

Why is Carbon Free Island Jeju not so carbon-free?

Exploring masculinities in discourse and material reality of a decarbonisation experiment in South Korea

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Abstract

Despite almost 9 years of pushing for sustainable development in the global environmental politics sphere, societies worldwide remain stuck in unsustainable energy cultures. Critical feminist analyses of gendered norms in energy systems offer a path to bring to light the structures of power that keep us stuck. Carbon Free Island Jeju 2030 was a policy experiment announced in 2012 aiming to transition to carbon free energy and transport sectors by 2030, however, the island has not been able to reach its goals. Through a critical policy ethnography of the CFI 2030 policy, I examine masculinities embedded in it and how they have emerged in the implementation. Although both ecological and ecomodern masculinities were present, ecomodern dominated. It seems a focus towards green industry growth and reliance on technological solutions has not been enough to overcome the existing dominant structures based on fossil fuels and centralised governance.

Keywords: Energy transition, Jeju Island, ecomodernism, feminist energy system, critical policy ethnography, East Asia

Word count: 11,320

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감사합니다.

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List of Abbreviations

| | |
|-------|----------------------------------|
| CFI | Carbon Free Island |
| ESS | Electric Storage System |
| EV | Electric Vehicle |
| FES | Feminist Energy System |
| GHG | Greenhouse Gas Emissions |
| HVDC | High-Voltage Direct Current |
| JECO | Jeju Energy Corporation |
| JSSGP | Jeju Special Governing Province |
| KEPCO | Korea Electric Power Corporation |
| kW | kilowatt |
| LNG | Liquified Natural Gas |
| MW | Megawatt |
| NRE | New and Renewable Energy |
| RE | Renewable Energy |

1 Introduction

“I shall conclude by turning the question around: what are the implications of leaving gender analysis out of sociological investigation into a crisis that threatens to ‘undermine the very basis of human civilisation’?”

- Sherilyn MacGregor, 2009

In the face of increasing global temperatures and intensifying extreme weather events, it is becoming increasingly urgent to quickly and drastically reduce greenhouse gas (GHG) emissions. Particularly in the energy sector, which accounts for 73% of these emissions but also provides safety and livelihoods for people worldwide, the task of decarbonisation is of utmost importance (IPCC, 2020; Ritchie, 2020). Decarbonization has varying definitions, but often refers to reducing GHG emissions through electrification and replacing fossil fuels with non- or low-carbon alternatives such as renewable energy (RE) (T. Devezas et al., 2022; Dupont & Oberthür, 2015). Since the adoption of the United Nations Framework Convention on Climate Change in 1992, many communities and governments have taken more deliberate action to reduce GHG emissions through energy efficiency improvements and development of RE (Akaev, 2017; Zhukov & Reznikova, 2023).

One such example is the ‘Carbon Free Island JEJU 2030’ (CFI 2030) initiative, a policy announced in May, 2012, on Jeju Island, South Korea, with a goal of meeting 100% of the island’s energy demand through ‘new and renewable energy’(NRE) and replacing vehicles with electric vehicles (EV) by 2030 (JSSGP, 2012). However, despite making this commitment, the island has so far failed to reach the policy’s goals midterm goals of 50% NRE and 50% EVs by 2020. RE penetration has only reached an annual average of 19.2% and 9.9% of the vehicles on the island are EV (JSSGP, n.d.-b). Technical issues that have contributed to the lack of RE uptake have been examined, such as increasing occurrences of RE curtailment, but practical solutions to counter these issues have also been identified (Kim et al., 2022). On the other hand, cultural and social factors that may be contributing to the lack of urgent action in this case have not been formally examined. Energy transitions are not just a problem of technology, they also involve complex social change, and an examination of societal norms and values can help us understand what is driving the maintenance of unsustainable energy cultures and how we can address them (Bell et al., 2020; Rosenbloom et al., 2020).

Feminist literature has pointed out the necessity for analyses of gender dimensions in climate change and energy issues (Bell et al., 2020; MacGregor, 2009). Utilising a gender lens, we can examine how gender plays a role in the construction of climate change, experiences of climate change and energy in

everyday life, and institutional and individual responses to climate change and energy issues (Bell et al., 2020; MacGregor, 2009). Researchers such as Annica Kronsell and Martin Hultman have argued that the dominance of male persons in climate policymaking spaces affects the policies that are produced in that it is the values of male policymakers and scientists that are reflected, particularly the neoliberal masculine order that prioritises production, growth, and expansion (Hultman, 2017; Kronsell, 2017). In the United Nations, female representation sat at 28.5% in 2020 (Haack, 2022). In these policymaking spaces, these masculine values operate as the accepted norm, however this fact often remains unarticulated (Kronsell, 2017). In the global environmental politics arena, ecomodern masculinity, premised on economic growth as the basis for a sustainable transition, has come to dominate (Hultman, 2017). Bell et al. (2020) argues that these normalised structures such as profit-driven growth keep us stuck in a paradox of energy additions rather than energy transitions. Thus, examining masculinities in relation to environmental governance and energy systems as well as coming to new understandings of masculinity in these spaces is important to achieve sustainable energy transitions (Bell et al., 2020; Hultman, 2017).

In South Korea (hereafter referred to as Korea) as well, male bodies dominate policymaking spaces, holding 81% of parliamentary seats and 83% of cabinet minister positions as of January 2023 (Inter-Parliamentary Union, 2023). Korea has also long been recognized as a patriarchal state (Cho, 2004; Manek, 2023). Within this context, the global discourse of ecomodernism and green growth also emerged in the political sphere with the introduction of the Korean Green Growth Initiative in 2009 by the Lee Myung-Bak administration. This initiative sought a new development paradigm based on green technology and clean energy that would also place Korea as a green growth leader on the international stage (Ha & Byrne, 2019). It is also within this context that the CFI 2030 policy emerged on Jeju Island (hereafter referred to as Jeju), and as such, it could serve as a good example to examine how masculinities emerge and influence a decarbonisation experiment.

The objective of this research is to expand understanding of the role gendered values and norms play in the success, or lack of success, of decarbonisation initiatives in patriarchal social and political systems. Korea is a carbon intensive industrialised society and is included among the countries with the highest per capita carbon emission values, at 11.9 tonnes per capita (Ritchie et al., 2022). Therefore, action to decarbonize the country is vital. This study aims to contribute to knowledge about the RE transition in Korea by identifying cultural and social barriers that may exist and need to be addressed for a successful transition to occur. Focusing on the explicit struggle occurring with the CFI 2030 initiative on Jeju offers an opportunity for a critical examination of social and cultural issues connected to the energy system. Additionally, academic literature regarding social science perspectives on

renewable energy transitions in the East Asian context is scarce, and this research project would contribute to a better understanding of this region. However, the results of this research project would not be applicable to East Asia alone, as patriarchal systems are embedded in societies around the world (Connell & Messerschmidt, 2005). Therefore, this research could have global implications for our understanding of the interplay of culture and renewable energy transitions.

1.1 Aim and research questions

This study aims to examine the presence of dominant masculinities of environmental politics in an energy transition and decarbonisation experiment, and to understand how these masculinities have (or have not) acted as barriers towards a successful energy transition.

