir, 2010b). Another evaluates the sensitivity of Icelandic landscape to degradation from tourists and discusses possible ways to increase environmental impacts from tourism (Ólafsdóttir & Runnström, 2009). These studies demonstrate that Davidsdóttir is right; there is a shift toward utilizing land for tourism instead of completely preserving it or exploiting it for industry.

The opposing visions of Nobel Prize winner Halldór Laxness and Jakob Björnsson, a member of the National Energy Authority, highlight the preservation versus exploitation debate of Icelandic wilderness. In his 1971 essay “War Against the Land,” Laxness expressed his concern for the growing number of hydropower plants in the Highlands. He is concerned about increasing hydropower developments and energy exploitation that he says will destroy Iceland’s unique wilderness. He describes the wishes of delegates in the Icelandic government who “expressed their wish to the Icelandic nation that the country might preserve this treasure of theirs unspoilt in perpetuity” (Laxness, 1971, cited in Magnason, 2012, p. 165). In contrast, Björnsson discusses the “‘total development’ and ‘maximal exploitation’ of Iceland—not whether, but how full use can be got from the land” (Magnason, 2012, p. 167). He believes nature conservation is important, but only so that Iceland’s natural resources can continue to be exploited. One of his reasons for building more hydropower projects is that they produce energy that can be used for aluminum smelting, which is one of the primary ways that Iceland’s economy could expand. The opinions of these two Icelanders are important because they not only highlight the major concerns of interviewees, but also because their views may have shaped the opinions of interviewees.

The debate about utilizing Iceland’s land for renewable energy or tourism is based on constructions of Icelandic wilderness. Sæþórsdóttir, Hall, and Saarinen argue that the Highlands, which are considered the most “wild” area of Iceland, are constructed both as an area that will provide economic benefit and as an area that is losing its “wild” qualities because of economic exploitation. Increased competition between these different “constructions of the Highlands is arguably increasing as a result of greater energy and tourism development and therefore more competing sets of interests” (Sæþórsdóttir, Hall, & Saarinen, 2011, p. 269). The romantic vision

of landscape has remained unchanged such that people still admire the aspects of wilderness that appear unimpeded by anthropogenic impact. But the presence of renewable energy industry ruins the “natural” view. A new understanding of Icelandic wilderness has developed as a place that has not been impacted by industry, but that may have been transformed by the tourist presence (Sæþórsdóttir, Hall, & Saarinen, 2011). When interviewees express their opinion about whether or not Iceland’s wilderness should be used for renewable energy, their decision is based on constructions of the landscape as wilderness and how renewable energy will affect that wilderness. Similarly, opinions about whether the tourism industry should be expanded rely on how it will affect wilderness.

There are several different viewpoints about how Iceland’s wilderness should be used, all of which stem from nationalism. The views expressed by interviewees included the inherent necessity of preserving Icelandic wilderness in its current form, the need to reduce degradation in Iceland’s natural environment, or the use of Iceland’s natural resources for exploitation, either through tourism or energy industry. Jóhanesson (2005) analyzes the ways in which Icelanders consider themselves responsible for certain sustainability implementations, all of which have nationalistic roots. His conclusions align with interview results. The first view stems from the idea the Icelandic landscape reflects Icelandic national identity and therefore should be preserved in its current state. Also important to this perspective is the conceptualization of Iceland’s land as unique. Jóhanesson (2005) attributes this to nationalism because Icelanders feel they have a unique land to protect, which is an important contribution to Europe and the world. Reducing environmental degradation in Iceland, especially by planting trees, is also a result of nationalism. Motivations for planting trees stem from the need to return Iceland’s environment to its historical version, but also because planting trees and grass is a way to fix carbon, so it is a means by

which Iceland can help the world address global climate change. The final perspective not only comes from the need to expand Iceland's economy through renewable energy and heavy industry for the nation's benefit, but also, according to Jóhanesson, from the idea that Iceland can help reduce fossil fuels from aluminum smelters by providing renewable energy to power them. Jóhanesson's analysis augments conclusions drawn from interviews and demonstrates how the various viewpoints on the importance of wilderness conservation are driven by nationalistic connections with landscape.

Conservation Action: Economics, Resource Availability, and Ethical Undertones

Domestic energy, resource consumption and waste management

I interviewed Sólrún Geirsdóttir in the kitchen of her house in Bolungarvík, a tiny town on the Westfjords peninsula of Iceland. She prepared dinner while I interviewed her about her conservation practices and beliefs. She told me that she has always been concerned about how much energy she uses in her home. But she also said that "it's about saving [...] money, not the environment. Though it's a great bonus if it helps the environment" (S. Geirsdóttir, personal communication, July 5th, 2015). Living in the Westfjords means more expensive energy prices because, unlike in the area near Reykjavík, there is very little geothermal energy. Most of the energy for electricity in the Westfjords comes from the seven hydropower plants dispersed throughout the region. Cables transmit energy from these hydropower plants, as well as energy from the mainland, to Westfjords residents, but the amount of infrastructure and maintenance required means higher energy costs. In wintertime, the cables often break because of weather conditions, so the local energy company has to send workers out on snowmobiles to clear the power lines of ice and snow. In Reykjavík, hot water from nearby geothermal wells is pumped into the city, directly to people's homes. But in the Westfjords, water has to be heated using

electricity, adding another cost. Westfjords residents like Geirsdóttir then have more conservative tendencies when it comes to electricity than Icelanders who live in the Reykjavík area.

The conversation I had with Geirsdóttir highlighted the ways in which the abundance or lack of geothermal resources creates regional differences in how Icelanders choose to conserve electricity. Decisions related to electricity conservation are a result of both regional energy costs, affected by the amount of geothermal energy in the region, and the economic self-interest of individuals. The way that individuals perceive of the need to conserve electricity is also based on cultural norms that either emphasize the importance of conservation to reduce costs, or that conservation is not necessarily important due to already low prices and energy abundance.