Following the aims of this study, I have formulated two research questions:

1. How do masculinities of environmental politics emerge in the discourse of the Carbon Free Island Jeju 2030 policy?
2. How have the identified masculinities present in the policy interacted with its implementation in material reality?

2 Setting the scene

2.1 Jeju Island

Jeju is Korea’s largest island, spanning 1,845.88 km², located off of the southwestern coast of the Korean Peninsula, and is characterised by the central dormant volcano that formed the island, Hallasan (Figure 1) (Park, n.d.). The population is about 685,000, with a population density of 365.6 people/km² (KOSIS, 2024). The island became ‘Jeju Special Self-Governing Province’ (JSSGP) in 2006, granting the island more decentralised authority in areas such as legislative power, governing administration, policing, and education (제주특별법, 2006). The island is also a very popular tourist destination for both Korean citizens and foreign visitors, and in 2023, a total of 13,370,529 tourists visited the island (JSSGP, 2024a).

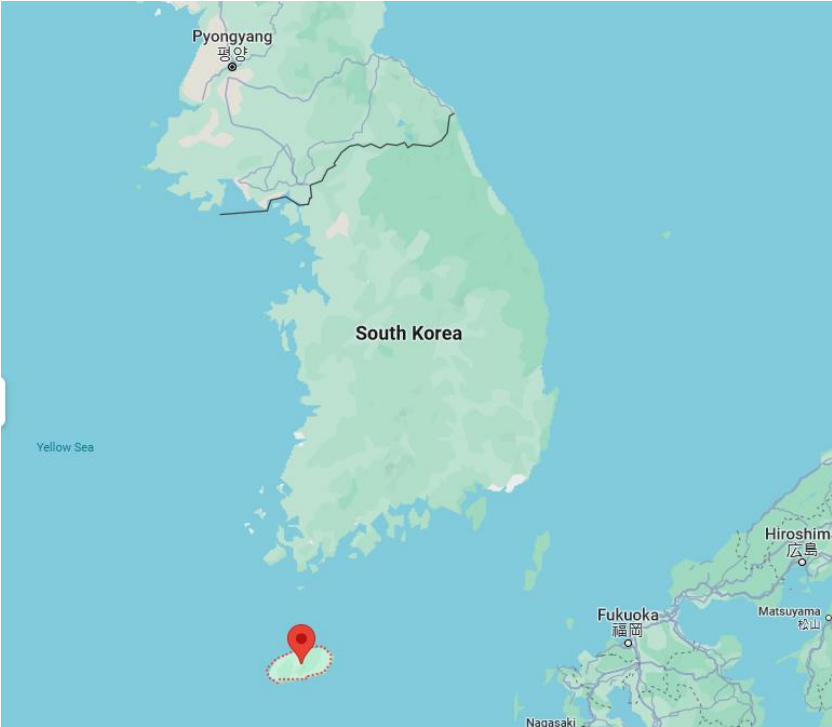


Figure 1. Map of South Korea indicating the location of Jeju Island (Source: Google Maps)

Energy on Jeju is currently supplied by a mix of Liquefied Natural Gas (LNG), NRE, and “other” sources produced on Jeju and supplemented with energy from the mainland through HVDC lines (Figure 2) (MOTIE, 2023, p. 103). The history of NRE use on Jeju began as early as 1976, when a 2 kW wind turbine was installed in Andeok Township (JSSGP, 2020). More wind turbines as well as solar panels were built in the 1980s, and systematic promotion of NRE development began in 1987 with the establishment of the “Alternative Energy Technology Development Promotion Act” (JSSGP, 2020). RE development

continued, and thus, wind and solar power was already somewhat established on the island when the CFI 2030 policy was announced in 2012. Jeju’s position as both an island and a special self-governing province contributed to the establishment of this decarbonisation experiment in this space as it is somewhat isolated politically and geographically (JSSGP, 2012), and this also makes it an interesting case to study a renewable energy transition and the power dynamics involved.

2.3 Carbon Free Island Jeju 2030

The CFI 2030 policy was first presented by the JSSGP Department of the Knowledge Economy and Smart Grids. The announcement listed 3 steps intending to mould Jeju into a model of “low-carbon green growth to combat climate change and achieve energy independence”: (1) establishing Gapa Island as a Carbon Free Island test model in 2012, (2) establishing 50% NRE, implementing smart grids, and EVs by 2020, and (3) creating a fossil fuel-free international green growth island by 2030 (JSSGP, 2012). The final goal was to install a total of 2 GW of offshore wind, 300 MW of onshore wind, and 100 MW of solar power by 2030 that could provide 124% of predicted energy demand (JSSGP, 2012).



Figure 2. Model of Jeju Island at the CFI Energy Futures Hall showing the current and future energy system (Photo by author, February 19, 2024)

3 Theory

Given the aim of this study to examine gendered discourse and its impacts in material reality, I adopt feminist standpoints in my theory and methods. Feminist research on gender and the environment has offered insights into the gendered impacts of climate change, particularly on women, as well as the lack of representation by women in decision-making and policymaking spaces (Buckingham & Masson, 2017). However, feminist perspectives also have the potential to offer insights into how gender relations and constructions of gender connect to climate change causes, effects, mitigations, and adaptations (Buckingham & Masson, 2017). MacGregor (2017) argues that not enough attention has been paid to the gendered “cultural-discursive dimensions of climate change” (p. 17) and how understandings of environmental issues are framed by gendered discourses.

3.1 Material-Constructivist Feminism

Feminist theory brings unique insights to the study of power and how masculinities and femininities are constructed in discourse and culture (Bell et al., 2020; MacGregor, 2009). Material feminism highlights the historical structural divide between men and women, and their respective productive and reproductive roles (Kronsell, 2017). This perspective points out the dominance of men in policymaking spaces and how that gender power is reflected in policies that are produced (Kronsell, 2017). However, gender is also dynamic and does not subscribe to a simple binary. Constructivist feminism assumes the social construction of gender, including masculinities and femininities (Kronsell, 2017). Constructed masculinities and femininities can become accepted as the norm, and consequently, the gendered aspect can become lost from the conscious (Kronsell, 2017). In other words, certain characteristics are thought to be ‘inherently’ male or female, rather than consciously assigned to a gender.

Combining the perspectives of materialist and constructivist feminism allows one to acknowledge the very real gender-based inequalities experienced by people, while also acknowledging that (1) gender is fluid and the characteristics assigned to a gender can change over time and space, and (2) that masculinities and femininities are not strictly embodied by the corresponding gender. People who are not male-bodied can embody the attributes of a masculinity, and people who are not female-bodied can embody the attributes of a femininity (Halberstam, 1998; Messerschmidt, 2004). A hybrid material-constructivist feminist perspective offers a point of entry to examine both explicit and implicit gendered values and norms.

3.2 Masculinities

Masculinities are “configurations of practice that are accomplished in social action” (Connell & Messerschmidt, 2005, p. 836). In other words, they are ‘ways of being a man.’ There is a multiplicity of masculinities, differing depending on the context of a particular social setting (Connell and Messerschmidt, 2005). According to Connell and Messerschmidt (2005), there is an active struggle for dominance among the existing masculinities, resulting in the existence of a ‘hegemonic masculinity.’ This hegemonic masculinity embodies the “current most honoured way of being a man.” (Connell and Messerschmidt, 2005, p. 832). Following Gramsci’s (1971) concept of hegemony, the masculinity achieves ascendancy through culture, institutions, and persuasion (Connell and Messerschmidt, 2005).

Reflecting the long-established dominance of “men” in many societies and cultures around the world, masculine norms are embedded and usually dominant in institutions (Waylen, 2014). Thus, even if you add more women to a space, it does not guarantee that there will be a shift in the structure and norms of an institution (Waylen, 2014). Rather, it is likely expected that the non-male-bodied people who join the space must conform to the embedded hegemonic masculine values and behaviours (Kronsell et al., 2020).

3.2.1 Masculinity and environment

Martin Hultman characterised three general types of masculinities in the realm of energy and environmental politics in their chapter ‘Natures of masculinities’ in ‘Understanding Climate Change Through Gender Relations.’ Hultman’s characterisations were based on over a decade of research into empirical studies of climate change, environmental history, and energy politics (Hultman, 2017). The three masculinities are (1) industrial masculinity, (2) ecomodern masculinity, and (3) ecological masculinity. These are not the only masculinities that may exist, as experiences and constructions of masculinity are diverse (Connell & Messerschmidt, 2005), however these characterisations provide a strong starting point for examining masculinities in the realm of energy and environmental politics. I adapted the characterisations detailed in Hultman (2017) into a framework, seen in Figure 3, which I utilise as a deductive coding framework to identify the masculinities present in the CFI 2030 policy.

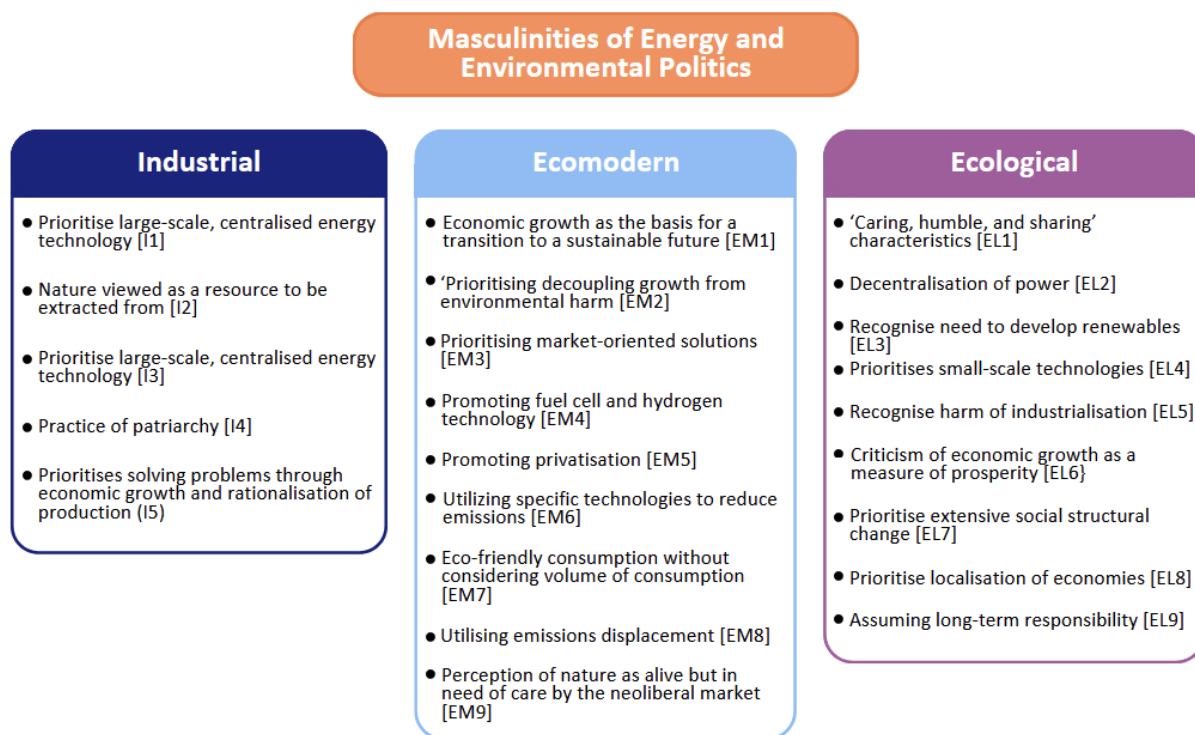


Figure 3. Conceptual framework of three masculinities of energy and environmental politics adapted from Hultman (2017)

3.3.2 A note on masculinities in Korea

There have been many studies on masculinity in Korea. Moon (2002) discussed three practices that are interwoven into a hegemonic masculinity present in Korea, the role as the family provider, mandatory military service, and distance from domestic chores. With the existence of mandatory military service for men, militarised masculinity has been a common topic in research, including how this masculinity has shaped social life and workplaces, for example Chung (2024) and Um (2023). Recent literature has also examined the ‘softer’ masculinities that have emerged in Korean media and K-pop (Azizah & Dwiyanti, 2021; Jung, 2023). However, to my knowledge, there has not been discussion of masculinities in energy and environmental politics in the context of Korea. This reality contributed to my decision to utilise Hultman’s masculinity characterisations as the basis of my analysis.

3.4 Feminist Energy System

Feminist Energy Systems (FES) is a framework described by Bell et al. (2020) that introduces a feminist approach to understanding what keeps societies stuck in unsustainable energy cultures and acts as a paradigm for truly just energy systems. The framework outlines four dimensions - Political, Economic, Socio-ecological, and Technological - and feminist visions for each dimension, as depicted in Figure 4.

| Feminist Energy Systems | |
|--------------------------------|---|
| Dimension | Vision |
| Political | Democratic; decolonial; decentralized; pluralist; publicly owned |
| Economic | Prioritizes human and more-than-human well-being and biodiversity over profit; refuses the growth imperative; committed to community economies and pink-collar jobs |
| Socio-ecological | Relational; transparent; attuned to the violence of energy production and engaged in efforts to mitigate or compensate that violence; committed to building a culture of care |
| Technological | Distributed; community-directed and collaborative; heterogeneous and multiple |

Figure 4. Feminist Energy System Framework reprinted from Bell et al. (2020, p. 3)

In my research I use the FES framework as a guide to my understanding of what a sustainable society and energy system would look like. When considering the masculinities described by Hultman (2017), Ecological masculinity shares the most characteristics in common with FES. As such, in this research I consider Ecological masculinity to be most conducive to a sustainable energy system.

4 Methodology

4.1 Multi-site critical policy microethnography

Ethnography is useful in sustainability science because it offers a method to study the habits and attitudes that are taken for granted by society (Fahy & Rau, 2013). It also offers an entry point to examine changes in environmental opinion that occur over time, an important aspect in sustainability studies (Fahy and Rau, 2013). Ryder (2018) described a multi-sited, critical policy ethnography to examine energy and climate change decision-making processes. The author argues that given energy and climate change issues are complex and cross geographic boundaries, multi-sited ethnographies are excellent tools to examine them (Ryder, 2018). This method allows the researcher to “trace various people and their divergent perspectives and experiences across different geographic and social contexts” (Ryder, 2018, p. 271).