Westfjords residents, along with Geirsdóttir, noted their concerns about conserving electricity because of its expense. Hlynur Reynisson says that for him, conserving electricity is more about the cost than the environment because electricity is expensive in the Westfjords (H. Reynisson, personal communication, July 8, 2015). Einarsdóttir similarly describes how her family was very concerned with electricity conservation when she was growing up in Ísafjörður, but it was because of their concern for saving money, not the environment (P.W. Einarsdóttir, personal communication, August 3, 2015). According to interviewees, common practices to reduce electricity consumption amongst Westfjords residents included taking shorter showers, turning off the heat, turning out the lights, or using more efficient appliances.

Westfjords residents often characterized Reykjavík dwellers as being more wasteful with electricity and house and water heating, and to an extent they are right. Geirsdóttir described how her mother-in-law always opens a window in her apartment in Reykjavík when it gets too hot instead of turning the heat down or off (S. Geirsdóttir, personal communication, July 5th). It turns out that this is a common practice for people in Reykjavík. They do not perceive the need to

conserve electricity, heat, or hot water because these resources are very inexpensive due to the amount of available geothermal energy in the area. Steam-powered turbines at *Hellisheiði* generate electricity for Reykjavík. Hot water is used to heat homes instead of electricity, but both heating and electricity are still very inexpensive in Reykjavík. A complex infrastructure has been developed to bring hot water from *Hellisheiði* to Reykjavík. As I discovered on my visit to the power plant, pipes bring water to a central storage area and also to every home. Bjornsson said that for these reasons, he does not worry about turning off the heat or saving water (V.P. Bjornsson, personal communication, July 14, 2015). Einarsdóttir told me that when she moved to Reykjavík she became much less conservational. Her monthly energy bill is very low, so now she does not think about turning off the heat or taking shorter showers (P.W. Einarsdóttir, personal communication, August 3, 2015).

In these ways, economic motivations for domestic energy conservation affect the individual from the regional scale. Pressures to limit the amount of electricity or heat used in the home often come from economic constraints on these resources. The economic constraints primarily depend on how much geothermal energy is available or how easy it is to implement and maintain infrastructure that delivers these resources to homes. Bjornsson explains that you could turn off the heat in your home in Reykjavík, thereby conserving geothermal energy, but it would not make any difference on any scale because geothermal energy has an unknown potential and is in no danger of running out (V.P. Bjornsson, personal communication, July 14, 2015). Cultural norms do not revolve around domestic energy conservation for this reason.

Regional differences between the Westfjords and the Reykjavík also apply to the economic factor of waste management practices. For interviewees who live in Reykjavík, whether or not they recycle does not have to do with economics because costs of trash or

recycling do not change. But this is different in the Westfjords. Reynisson, who is the head of sanitation services for Ísafjörður, explained to me that all the waste from Ísafjörður is shipped to Reykjavík, and paying for this service is expensive. The town has to remind residents to recycle more so that they can reduce the amount they pay for trash shipping (H. Reynisson, personal communication, July 8, 2015).

There were also different perspectives on whether or not water conservation is important in Iceland. This time, however, people who had different opinions were not separated by region, but by ethical concerns for water conservation, or lack of concern due to the amount of fresh, clean water in Iceland. Many respondents said that they do not feel the need to conserve water because there is so much of it. Korneliusdóttir said that she is not particularly attentive to water conservation because “Iceland is one of most water rich countries in the world” (A.M. Korneliusdóttir, personal communication, July 16, 2015). Gray reported that he does not try to conserve water at all. He lets the water run while brushing his teeth and often lets the shower run for a long time before getting in. He thinks that many of his friends probably do the same thing. The abundance of water throughout the country makes water prices so low that they are not even a topic of discussion. Most people only mention the lack of need to conserve water because of its abundance. Gudmundsson and Kristjánsson also agree that they do not need to conserve water, but not specifically that this only applies to cold water (J. Gudmundsson, personal communication, July 5, 2015; Ó.G. Kristjánsson, personal communication, July 12, 2015).

There seems to be a sort of nation wide-sentiment that Iceland’s resources will provide for the Icelandic people. Koester (1995) discusses the existence of a nationalistic ideology within Iceland of “Iceland as mother.” Through historical processes of living off of the land and preserving these experiences in storytelling and poetry, Iceland has developed into a personified

figure that nurtures its people. The “Iceland as mother” figure emerged especially during the Romantic nationalism movement in the late 1800s when poets described Iceland’s landscape as feminine and as an entity that provides. This exemplified in a poem by “Fjölfnir Jónas Hallgrímsson (1835), the most influential of romantic poets, [who] began his most famous nationalistic poem [...]: ‘Iceland! great frón [poetic name for Iceland] and abundant ice-white mother!’” (Koester, 1995, p. 580). Iceland is literally personified as *Fjallkonan*, The Mountain Woman, “an image of the nurturing mother of the nation which emerged during the independence movement of the nineteenth century” (Dibben, 2009, p. 137). The idea that Iceland as a nurturing mother will provide natural resources for its citizens seems connected to Icelanders’ perceptions of the abundance of water, and geothermal resources, and the perceived lack of need to conserve those resources. Gray’s words solidify this connection: “I live in Iceland so it’s not like I have to conserve” (R. Gray, personal communication, July 22, 2015).

Living in Iceland, a country that utilizes 99% renewable energy, also seems to be a reason not to have conscious waste management practices. Geirsdóttir and Reynisson mentioned that people in Iceland are not very good about recycling. Recycling was not implemented until about a decade ago, so maybe people are still learning. But for these two interviewees, there is no excuse not to recycle. Gray noted that he and many people he knows do not take the time to recycle. Reynisson said he thought this stemmed from the idea that Iceland as a country is already doing a lot to help the environment because of its energy utilization. He stated, “People think ‘we [as a country] are so green, our energy is ok, it’s ok if I don’t recycle.’” They use their belief in the achievements of the country as a whole as an excuse to not carry out conservation practices, or use one sustainable action to excuse another. There are not only regional, but also

national and cultural influences on the way individuals carry out these types of sustainable practices.