Policy ethnography consists “in the ethnography of policy settings, agents, practices, organisations, and processes” (Dubois, 2015, p. 462). Critical policy ethnography differs from other forms of policy ethnography in that it tries to set “its observations in the broader context of macro-structures of power and inequality” and “it serves to unveil social, economic, symbolic and political domination at work in policy processes” (Dubois, 2015, p. 463). Redirecting attention to processes occurring at the “top,” and not just how a policy impacts people at the bottom, provides valuable insight into the institutions and organisations that affect our lives (Dubois, 2015).

A critical policy ethnography is particularly useful in the context of the Carbon Free Island policy of Jeju Island, which is influenced by actors at multiple different scales, including both national and provincial policymakers, the national and provincial energy corporations, and island residents. It can also account for the influence of global social and economic paradigms in the decision-making processes in the midst of such a globalised era. Korea is deeply ingrained in the globalised economic market (OEC, n.d.) as well as the international sustainable development network, with its signature on the Paris Agreement and acting as the host country for the United Nations Office for Sustainable Development.

As I aim to examine the social values and norms associated with masculinities implicit in the policy, and how they have interacted in the policy implementation within the context of Korea, ethnographic methods will allow a more natural and in-depth examination of actors' experiences and perceptions. This method also recognizes that some stakeholders, such as policymakers, can be inaccessible, and thus allows for the use of methods such as policy and media analysis to supplement where interviews are unlikely. The multi-sited critical policy ethnography consists of interviews, participant observation,

policy analysis, and analysis of audio/visual materials (Ryder, 2018). The discourse analysis of energy policy in Jeju and Korea will provide a space to examine the dominant norms and values that drive energy governance in this space. Observations and interviews with stakeholders on the ground in Jeju, who have experienced the implementation process of CFI and environmental governance on the island, will contextualise how the values and norms present in energy policy play out in material reality.

Although examining masculinities in energy policy is a novel field of inquiry, a few examples do exist regarding sustainability and climate change policy. Kronsell et al. (2020) analysed masculinities and femininities in Swedish municipal transport policy. To do this, text analysis of municipal transport policy documents was conducted and complemented with semi-structured interviews with municipal transport policymakers. This study found that sustainability levels were not related to the presence of male and female bodies, but rather to the presence of gendered norms.

On a final note, while ethnography is usually considered a research method that occurs over a long period of time, from several months to years, this scale is not feasible for a master's thesis (Bryman, 2012). In this case, the concept of micro-ethnography is useful, where a researcher focuses "on a particular aspect of a topic (Bryman, 2012, p. 433). Thus, I focus my analysis on the policy and its process at the sub-national government level.

4.1.1 Policy text Analysis through deductive coding

Qualitative text analysis is a broad methodological field used to explore text-based content (Kuckartz, 2014). The process of qualitative text analysis often involves the identification of concepts or categories within the text through an iterative process of coding (Kuckartz, 2014). Thematic qualitative text analysis allows for a descriptive characterization of the research data by identifying, systematising, and analysing topics, differing from evaluative qualitative text analysis which focuses on assessing and evaluating the data, and coding categories can be constructed either inductively, deductively, or through blended method (Kuckartz, 2014). Although it is common to take an inductive or blended approach to build the coding framework from the data, more narrow deductive approaches are useful when focusing on issues already well-known to be important in existing literature and when testing theory (Skjott Linneberg & Korsgaard, 2019)

Criticisms of the use of coding as a method of qualitative analysis do exist. It is argued that coding splits the data under analysis, resulting in the researcher being at risk of losing a comprehensive understanding of the whole text under consideration, and it is criticised for the subjective basis on which judgments are made in choosing codes (Skjott and Korsgaard, 2019). To combat these criticisms,

Skjott and Korsgaard (2019) suggest techniques such as rereading the whole text and looking for negative evidence in the data to retain awareness of the context, and practice reflexivity on one's perspective throughout the process to be aware of subjectivity.

To answer RQ1, I conducted a thematic text analysis using deductive coding on the CFI Jeju 2030 policy in the program NVivo. The texts included in the analysis include the 2020 official CFI policy implementation plan, policy text from the official CFI Jeju website, as well as content from official promotional videos. The deductive coding framework was built based on the characterization of masculinities in global energy and environmental politics by Hultman (2017) (Figure 3). Although utilising characterizations based on Western societies could be seen as a limitation to my research, I argue that Hultman's characterizations serve as a strong analytical basis for examining masculinities in environmental politics where no prior example exists. Additionally, Korea has also become a major player in the Western capitalist economic paradigm, and as such, associated norms are also likely to appear in policy projects. As a novice researcher, using a deductive coding framework also helps to avoid making the process too complicated and lacking in focus (Skjott and Korsgaard, 2019).

4.1.2 Site observations and semi-structured interviews

My fieldwork was undertaken on Jeju for eight weeks between February and early April 2024. One of the initial steps of ethnographic research is what O'Reilly (2011) refers to as "the general gathering stage," where one can learn more about their topic and the field they'll be conducting the research in through activities such as searching websites for information, talking to friends and family about the topic, developing a network of potential contacts, etc. Before going to my main field site, I searched government websites to identify individuals working with the CFI 2030 policy, as well as social media platforms such as Instagram to identify environmental groups that may be involved in the implementation of the policy. I also spoke with my own friends in Korea, as well as friends with connections there. Once I arrived on Jeju, I expanded the general gathering with new contacts made during the process of reaching out to various stakeholders. Although I attempted to reach out to some organisations before starting this project, I was not working in collaboration with any organisation or had any direct connections on Jeju before arriving there. As a result, a majority of my contact network was grown during the first few weeks of immersion on the island.

The presentation of my field notes and interviews is guided by questions adapted from Ryder (2018) designed for the critical policy ethnography. As the questions listed in Ryder (2018) are worded specifically for their study on unconventional oil and gas development, I have adapted the questions to apply to the context of the CFI 2030 policy process (Figure 5).



Figure 5. Critical policy ethnography analysis questions adapted from Ryder (2018).

Site observations and interactions

During fieldwork, I kept a diary in which I recorded my daily interactions and observations relevant to the research. I carried a notebook with me to note down thoughts and observations as they occurred, however, content from conversations was mentally memorised and recorded in my notebook at a later time when I was alone. However, I do acknowledge that relying on memory, even temporarily, risks losing information. To maintain the integrity of my notes, I did not write down information that I was not completely confident in my memory of.

While conducting this study I often asked myself, where does one “participate” when conducting an ethnography of an energy policy? As discussed by Ryder (2018), energy and environmental issues cross the boundaries of space and time. The CFI 2030 policy was first announced in May of 2012, almost exactly 12 years before the time of my fieldwork. Government meetings are one space where direct observation could occur, however, the long lifespan of this policy means I would be lucky if any public meeting specifically about the CFI 2030 policy occurred during my 2-month stay on Jeju. Due to this limitation, I relied on accounts of the policy implementation process by native Jeju people and people who had been living on Jeju for at least the majority of the lifespan of the policy.