Ethical Undertones: Striving for sustainable resource use and waste management

Many Icelanders do feel the need to conserve resources despite the fact that they are abundant. This seems to stem from the logic that it is unnecessary to waste something for no reason. Bjornsson said that water conservation is important for him because it does not make sense to overuse something just because it is there (V.P. Bjornsson, personal communication, July 14, 2015). Korneliusdóttir also turns off the water, but only because she was brought up that way and not because it is necessary (A.M. Korneliusdóttir, personal communication, July 16, 2015). Einarsdóttir tries to conserve water, too, but does not know exactly why. “It’s just something in my head,” she told me (P.W. Einarsdóttir, personal communication, August 3, 2015). For these interviewees, it is hard to tell what drives this logic, but it seems like underlying, maybe even subconscious ethics are at play. People say that they should not waste water if there is no reason to, but that suggests that saving water is the right thing to do. Weiss came closer to discussing an ethical motivation for water conservation when he said that conservation is considered what you should do (P. Weiss, personal communication, July 3rd, 2015). Jónasdóttir most openly recognized her ethical motivation for water conservation by stating her concern for the environment and her goal to reduce her environmental impact in any way she can (P.B. Jónasdóttir, personal communication, August 4, 2015).

This concept of applying logic, and maybe ethics, to resource conservation applies to other resources as well, particularly the use of renewable energy. The idea existed among many interviewees that technically, conserving electricity is not necessary because there is such an abundance of the resource that it does not make a difference in how they impact the

environment. Johansson and Davidsdóttir both note that even though there is plenty of hydropower and geothermal energy, there is no reason to leave the lights on. Morality plays a role in their decision because while doing this will not really make a difference in their energy bill or for the environment, it is considered the right thing to do.

Ethical motivations for conservation manifested most strongly in waste management practices. Many interviewees said that they recycle because it is the right thing to do. When I asked Geirsdóttir why she chose to recycle, she responded that she thinks people should not waste because it is the wrong thing to do. She also said she is strongly opposed to littering because she believes it is wrong (S. Geirsdóttir, personal communication, July 5, 2015). Her opposition could have to do with concerns about land conservation because trash used to be dumped in visible heaps in the Westfjords, where Geirsdóttir lives. She and other Westfjords residents are now very concerned with keeping trash limited and contained because of the negative effects it had on the environment and on the appearance of the Westfjords.

Of all interviewees and survey respondents, there was only one who said he or she did not recycle. The most commonly stated reason for recycling was simply that it is the right thing to do. Many expressed that they wanted the opportunity to further limit their waste by composting, which has not yet been implemented in Reykjavík, though Davidsdóttir said that there are plans for its implementation (B. Davidsdóttir, personal communication, July 21, 2015). Some interviewees implemented their own composting system, namely Geirsdóttir and Gudmundsson, in order to reduce their waste. The actual action of recycling or composting takes place at the individual level, but given the recent implementation of recycling and the history of littering, especially in the Westfjords, the ethical reasoning for waste management has arisen in recent years and is not necessarily Icelandic. It seems that the moral obligation to sustainably

manage waste has become more and more prevalent as Iceland's interactions with the rest of the world increase, for example as Icelanders go abroad and people from other parts of the world come to Iceland. The fact that conservation in Iceland has become more prevalent with increased global interaction suggests that to an extent, ethical motivations for conservation comes from the global level. Increasing discussion and environmental awareness on the global level influence individuals as ideas spread and become intertwined with Icelandic cultural norms.

Fossil Fuel Use: Economic and ethical constraints versus transportation necessities

Overall, interviewees were very conscious about their fossil fuel use. Interview and survey results showed that while the majority of participants drove a car or flew in a plane fairly frequently, most also tried to avoid driving and maintain awareness of their greenhouse gas emissions. The motivation for conserving of fossil fuels was primarily economic because gas is very expensive, but there is also a growing consciousness about limiting greenhouse gas emissions to slow global climate change, which acts as a second incentive. Gasoline, diesel, and coal have to be imported, so they are about three times more expensive than Iceland as the United States, for example, which is why economics play a significant role in constraining fossil fuel use. But awareness of emissions and how they affect the global climate has increasingly played a role. Despite these two constraints on fossil fuel use, many interviewees discussed the need to use a car or fly in a plane to get places. This varied slightly depending on region, but many people felt they could not save money or stay true to their ethical commitment to the environment because they did not have another transportation option.

Icelanders who live in remote areas are more dependent on cars for transportation, but most Icelanders, and most interview and survey participants, own a car and drive it frequently. Interviewees from the Westfjords said that they usually have to drive every day and fly often,

especially if they have a job that requires them to go to Reykjavík or family members in other parts of the country. Reynisson, has to travel to Reykjavík once a month for only a day or so at a time. It does not make sense to take the car because it is too long a drive for such a short stay so he has to fly, though he feels that it is excessive and wishes he could reduce his fossil footprint.

Those who have to drive often search for ways to reduce the time and money they spend on gas. Geirsdóttir offered a particularly salient perspective on this. She and her family live in Bolungarvík, a town of 960 people about a 15 minute drive away from the main town in the Westfjords, Ísafjörður. She and her husband both work in Ísafjörður and their children go to school there as well, but they usually try to share rides. She organizes carpooling with her neighbors so that she does not need to take extra trips to pick up her kids from extracurricular activities. For her, limiting the amount of driving she does is more about the time and money than helping the environment.

In the case of fossil fuel emissions, motivation does come, at least for some people, from an ethical obligation to the environment. For Geirsdóttir's husband, Gudmundsson, who is the district commissioner for the Westfjords, finding ways to make transportation more efficient is important because it will save people time and money, but also help the Westfjords region lower its carbon footprint. Gudmundsson has worked for several years on a project to coordinate ride sharing between Ísafjörður and Bolungarvík. This has included creating an online system for people in the area to share rides and putting up signs at designated pick-up and drop-off areas. Another of Gudmundsson's accomplishments is the electric car plug-in in Bolungarvík, which allows people with electric cars can travel there. He thinks that the main way in which Iceland needs to improve its environmental treatment is by altering their transportation system to be less carbon emissive. In his interview, he said that while Iceland is utilizing a lot of available

renewable energy, gasoline is used just as much as in other countries. He believes Iceland needs to make improvements in public transportation and switch to more fuel efficient cars (J. Gudmundsson, Personal Communication, July 5, 2015).

Many other interviewees also talked about their awareness of their greenhouse gas emissions and how they want to reduce them, but for many this is difficult because they have to drive or fly for their job. Jónasdóttir, who is 18 and feels deeply passionate about the environment, has to take the family car to work in Ísafjörður during the summer and to school during the rest of the year (Þ.B. Jónasdóttir, personal communication, August 4, 2015).

Davidsdóttir said that she is deeply concerned about her greenhouse gas emissions, but because of her job she has to travel a lot around Iceland and to and from Europe. She tries to take the fewest possible number of flights (B. Davidsdóttir, personal communication, July 21, 2015).

Bjornsson said he does not have a fuel efficient car, so he tries not to drive it so that he has a smaller carbon footprint (V.P. Bjornsson, personal communication, July 14, 2015). Pétursdóttir barely drives because she is so concerned with reducing her emissions. She is able to bike or take public transportation to work (Þ. Pétursdóttir, personal communication, July 16, 2015).

In Reykjavík, it's a lot easier to get away with not having a car because there is more consistent public transportation and it is easier to walk or bike between places. Several interviewees from Reykjavík said that they do not own a car. One of these is Ragnar Grey, who works for Icelandair Hotels. He says that he does not need to drive because he lives near his job and the downtown area, but also because it is very expensive to buy and own a car (R. Grey, personal communication, July 22, 2015). Three other interviewees from Reykjavík did not have cars for this reason. But the ratio of interviewees who own cars may not properly reflect the total ratio of car ownership in Iceland. Iceland ranks fifth highest in the world for number of cars per

capita (the United States does not rank within the top ten countries) (“Who Owns the Most Cars?,” 2014). While economics can play a role in limiting fossil fuel use, the fact that most people can afford to own a car shows that some kind of change will have to be made to lower Iceland’s emissions.

The need to slow global climate change by limiting fossil fuel emissions is something that many Icelanders are aware of because of the visible affects of warming on Iceland’s glaciers and potential future effects that warming trends will have on Iceland. In this case, ethical motivations to limit fossil fuel use are driven by national or regional affects of climate change that Icelanders experience now or will experience in the future. Einarsdóttir described how she feels particularly concerned about global climate change and its affect on Iceland’s environment, especially the accelerated rate of glacial retreat (P.W. Einarsdóttir, personal communication, August 3, 2015). The immediacy of climate change evidence affects how she makes decisions about her fossil fuel use. In an examination of global evidence for climate change, Kolbert (2006) visited Iceland and concluded, “No nation takes keener interest in climate change, at least on a per-capita basis, than Iceland” (p. 59). Her conclusion is based on the long-standing commitment of Icelanders to the Iceland Glaciological Society, through which scientists and citizen alike have tracked the movements of glaciers, in particular their drastic retreat over the past several decades. While Icelanders may share an awareness of climate change because of visible affects in their region, other factors besides changes in their surrounding environment, especially economics, will affect environmental decision-making pertaining to fossil fuel use.

More imminent threats of danger may spur more significant changes in fossil fuel use. Scientists from the University of Arizona and the University of Iceland recently determined that Iceland’s land mass is slowly rising due to loss of glacial mass. As a result, Iceland may be prone

to more frequent volcanic eruptions (Goldenberg, 2015). Climate change outcomes that will directly affect the place in which a person lives, rather than somewhere else, could lead to a greater sense of ethical responsibilities to the environment. How Icelanders will respond to the increasing threat of climate change in their immediate region and the potential affects it could have on livelihood is yet to be seen. But given the current presence of climate change and the growing global discussion about potential solutions, significant changes toward environmental practices are already occurring in Icelandic culture as a result of the intertwined economic and ethical incentives that arise from multiple scales.

The Emergence of Environmental Culture

Incentives for sustainability can be explained partly by different scalar phenomena, but cultural norms play a significant role in how individuals react to these scalar influences. The added layer of culture allows us to examine how people's decisions are affected by norms that exist beyond the individual. Culture is a constantly evolving and changing process, so in order to grasp the way individuals are influenced by cultural norms, we must also understand the origins of those norms and the struggle over their meaning. In Iceland, the fairly recent emergence of environmental awareness, caused by both interior and exterior influences, has created new definitions of norms that pertain to environmental treatment. It is not to say that old norms all pertain to poor environmental practices, while new norms dictate conservation and sustainability, but there has been an influx of new cultural values and practices, redefining the way many Icelanders think about their environment and causing tension over environmental cultural meanings. As an example, waste management was not a concern for Icelanders until recent decades, when more importance was placed on limiting waste and implementing recycling, but there will always be people who contest these newly defined norms, like Icelanders who choose

not to recycle. This process in which old environmental norms are contested has resulted from historical changes within Iceland along with ideological shifts influenced by the global discussion about sustainability. The way in which different scalar influences affect the environmental decisions of individuals is intertwined with the process of creating and recreating Icelandic culture.