Unstructured interviews

Interviewing is one of the most common methods employed in qualitative research due to its flexibility and ability to draw out rich, detailed information (Bryman, 2012). Ethnographers tend to utilise unstructured interviews as the form encourages reflexivity from the interviewee (O’Reilly, 2012). Unstructured interviews usually rely on a brief set of prompts that correspond to a certain topic; the interviewee can respond freely and the interviewer can respond to points of interest (Bryman, 2012). This style allows for the emergence of topics of relevance that a researcher may not have been aware of before (O’Reilly, 2012). Structured elements can also be introduced into unstructured interviews, such as general demographic questions that can help contextualise the interviewee’s responses (O’Reilly, 2012).

I conducted five interviews during my fieldwork, all lasting between 30 minutes to one hour. I prepared general topics and related questions in advance for each interviewee, however, the interviews were conducted in an unstructured style. Following initial introductory questions, I would ask a question about their perspective on the policy and its implementation. From there, I would follow the narrative of the interviewee and raise follow-up questions to the topics and stories they brought up naturally that I found of interest. If there was a lull in the conversation, I would refer back to my list of questions to bring up topics of interest that had not been touched on by the interviewee.

Potential participants for interviews were identified during the general gathering stage of initial research, as well as through snowball sampling. For example, I identified potential government stakeholders for interviews through a search on JSSGP’s official website. I also reached out to environmental organisations and local researchers. Snowball sampling is a method of sampling where further contacts are made through initial relevant contacts (Bryman, 2012). This was particularly useful in the context of Jeju, as one of my contacts put it “The village people [in Jeju] aren’t interested in talking to you if you’re not a native Jeju person, or with a native Jeju person” (FN p. 35). Thus, through snowballing, I was able to get in contact with people who would normally have been out of reach. In the case of the interviews with representatives from two wind power villages, the person who put me in contact with them, who was also a native Jeju person, accompanied me on the interviews to help me gain access. Interviewees are listed in Table 1.

Table 1. Interviews conducted for this study (Author, 2024)

| | Date of Interview | Interviewee |
|-------------|--------------------------|-----------------------------------|
| INT1 | March 12, 2024 | Environmental NGO worker |
| INT2 | March 29, 2024 | Wind power village representative |
| INT3 | April 2, 2024 | Political party representative |
| INT4 | April 3, 2024 | Wind power village representative |
| INT5 | April 5, 2024 | Energy NGO worker (Seoul) |

4.3 Limitations

There are some limitations to this study. First of all, lack of access to stakeholders in the government could have introduced bias into the representation of the policy implementation. Another limitation was the relatively short time span for fieldwork. Although I acknowledge this study as a

microethnography, a longer study period would have allowed for more in-depth exploration of cultural dynamics on Jeju as well as given more opportunity to access relevant government meetings and stakeholders. Additionally, although I am advanced, I am not a native speaker of Korean, and there could have been nuances of culture and language that I was not aware of.

4.2 Positionality and ethics

Conducting ethnographic research in Korea as a white woman who did not grow up in the country and is an outsider to Jeju led me to reflect constantly on my position in this space. Although I speak Korean at a very advanced level and have spent much time in the country over the past seven years, it is impossible for me to share the same experiences and implicit understandings that a person raised in Korea would. Recognizing this, I went into the space with an open mind to listen to the perspectives and knowledge of the people there and not impose my own ideas onto them. Although I also did not try to hide my point of view. I am aware of biases that could potentially affect my research and tried to alleviate these biases through my research methods. However, I also acknowledge that my position as an environmentalist, feminist, and anti-capitalist has guided my choices in both research topic and theory.

When conducting qualitative research, it is important to protect the rights of those involved in the research, particularly in policy ethnography which deals with issues of power (Dubois, 2015; O'Reilly, 2011). In this project, informed consent was obtained before every interview. When having informal conversations with people related to the CFI 2030 project, I let them know I was conducting research on the policy. The identities of interview participants and those mentioned in my fieldnotes are kept anonymous in this work to protect their privacy and confidentiality.

5 Findings

In this section, I first examine the norms and values associated with masculinities of environmental politics identified in the policy text of the CFI Jeju 2030 policy and associated policy material. Although the masculinity framework used in the text analysis included ecomodern, ecological, and industrial masculinities, I found only one code within the policy that could be associated with industrial masculinity. Therefore, in the following section, I only present the results of coding for ecomodern and ecological masculinities. Following this, I present my findings on the implementation of the policy collected through semi-structured interviews, informal conversations, and observations. The presentation of the findings is guided by the critical policy ethnography questions I adapted from Ryder (2018). Except for one interview conducted in English, all documents and interviews were translated from Korean by me. Any conversations or observations included in my field notes that were in Korean were translated by me before writing them in English in my field journal unless I kept the Korean for emphasis of language used.

5.1 Ecomodern and Ecological Masculinities in the CFI Jeju 2030 Policy

In this section I present the ecomodern and ecological masculinities present in the discourse of CFI 2030 identified through coding in NVivo. At the end, I touch on the masculinities in relation to the structure of the policy discourse.

5.1.1 Ecomodern masculinity

Of the nine predefined codes for characteristics of ecomodern masculinity, I identified six within the policy texts. The identified codes included [EM1] economic growth as the basis for a transition to a sustainable future; [EM2] decoupling growth from environmental harm; [EM4] promoting fuel cell and hydrogen technology; [EM5] promoting privatisation; [EM6] utilising specific technologies to reduce emissions; and [EM8] utilising emissions displacement. The most common codes emerging in the policy were “economic growth as the basis for a transition to a sustainable future” and “use of specific technologies to reduce emissions.” The three codes that I did not find present were [EM7] eco-friendly consumption without considering volume of consumption; [EM3] prioritising market-oriented solutions; and [EM9] perception of nature as alive but in need of care by the neoliberal market.

In the case of ‘economic growth as the basis for a sustainable future’, one of the main vision statements of ‘Carbon Free Island Jeju’ is “Growth: building an island resident-led ecosystem for innovative growth in the energy industry.” This is alongside the two other vision statements of “Clean” and “Stability.” “Growth” being a part of the three vision statements signals that this value is an important aspect for

this policy. Additionally, one of the four policy goals listed is “Leading new industries of integrated and hybrid energy.” Within the policy implementation plan, there are multiple statements referring to desires for Jeju to become a leader in various existing and new industries. For example, under the policy project “Expanding supply of electric vehicles,” one of the expected outcomes is to preoccupy EV-related industries and foster future industries by becoming a leader in EVs. A related policy project is specifically aimed at securing Jeju’s place as a leader in the EV industry through public promotion of the CFI 2030 policy and hosting an event promoting the culture of driving EVs. In another example, under the policy project “Diffusion of business models utilising battery recycling ESS,” strengthening of the EV battery recycling industry was highlighted as a path to foster “Jeju-style” small businesses, and another expected outcome is fostering creative transdisciplinary human talent in the era of the “4th Industrial Revolution.”