Changes in Environmental Thinking and Treatment

As I conducted interviews in Iceland, it became clear that there are many cultural norms dictating environmental practices, but many of these norms have recently changed or emerged. Many interviewees talked about how they have noticed more and more attention being placed on the environment than there has been in the past. Most said they thought these changes had primarily taken place over the past decade or two. Bjornsson was one of these interviewees. He said, “In the past years there has been more and more focus on just saving and respecting the environment” (V.P. Bjornsson, personal communication, July 14, 2015). Reynisson has particularly observed how the environmental discussion is in the news more often now than in past years. He noted, “People are talking about it [the environment] [...] The Icelanders have started to think more green” (H. Reynisson, personal communication, July 8, 2015). He also recalled that growing up, his family did not implement practices like saving electricity or turning off the water because “people are not thinking green 15 or 20 years ago” (H. Reynisson, personal communication, July 8, 2015). The way Reynisson refers to Icelanders as a group who collectively recreate shared values demonstrates the rising presence of cultural norms that involve conscious environmental treatment.

Pétursdóttir described changes in environmental norms that occur over a longer span of time, more like four to five decades, during which Icelanders’ environmental awareness

increased. She noted that significant changes began in 1965 when *Landvernd*, a non-governmental organization that works toward environmental conservation, was founded, initiating a wave of conservation efforts (Þ. Péturdóttir, personal communication, July 20, 2015). While the exact time that changes occurred is vague for most people, they still have a clear sense that there has been a significant shift in how Icelanders treat their environment, which began in the 20th century, and that these changes are shaping current norms.

Changes in waste management practices were particularly notable for many interviewees. Several older interviewees remembered practicing especially poor waste management during their younger years. These interviewees also noted the shift away from environmentally degrading practices that has occurred over the past several decades. Jónas Gudmundsson said, “When I was a child staying on a farm, we would throw the garbage in the river” (J. Gudmundsson, personal communication, July 5, 2015). Johansson noted that people used to clean and dye sheep’s wool in the rivers of the Westfjords from which people also drank. Kristjánsson and Reynisson talked about the incinerator where people living in Ísafjörður and the surrounding areas would take their trash. Reynisson described how there were only two places to dispose of waste while he was growing up, either in the incinerator or in the ground. Neither of these was a good option because so much waste accumulated in the Westfjords that a lot of it was not buried. The incinerator had toxic outputs that were detrimental to both environmental and human health (Ó.G. Kristjánsson, personal communication, July 12, 2015). Eventually, much of the trash was either buried or used to build up the land spit that Ísafjörður is built on (H. Reynisson, personal communication, July 8, 2015). According to interviewees from the Westfjords, recycling was implemented in their area about ten years ago. Recycling was also implemented in Reykjavík around this time, though it was only two years ago that every house

got its own recycling bin, with curbside collection, to make sustainable waste management more convenient (Bjornsson, personal communication, July 14th, 2015).

People attributed changes in their personal lives to greater shifts in Icelandic environmental thinking. Einarsdóttir said that she is now very aware of her greenhouse gas emissions, but that previously in her life she “just didn’t think about those things” (P.W. Einarsdóttir, personal communication, August 3, 2015). She used to drive the car all the time and did not recycle. Geirsdóttir similarly said that although she did not grow up practicing sustainable waste management or resource conservation, she now does so because of shifts toward environmental conservation in Iceland (S. Geirsdóttir, personal communication, July 5, 2015). But it is important to examine how these changes result from the integration of scalar phenomena (exterior global forces or interior national forces) into one’s life and how this contributes to the ongoing processes of cultural change.

Interior and Exterior Influences

Both interior and exterior influences have had an effect on the way cultural environmental norms have developed in Iceland and therefore on the decisions of individuals. The ignition of environmental conservation in Iceland occurred because of the interconnection between historical occurrences that increased concern for the environment, and a rising awareness of environmental efforts in other parts of the world. Consequently, there are both interior (national) and exterior (global) drivers for conservation in Iceland, which are intertwined in the making of Icelandic environmental culture.

Nature conservation and environmental protection were not really topics of discussion in Iceland until the 20th century. While certain places that were socially or culturally important were respected, environmental actions and policies were not really enacted until Icelanders became

aware of environmental measures in other countries. The debate about nature conservation is thought to have started around 1907 when a newspaper article was published that reported other countries' efforts to protect their environments and suggesting that Iceland should do so as well, given the country's unique and beautiful scenery (*Nordic scenery*, 2003). Simultaneously, the Planting of Woodland and Prevention of Wind Erosion Act was passed, which was a response to the severe land degradation that has occurred within Iceland as a result of deforestation and agricultural exploitation.

Changes throughout Iceland's history have also caused shifts in the environmental practices of the country's inhabitants. The industrialization and modernization of Iceland that began during the 20th century spurred far more environmental exploitation and more extravagant lifestyles than the lifestyles that existed during the agrarian period. The introduction of machinery, waste products, and other aspects of modernization took a significant toll on the environment. But with the environmental impacts of modernization came awareness about the need to counteract them, especially for the purpose of preserving Icelandic landscape. A growing consciousness about land degradation from agriculture, the negative effects of renewable energy projects, and the importance of waste management are all part of a cultural movement that emphasizes the importance of conservation and has roots within Iceland. These historical processes have worked in tandem with influences from other countries to create Iceland's environmental culture.

One of the interior motivations for conservation comes from the perceived connection Icelanders have with their surrounding environment. According to interviewees, Icelanders' drive to protect their environment from economic exploitation has especially increased during the 21st century. A lot of interviewees referred to the building of *Kárahnjúkavirkjun* as the

catalyst for wilderness conservation action in Iceland. Pétursdóttir described how there were no protests for power plants that were built in the past, but one of the biggest demonstrations to occur in Iceland was the protest against *Kárahnjúkar*. She thinks that Icelanders now have an increased awareness of the environmental harm that renewable energy plants have on landscape and feel that they have a right to say something about it. Not all Icelanders are against renewable energy implementation, but, as I have discussed, those who want to preserve land feel that it is a representation of their national identity. But there has been an increase in these sentiments in recent years, which could be a result of the increased threats to Iceland's land from economic exploitation, or it could be a result of exterior influences.