Under the theme of ‘utilising specific technologies to reduce emissions’ were references to implementing technology to reduce emissions that (1) were not “small-scale” or distributed renewable technology, as this is a characteristic of ecological masculinity, or (2) that are being used instead of implementing social structural changes that would negate the emissions. The recent CFI 2030 policy includes solar, wind, fuel cells, hydrogen, tidal, biomass, and waste in its mix of “New and Renewable Energy,” however, the energy sources I included in this theme of ecomodern masculinity are fuel cells, hydrogen, biomass, and waste. An example of this theme in the policy is the inclusion of “New” energy sources in the first goal “Constructing new and renewable energy facilities to meet 100% of the island’s electricity demands (4,085 MW).” Use of the word “new” could signal a preference for new technological development, and also may allow for the inclusion of technologies that are not fully renewable. I found no policy text giving an exact definition of what the policymakers consider to be “New and renewable energy technology.” However, a white paper released by Jeju Energy Corporation (JECO) acknowledges that in Korea the concept of NRE includes nonrenewable sources such as waste and geothermal, and that “New” refers to new technologies that can convert fossil fuels into “more clean energy” (JSSGP, 2020, p. 135). The second goal of the policy, “Replacing 75% of the registered cars on the island with environmentally friendly electric vehicles,” also fits into this theme as the outcome is to reduce emissions through EV technology, rather than implement structural change that would negate the need for individuals to use cars. This is reiterated in the expected outcome of the policy project “Expanding the supply of electric vehicles,” which is “Realising a clean Jeju through reducing fine dust and greenhouse gas emissions and improving the atmosphere.” The reliance on the implementation of specific technologies to reduce emissions is a recurring theme in this policy plan.

The third policy goal “Realising a final energy intensity level of 0.071 TOE/1,000,000 KRW (0.071 TOE/729 USD, as of April 2024), a 23.4% reduction compared to Business As Usual (BAU), aligns with the theme of “Decoupling growth from environmental harm.” In regards to the theme of “Privatisation,” there are multiple references in the policy text to seeking out private investment and businesses for RE technology such as the policy project “Private solar projects” which seeks private-led acquisition of 55 MW of solar generation capacity on buildings, and policy project “Electricity farming on citrus farms and idle land,” seeking private investment to install 12 MW of solar generation. Additionally, the policy text also states that they will seek private companies to propel the fuel cell, biomass, and waste energy generation industries. The theme of “Hydrogen and fuel cell technology” is a more recent addition to the CFI 2030 project, as it was not present in the original policy plan but has appeared in more recent updates. On an official website for the policy, under “Steps to energy independence,” green hydrogen fuel cells are listed as a technology for the “Long-term vision of a Carbon Free Island” and LNG-based fuel cell technology is listed as a technology in the “Carbon Free Island 2030 existing plan.” Under the same text of “Steps to energy independence” the theme of “Emissions displacement” appears. The “New goals for CFI 2030” lists a high reliance on the HVDC line that is connected to mainland Korea. This HVDC line brings power from the mainland to Jeju, and considering the low rate of renewables penetration for Korea, the energy coming through this line will not be carbon-free. The emissions for producing the energy used from this power line will therefore be displaced from Jeju to the mainland.

5.1.2 Ecological masculinity

Of the nine predefined codes for characteristics of ecological masculinity, 5 were identified in the CFI 2030 policy text. These were [EL1] ‘caring, humble, and sharing’ characteristics; [EL2] decentralisation of power; [EL3] recognise need to develop renewables; [EL4] prioritise small-scale technologies; and [EL5] recognition of harm of industrialization. The codes that were not identified in the text included [EL6] criticism of economic growth as a measure of prosperity; [EL7] prioritise extensive social structural change; [EL8] prioritise localisation of economies; and [EL9] assuming long-term responsibility.

In the case of “‘caring, humble, and sharing’ values,” the first vision statement of the policy, “Clean: Constructing a pollution-free clean energy system harmonious with the natural environment,” indicates care for and a humble position towards the environment. Additionally, some of the policy projects, such as “Supplying LED lighting,” are intended to provide support to vulnerable communities, such as low-income families and social welfare centres, by replacing regular lighting LED lighting to reduce energy consumption and costs, and increase energy welfare. This reveals care towards

vulnerable communities and a sharing of resources for their welfare. The theme of “sharing” benefits appears multiple times throughout the policy text as expected outcomes of various renewable energy development policy projects. For example, under the policy project “Publicly led offshore wind energy development,” an expected outcome is maximising return of development benefits to residents, and under policy project “Wind resource development for financially independent villages,” an expected outcome is building strong communities through securing stable income for local communities.

A “need to develop renewable energy sources” is a strong theme in the CFI 2030 policy. The first goal of the policy “Constructing new and renewable energy facilities to meet 100% of the island’s electricity demands (4,085 MW)” is a direct manifestation of this theme. Multiple policy projects are laid out for both solar and wind energy development, including solar panels for homes, businesses, and public buildings, mini veranda solar panels, on-shore wind power, and off-shore wind power. The largest contributor in the policy plan is “Publicly led off-shore wind power,” with a goal of acquiring 1,865 MW of energy-generating capacity in this category by 2030. In the “Background for taking action,” the theme of “Recognition of the harm of industrialization” appears, as it states that “Rapid industrial development and economic growth have wrought indiscriminate resource extraction and environmental destruction causing the occurrence of global warming and accelerating occurrences of abnormal climate conditions and natural disasters through an unbalanced ecosystem.” This is the only time such language appears.

The theme of “decentralisation of power” also appears in the policy text. Under the vision statement “Stability,” energy independence is listed. Energy independence indicates a localisation of energy generation to what is available on the island. While independence from “what” is not directly stated, it could refer to independence from global energy markets as well as independence from mainland Korea. For example, in the “Steps to energy independence,” the long-term vision for CFI includes low dependence on the HVDC line connected to the mainland. On an official policy website, a section on energy governance mentions a project to strengthen the capacity of the island’s energy policy to prepare for a handover from the central government. Under the policy project “Solar for Energy Independent Homes Aid Program” an expected outcome is boosting the energy independence rate of Jeju communities. This indicates a desire for decentralisation and energy independence even within the island. Expanding on this, the concept of distributed power is a recent addition to the CFI 2030 policy. On an official policy website in the section describing how they plan to move forward with distributed energy, they list an expansion of microgrids and “zero-energy villages”, increasing large-scale storage capacity and sector-coupling, and increasing residents' participation in energy governance.

5.1.3 An ecomodern or an ecological policy?

The policy text displays characteristics of both ecomodern and ecological masculinities. In the words of Connell and Messerschmidt (2005), co-existing masculinities are usually competing for dominance, however, defining which masculinity is dominant in this policy can be a bit difficult. Both types of characteristics are co-existing, albeit for different purposes. It could be interesting to consider the characteristics of the masculinities that are not present. For example, the policy lacks any reference to extensive social change or criticism of economic growth as a measure of prosperity, important themes in ecological masculinity. Adding on to this, a majority of the policy projects (38 of 52) deal only with the implementation of technology to reach a carbon-free island, and make little mention of social structural changes that are necessary for such a transition to occur. The rest of the policy projects dealt with topics such as increasing citizen participation in energy governance, promotion and education about the CFI 2030 policy and EVs, and energy efficiency consulting programs.

It is also interesting to consider *where* the characteristics of each masculinity emerge in the policy. Ecological characteristics are more prominent in the beginning sections explaining the motivation behind the policy and the vision statements and also emerge as parts of the expected outcomes of policy projects. However, as mentioned above, the actual policy projects designed to achieve the policy goals centre around the implementation of technology. Although a recognition of the need to develop renewable energy is an aspect of Ecological masculinity, the almost complete reliance on technology is rather a quality of Ecomodernism. It is also interesting to note how the policymakers acknowledged in the very beginning of the document that rapid processes of industrial development and economic growth caused environmental destruction, but then proceed to promote many policy projects that seek growth in NRE and EV industries on the island. The display of ecological desires alongside ecomodern leaning projects paints a picture of ecological values and norms attempting to push forward in a system that still prioritises technology and industry. It is a hallmark of ecomodernism, a green curtain over the incumbent systems of industrialization.

5.2 The policy implementation in material reality

In this section I present my findings on the material reality of the policy from interviews and fieldnotes. To start off, I briefly come back to the policy progress after 12 years. According to JSSGP, as of 2022, the average rate of RE contribution over a year was 19.2% and the percentage of EVs is 9.83% (JSSGP, n.d.-b). The original goal for 2020 was to have 50% RE and 50% EVs. Obviously, this was not achieved, and now, going from 20% to 100% in six years seems a daunting task indeed. A concern reiterated by many people I spoke with while in Jeju (FN p. 17, pg. 28, INT1, INT3). So, how did it come to this? The

following presentation of my findings on the implementation is guided by the questions adapted from Ryder (2018), as seen in Figure 5.

Stakeholder representations of reasons for the policy

My guide at the CFI Energy Futures Hall, an exhibit about the policy operated by JECO, told me a story that it began as a collaboration between the central government and Jeju's provincial government (FN p. 11). Interviewee 3, a member of a local political party, explained that "In 2010, the Lee Myung-bak administration [of the national government] had announced the Low Carbon Green Growth Framework Act, and Jeju was the first to embrace this with the presentation of the CFI 2030 policy." At the time, the policy was promoted as a project that would play a leading role in the national government's green growth initiative (JSSGP, 2012). Jeju was apparently "chosen" as the site for this carbon-free project because "as the farthest south place in Korea, it would be the first to experience the effects of climate change" according to my Energy Futures Hall guide (FN p.12). However, Interviewee 1, an employee of a local environmental organisation that has been involved with the CFI policy, said that it wasn't clear who actually drafted the policy plan, and that it was "hastily made up by a few experts on Jeju." They added that the policy was made because the government needed to justify accepting more wind energy businesses than had been allowed in previous plans by the government (INT1). They later also said that the biggest goal of the policy is indeed responding to climate change, but the government also always brings up economics. "Whenever a plan for solar power or wind power projects comes out, talk of large-scale investment comes along as well" (INT1).

Perceptions of the implementation of the policy

There seems to be an overarching consensus that the original goals of the policy will not be met. At the Energy Futures Hall, the guide told me that it has been recognized that the 2020 goals weren't met and, because of that, the government has shifted the direction of the policy (FN p. 12). Interviewee 5, a researcher at an energy research NGO, commented "The CFI plan is definitely deprioritized by the Jeju subnational government... because they kind of saw more potential in producing green hydrogen with their surplus renewable energies instead of like driving through the CFI target." On an official website for the policy, they listed a "New goal for CFI 2030" that included the use of wind power, solar power, biomass, and a high reliance on the HVDC line connected to the mainland (JSSGP, n.d.-a). This new goal relies on carbon neutrality of biomass and displacement of emissions to the mainland through the HVDC line, which is not technically carbon-free. The new "Long-term vision for CFI" lists low reliance on the HVDC line and the use of solar power, wind power, and hydrogen fuel cells (JSSGP, n.d.-a). There is no end date listed for this long-term vision. Interviewee 1 commented "They say

they're going to [meet the goals], but we still need to do what, two gigawatts of wind power by 2030, and we're less than 300 megawatts now... it's going to be up to 500 megawatts by this year or next year. How do you do 1.5 gigawatts in five years? You can't do it." Interviewee 3 also came to the same conclusion, saying "Anyway, in the current situation, we won't be able to reach this goal of using all renewable energy by 2030."

Stakeholder representations of reasons for unsuccessful implementation

My guide at the Energy Futures Hall said that the reason the goals have not been met is due to the issue of curtailment on RE facilities, which began with wind turbines but soon extended to solar panels as well, due to the variability in energy production from these sources (FN p. 12). Since this exhibit is operated by JECO, I assume that this is the public position of this government organisation. They added that, because of curtailment, the government began focusing on using green hydrogen and fuel cells (FN p. 12). Interviewee 3 also brought up the issue of curtailment, saying that many of the wind turbines are being shut down. However, their explanation for the rise in curtailment centres around "Essential Thermal Power Stations," power stations that are always required to run to be prepared for emergency situations. These essential thermal power stations are run on natural gas. They add on "So if renewables go up, then of course thermal power should go down, but instead of reducing the share of thermal power, they keep increasing it in the name of increasing preparedness" (INT3). Interviewee 5 mentioned that the energy system "still considers renewables as like an intruder of the current system, like we need to curtail these renewables, not phase out the base load fossil fuel plants." Interviewee 1 brought up another angle, saying that in Korea and Jeju, the authorities plan to use more energy every year and thus build more energy facilities, so the current thermal plants keep running and the renewables try to keep running (INT1). They add, "In Jeju, thermal power and renewable energy are competing, and the renewable facilities get turned off in the end" (INT1).

Primary concerns of different stakeholders

At the government level, a primary concern seems to be the maintenance of a stable energy supply. Interviewee 5 commented that there is an energy 'trilemma' in South Korea of stability, sustainability, and security, and "within this trilemma, the Korean government's only priority has always been and will be stability." Economic growth driven by the policy also emerges as a strong topic. When the policy was first announced, there was an emphasis on the large amount of revenue it would bring in, as well as thousands of new jobs (JSSGP, 2012). As was mentioned by Interviewee 1, when solar and wind power plans are announced, there is always talk of the large-scale investment it will bring. Concerns from civil society seem to centre around two things, the disturbance to the natural environment and

economic benefits. A native Jeju resident told me how Jeju people are very proud of the natural landscape and scenic view, and there has been a lot of resistance in the past to wind turbines because they disrupt the natural landscape (FN p. 29, 34). He also said that residents can be resistant to wind turbines because they don't see a visible economic benefit - although villages do get economic benefits, there is a lack of transparency in how the benefits are paid out or shared (FN p. 31). When I spoke with a manager of one of the 'Wind power' villages, Interviewee 4, I asked if the villagers were interested in directly owning their own wind turbine (all of the turbines are owned by private companies), but they answered that the villagers don't care about ownership rights, they just want to receive the economic benefits from their operation.