The debate over whether land should be used for renewable energy implementation, the tourism industry, or preserved for its inherent worth represents how culture is a struggle over meaning. Since Iceland's economy expanded and renewable energy, industry, and tourism became a larger part of the economy, there have been competing viewpoints of how Iceland should treat its environment. Because there are differing opinions on how Iceland's land should best be used, there are different definitions of what it means to be environmental in Icelandic culture: Icelanders should contribute to global greenhouse gas reductions by implementing renewable energy to be used by heavy industry, land should be managed in a way that will help reduce degradation from tourists, land should be preserved for its inherent qualities, or land should be reforested to reduce degradation and provide a carbon sink for fossil fuels.

The economic crisis is also regarded as a historical factor that influenced the conservation practices of Icelanders. Kristjánsson said he thought the crisis instigated major changes in the way Icelanders used resources. He described how before the crisis, there was a boom in economics and people behaved very extravagantly, "buying new stuff and throwing away fairly

new stuff,” as well as wasting water and electricity (Ó.G. Kristjánsson, personal communication, July 12, 2015). All of this changed when the economy crashed. Gudmundsson also noted the effects of the economic crash, saying that it made people think about saving money, which in turn caused them to think about saving resources (J. Gudmundsson, personal communication July 5, 2015). While the crisis occurred because of national and global factors, it affected individuals and their decisions because of price fluctuations. It also created new norms that people need to conserve resources for the purpose of saving money. This aligns with the political economy critique in which culture is determined by economy.

Shifts in cultural norms have resulted from processes that have occurred within Iceland throughout its history, but these shifts are also driven by influences from the rest of the world. The first interview I conducted during my stay in Iceland was with Peter Weiss, the academic director at the University Center of the Westfjords. When I asked about why he thought Icelanders felt motivated to preserve resources or conserve the environment, he told me that environmental thinking is an exterior influence. He said, “The [environmental] thinking did not come from here [Iceland]. [It] was not an inner Icelandic growth” (P. Weiss, personal communication, July 3, 2015). As a result, environmental cultural norms have risen in Iceland with increased influence from and interaction with the rest of the world.

Other interviewees expressed the belief that sustainable practices and beliefs are not Icelandic and that environmental thinking came from other places. Ideas about environmental conservation have reached Iceland partly as a result of Icelanders spending time abroad and bringing these conservation ideas back. Kristjánsson, Geirsdóttir, Bjornsson, and Weiss have all spent time living in other places besides Iceland. They say this is where they learned to conserve resources, especially energy and water. Each of them expressed that they did not feel the need to

conserve these resources as much in Iceland because of their abundance and low price. But in other parts of Europe, which is where they have each spent the most time outside of Iceland, water and energy prices are much higher because there is not the same abundance of these resources in Europe as in Iceland. All four of these interviewees said that they have paid more attention to resource and energy conservation, as well as waste management after it was implemented in Iceland, since they returned from abroad. Conservation of resources became more important to them after experiencing such tight economic constraints.

But the changes that have occurred in the conservation practices of individuals are more complex than knowledge gained abroad. The evolution of the global sustainability discourse may also play a role in influencing the environmental practices and beliefs of individuals. Iceland's environmental protection acts and policies have largely arisen as a result of the realization that other countries are implementing means of protecting their land. Policies either proposed or implemented because of *Welfare for the Future* (2002) are the result of global documents and agreements on the implementation of environmental conservation. These policies will either directly affect individuals because of what they are required to do, or increase their awareness of what they can do to help the environment, in which case ethics play a role.

There is also an increased awareness of the role that Iceland can play in the global climate change issue by providing renewable energy to the world. Given the growing discussion about global environmental problems, Icelanders have the opportunity to participate in a significant global discourse. According to Magnusson (2010) and Andersen (2015), Icelanders have historically felt a sense of inferiority to other nations and that sentiment is still present today. The nationalistic perspectives on how to utilize Iceland's natural resources stem not only from a growing awareness of global environmental problems, but also from Iceland's need to

prove its ability to help the rest of the world and cure itself of its inferiority. The strength of perspectives on the extent of conservation that should occur in Iceland's wilderness correlates with Icelandic nationalism. Perceptions of global pressures to change environmental practices are mediated through Icelanders' sense of nation.

After conducting interviews and analyzing data, I also believe that Icelanders have developed a sincere environmental ethic and that this is increasingly embedded in Icelandic culture. It is possible that environmental ethics existed before there was much influence from the rest of the world, but if they did, they did not apply in the same way as they do today, which is evident from the amount of pollution and waste that existed in earlier parts of the 20th century. Now, at least for some types of conservation like waste management or water usage, there are growing expectations amongst Icelanders that individuals should reduce their environmental impacts by implementing sustainable practices in everyday life. These expectations become norms, which people collectively create by proliferating the idea that practicing sustainability is the right thing to do. Given Iceland's non-conservational past, it seems like these ethical norms have grown alongside the global discourse about sustainability, demonstrating that Icelandic culture is influenced by ethics that stem from a growing global environmental consciousness.

The Creation of Cultural Environmental Norms

Culture is a process that occurs over time and is comprised of competing meanings. The presence of culture explains how individuals do not make decisions solely based on their own interest, but are also influenced by collective norms that are constantly contested and recreated. Scalar pressures, including global, national, or regional, are particularly influential in shaping environmental norms that affect and are affected by individuals and their decisions. The historical evolution of environmentalism that has occurred both in Iceland and in the world and

the way that these processes influence the individual from multiple scales explains the specific and unique nature of environmental culture in Iceland today.

Throughout this thesis, I have discussed how scalar pressures influence environmental decisions. But these decisions are also influenced by cultural norms and the conflicting meanings of those norms as a result of different definitions of the environment and its resources. When Icelanders understand the environment in their region as something that is flowing with abundant resources, they are not motivated to conserve, which is why conservation of water and geothermal energy is not the dominant norm. But there is a contrasting perspective in which preserving resources is the right thing to do, even if they are abundant. There are several different definitions of Icelandic wilderness, which results in contesting perspectives on the extent to which it should be conserved or used for economic benefit. Economics also influence environmental culture because financial expenses place constraints on the amount of resources individuals use, particularly fossil fuels and energy. In places where economics do not constrain resource use, there are few norms affecting how resources should be used. But there are also emerging ethical norms that place importance on reducing waste and environmental impact. Examining the specific cultural conditions that exist in Iceland add a necessary dimension to understanding the way scalar incentives motivate individuals to practice sustainability or hold sustainable beliefs because it reveals how Icelanders' changing cultural context will influence their environmental decisions.

Conclusion

I left Iceland with a much different impression of the country from the one with which I arrived. Instead of a country homogenously driven to live sustainably, I now saw how the complexity of cultural tensions intertwined with global influences, historical events, and

Icelandic national identity affect Icelanders' sustainability decisions in highly nuanced ways. At first I was disappointed that not everyone in Iceland feels the need to conserve resources, properly manage waste, or stop renewable energy and industry expansion. But the fact that not everyone practices sustainability or holds sustainable beliefs does not mean Iceland cannot provide answers to global environmental problems. This case study shows that there are complex cultural and scalar incentives for the environmental decisions of individuals, whether their decisions have negative or positive environmental impacts, and that these incentives are very specific to place. Understanding how and why individuals are motivated to practice sustainability can inform the way sustainability is implemented. Catering sustainable policies to the specific conditions of countries, regions, or localities and how individuals are influenced by their experience in these conditions, could increase the likelihood of reaching sustainability goals.

The three main sustainability incentives demonstrated by interviewees have implications for sustainable policy implementation in Iceland. First, economics tended to be the strongest motivator for sustainable action. People who were constrained by more expensive energy prices were more likely to conserve resources, so maybe higher energy prices need to be more widespread. This might not make sense to people living in Reykjavík because of the abundance of geothermal energy, a renewable energy source, in their area. But if Iceland's government felt the need to constrain energy, heating, or water usage, they could implement a system in which prices increase for domestic users when a certain of threshold of use is reached. Another example might be the issue of reducing fossil fuel use in Iceland. Iceland's national goal is to be completely reliant on renewable energy by 2050, but Iceland's transportation sector still heavily relies on fossil fuels. There is a lot of discussion about switching to hydropower cars and buses, but given that these vehicles are new technology, they are very expensive. If Iceland's

government were able to subsidize the price of hydropower vehicles, individuals would be more likely to buy them. But until then, it is unlikely that a major shift away from fossil fueled vehicles can occur.

However, we cannot ignore the role of ethics. For many interviewees, their sustainability decisions resulted from the interplay between economic constraints and ethical beliefs. Also, an environmental culture will likely continue to evolve in Iceland. Maybe increased ethical responsibilities to the environment will eventually drive policy shifts that make sustainable practices more economically attainable.

An extension of this study could look at environmental decision-making on other scales, especially the national scale. For example, how is the Icelandic government motivated to make sustainable or unsustainable decisions? Can ethics play a role, or are these decisions based purely on economic gain or nationalistic ideologies? According to the *United Nations Chronicle* (2015), Iceland's government was originally motivated to switch to large-scale renewable energy when importing fossil fuels became unsustainable for their economy. It seems that the tour guide from *Hellisheiðarvirkjun* was right: Icelanders would have relied on fossil fuels if not for the abundance and economic convenience of renewable energy in their country. Given the presence of the capitalist system, it is likely that governments worldwide will require economic motivations for sustainable change.

The capitalist system also limits the extent to which most individuals can practice sustainability. Unless people are willing to radically change their lifestyles, most will continue to negatively impact the environment, whether they mean to or not, given the environmentally exploitative nature of capitalism. It is important to consider the extent to which individuals can be sustainable given the constraints of capitalism and how this can be used to incentivize

sustainable action for individuals, or how major shifts in the capitalist system need to occur in order to achieve global sustainability.

One of the most prominent obstacles within the sustainability discourse is how to motivate people whose livelihoods are not immediately affected by climate change to shift to more sustainable lifestyles. Significant inequalities exist between who is affected by global climate change and who is not. People living in countries that emit the most fossil fuels rarely experience life-changing consequences as a result of climate change. On the other hand, countries that emit few or no fossil fuels are suffering the worst consequences (Barnett, 2007). The countries that need to mitigate fossil fuel emissions are not making enough effort to do so and many of the countries that need to adapt do not have the ability or infrastructure to do so. The question remains: how can we motivate people who are not affected by climate change to practice sustainability in their everyday lives? When national policy changes are not implemented, individuals will likely continue to be motivated by the intersection of existing scalar and cultural pressures, like economics, ethics, and nationalism, as I have identified for Iceland. Understanding the motivations that already exist sheds light on the types of motivations that could be used in policies to initiate more widespread, successful sustainable action.

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Appendices:

Appendix A: Interview Template

Verbal consent- "I am conducting a research project investigating sustainability and resource conservation in Iceland. I am conducting interviews to explore this topic, which will only take 15 to 25 minutes. Your participation is voluntary and you may leave the study or skip questions if at any time you feel uncomfortable answering a question or do not want to participate.

-Is it ok if I use you name in the final report or would you like to be anonymous? --Do I have permission to audio-record the interview?"

How often do you drive the car? Do you try to avoid driving, for example by carpooling or using public transportation? How often do you fly in an airplane? Are you aware of your GHG emissions? Do you aim to limit these emissions?

Do you recycle? Or compost? Do you buy or sell used goods?

Do you try to conserve electricity? (Turn out the lights, close the refrigerator) Do you turn off the heat whenever possible? Open windows with the heat on?

If you try to conserve resources in your everyday life, what is the reason?

If you do not try to conserve resources, why not?

Do you try to conserve electricity or water? Why or why not?

How important for you is conservation of open landscape or wilderness areas?

What are examples of areas you think are important to conserve? Why?

Do you visit wilderness or conserved areas?

Do you feel informed about ways to save energy?

Are you aware of campaigns to spread awareness about conservation? If yes, what campaigns have you heard about?

Have you noticed changes in environmental practices or conservation over the paste years or decades? If so, what changes? Why have these changes occurred?

Do you agree with the image of sustainability or pristine wilderness that advertisements for tourism in Iceland solicit to the rest of the world? Why or why not?

Appendix B: E-mail Response Template

SIT Study Abroad Iceland | Katharine Vezin Gregory | Katharine.Gregory@Colorado.edu

**Perception versus Reality:
An investigation of sustainability ideals and practices in Iceland**

My name is Kate Gregory and I am a university student from the University of Colorado Boulder in the United States. As part of the study abroad program with the School for International Training (SIT) I am conducting a research project investigating sustainability and resource conservation in Iceland. I am conducting interviews and collecting written responses to explore this topic. Your participation in this survey will take approximately 15 minutes. Your participation is voluntary and you may skip questions if at any time you feel uncomfortable answering a question or do not want to participate.

Do you permit use of your name in the final report of this research?

Yes / No

1. How often do you drive a car?

2. How often do you fly in an airplane?

For questions 3-10 please answer YES or NO. Further explanations are welcome

3. Do you try to avoid driving, for example by walking, taking public transportation or sharing rides?

Yes / No

Comment: _____

4. Are you aware of your greenhouse gas emissions? If so, do you try to limit these emissions?

Yes / No

Comment: _____

5. Do you recycle? Yes / No

Comment: _____

6. Do you compost? Yes / No

Comment: _____

7. Do you buy or sell used goods? Yes / No

Comment: _____

Appendix B, cont.:

8. Do you try to conserve electricity? Yes / No

Comment: _____

9. Do you turn off the heat whenever possible? Yes / No

Comment: _____

10. Do you open windows while the heat is on? Yes / No

Comment: _____

11. How important for you is conservation of open landscape or wilderness areas?

12. What are examples of areas you think are important to conserve? Why?

13. Do you visit wilderness or conserved areas? Why or why not?

14. Do you try to conserve resources (for example water or electricity) in your everyday life? Why or why not?

15. Do you feel informed about ways to save energy? How so?

15. Are you aware of campaigns to spread awareness about conservation? If yes, what campaigns have you heard about?

16. Have you noticed any changes in environmental practices in Iceland over the past years or decades? Please explain.

Takk fyrir

Appendix C: Interviewee Demographics

Interviewee Demographics

Name	Gender	Age Range	Primary Place of Living
Peter Weiss	Male	30-40	Ísafjörður
Sólrún Geirsdóttir	Female	40-50	Bólungarvík
Jónas Guðmundsson	Male	50-60	Bólungarvík
Hlynur Reynisson	Male	30-40	Ísafjörður
Kári Johansson	Male	50-60	Ísafjörður
Óli Kristánnson	Male	40-50	Ísafjörður
Valgeir Pall Bjornsson	Male	30-40	Reykjavík
Anna Margrét Korneliusdóttir	Female	30-40	Reykjavík
Þórunn Pétursdóttir	Female	40-50	Reykjavík
Brynhildur Davídsdóttir	Female	40-50	Reykjavík
Ragnar Gray	Male	20-30	Reykjavík
Patrycja Wittstock Einarsdóttir	Female	20-30	Ísafjörður
Þórhildur Jónasdóttir	Female	18-20	Bólungarvík

Appendix D: Survey Participants

Survey Participants

Name:

Nina Ivanova

Margrét Albertsdóttir

Þórdís Þórdóttir (psuedonym)

Jón Jónasson (psuedonym)

Inga Bára Þordardóttir

Krtistin Guðmundsdóttir

Margrét Theodórsdóttir

Lina Björg Tryggvadóttir

Guðrún Lilja Kristinsdóttir

Örn Hrafnsson

Ómar Smári Kristinsson

Björn Hjálmarsson

Appendix E: Quantitative Interview and Survey Results

Quantitative Interview and Survey Results:

How often do you drive a car?

Frequency:	Number of People:
Every day	11
3-4 times a week	6
Once a week	4
Once a month	2
Never	2

How often do you fly in an airplane?

Frequency:	Number of People:
>10 times/year	5
5-9 times/year	5
1-4 times/year	3
Once every 2 years	3
Once every 3-4 years	2

Conservation Practices

Question:	Yes	No
Do you try to avoid driving?	15	7
Are you aware of your GHG emissions?	16	7
Do you try to conserve electricity?	18	3
Do you turn off the heat?	7	11
Do you open windows with the heat on?	13	5
Do you try to conserve resources?	15	6

Waste Treatment

	Yes	No
Do you recycle?	21	1
Do you compost?	9	13
Do you buy/sell used goods?	9	4

Wilderness Practices

Question:	Yes	No
Is wilderness conservation important?	18	2
Do you visit wilderness areas?	11	2

What are important places to preserve?

Place:	Number:
Hornstrandir	3
The Highlands	5
Water features	3
Geothermal areas	2
Wilderness, untouched, beautiful nature	10
Vegetation, wildlife	3

*Note: Numbers do not always match because not every interviewee was asked every question due to the evolutionary process of research