Inequalities existing in relation to the problem

One inequality that seems to be prominent among the general population is the lack of knowledge regarding energy. When I spoke with a manager of one of the 'Wind power' villages, they said that most of the villagers are older and don't know anything about renewable energy (INT4). If the government hadn't come and told them about the opportunity to build wind turbines, they would have never even thought about the possibility (INT4). Interviewee 1 also reflected on how most people who study sciences leave the island for school or other research institutes, and that there are hardly any people in this field who become involved with civil society in Jeju. This becomes a barrier for civil society to participate in the process, and Interviewee 1 noted that by letting experts dominate the process in Jeju, they lose sight of what is "really needed" for the transition. Another inequality lies in the distribution of economic benefits gained from utilising Jeju's wind resources. Interviewee 3 told me a story about the "movement to recognize wind as a common good." This movement stemmed from an earlier movement fighting for the recognition of water as a common good on the island. Both of these movements were led by island residents who were unhappy with private companies profiting off of Jeju's natural resources, resources the islanders considered to be "everyone's resources" (INT3). This led to the legal recognition of both water and wind as common goods on the island, and as a result, private wind power companies must share their profits with local residents. Although this led to a reduction in inequality of benefits between the companies and the residents, as mentioned earlier, there still lie inequalities in distribution between residents due to a lack of transparency.

Spaces for stakeholders to participate in decision-making.

When it comes to decision-making regarding the actual policy, it seems that there were not any opportunities for citizens or NGOs to participate in the original formulation of it. As mentioned earlier, Interviewee 1 explained that the policy was crafted only by an unknown group of people in the

government, and they also recalled that at the time there was no public survey carried out among the island residents or local environmental or expert organisations. When I asked Interviewee 1 further if there were any bottom-up initiatives regarding the policy, they said that there were none because the top-down method of policymaking was already ingrained in society. My guide at the CFI Energy Futures Hall, who was a local resident, told me their work there was also part of the island's initiative to bolster citizen governance (FN p. 14). In the time since the initial formulation of the policy, there have been public hearings regarding changes to policy plans, however, they are difficult to access for many residents since they occur in the middle of the workday (INT1). Interviewee 1 explained that it's also very difficult for citizens or NGOs to participate in the government committees that decide on the policies, that they aren't even asked to join. It seems the place where citizens have had the most voice has been in the villages. Before any wind power project can go ahead, the local village residents must approve the project, and the villages conduct public meetings with all of the residents to decide (FN p. 30, 38, INT2, INT4). However, beyond this, citizen contribution to the policy has been minimal.

Power dynamics across actors and organisations

As in any energy system, power dynamics across actors and organisations in Jeju and Korea are complex. The national government, local government, businesses, and residents are all actors in the system. However, in Korea, one organisation monopolises the operation of the power grid, Korea Electric Power Corporation (KEPCO) (FN p. 19, INT1, INT3, INT5). Multiple people reflected on how, although Jeju is a self-governing province and should have more independence, the fiscal budget largely comes from the national government, and because of this, the direction of policy on the island reflects the desires of the national government (FN p. 33, INT1, INT3). Because of this, policy is constantly changing with the changing governments (FN p. 32, INT1). The most recent energy plan put out by the national government, the 10th Basic Energy Plan, included plans to increase natural gas-based power capacity on Jeju Island by 900 MW, and two 300 MW plants are already in development (INT1, INT3). As mentioned previously, aside from approval of wind turbines by villages, regular residents and civic organisations have little power to involve themselves in these processes. Another important dynamic is the dominance of 'experts' in the policymaking space. Interviewee 1 commented that to be involved in these spaces, being an expert is a fundamental requirement, making it difficult for civil society and NGOs to be involved. They added that the people in these positions do not want to split their 'power' with people who are not experts and want to continue "doing things the way they've always done them" (INT1). However, as was outlined in the recent policy plan, the Jeju provincial government is beginning to set up structures to move towards complete decentralisation of

the energy system from the central government, which could significantly change power dynamics in the future.

Processes laid out to ensure implementation

In the case of the CFI 2030 policy, it is rather about processes that have not been put into place. First of all, the policy was never put into law, meaning that there are no legal repercussions for failing to meet the goals of the policy (INT1). Rather, other plans that go against the goals of the CFI 2030 policy continue to be pushed forward, such as the building of multiple new LNG power plants (INT1, INT3, INT5). Although the government says that they will switch out the LNG for green hydrogen fuel in the future, it could take years beyond 2030 before the technology and hydrogen supply would be ready for a 100% transition (INT1, INT3, INT5). Interviewee 3 commented that “even if they say we have a 2030 carbon-free island policy, the policies that Jeju is actually implementing are the complete opposite of that.” As evidenced by the high numbers of curtailments on RE, processes to ensure the proper functioning of the technology that was implemented were also lacking. Interviewee 5 commented that “if they really wanted to integrate that much of renewables into the grid, they should have looked... at how they could expand grids to integrate that level of VREs... but they did not. They just gave out huge permissions to utility-scale solar and wind projects and did nothing to support that big project.”

6 Discussion

In this section, I bring together my findings from the policy text analysis, interviews, and observations regarding the implementation to answer RQ2. I follow this by reflecting on my research process and limitations that arose during the study, as well as the implications of this research for feminist research on energy and sustainability science.

6.1 Materiality - Exploring how the masculinities present in the CFI 2030 policy played out in implementation

Jeju has long promoted itself as an image of natural beauty, a place where tourists can come to escape, the “Hawai’i” of East Asia (Tran, 2022). Residents seem proud of the fact that Jeju holds 3 UNESCO environment awards (FN p. 14, INT3). Whether this tendency to care about the environment was always present among native residents of Jeju or it emerged alongside the image of Jeju as a nature reserve, care for the environment seems to have a strong presence in contemporary Jeju society. Much of the island is listed as protected land, citizens are involved in frequent protests against destruction of land and forests for new developments, multiple beach cleanup groups are active, and a new law was recently passed giving legal recognition to the native dolphin populations around the island (FN p. 3, 28, 35). This pre-existing context may have contributed to the creation of the CFI 2030 policy that displays the ecological masculinity values of ecological care and a need to develop renewable energy. The values of sharing also present in the policy objectives of distributing economic benefits from wind power also materialised in reality, as private companies became legally required to share profits with the villages whose land is being used for development.

Although ecological masculinity values were present in the introduction and some objectives of the policy, I had found that characteristics of ecomodern masculinity were most prominent in the text regarding policy projects to achieve the goals, especially a reliance on developing and adopting specific technologies to reduce carbon emissions. This reliance on specific technologies can be seen materialised in the response by the government to the issue of curtailment on renewable energy facilities. As of April 2024, 809.8 MWs in capacity of RE facilities have been installed on Jeju (JSSGP, n.d.-b). To put the capacity in some context, between March 1 and May 2 of 2024, electricity demand across the island ranged between 393.49 MW to 950.96 MW, with an average demand of 678.83 MW (KPX, 2024). Due to the variable nature of RE, it is not possible for the facilities to be running at full capacity to supply energy on-demand 24/7, however, the problem arises with the curtailment of electricity generation from wind and solar when supply is high. Curtailment has resulted in potential electricity generation from renewable sources going to waste.

A response more in line with ecological masculinity values would have been to examine structural systematic changes that may be needed to alleviate curtailment. While alternative systems such as the concept of distributed energy have started to enter the discourse of the policy the “solution” that received the most attention was hydrogen and fuel cell technology. Here we see again a reliance on another new technology as a solution, as well as the introduction of hydrogen and fuel cell technology, both characteristics of ecomodern masculinity. There has been a large shift in focus towards hydrogen and fuel cell technology rather than integrating renewable energy, as was displayed by my observations at the CFI Energy Futures Hall and commented by many people (FN p.11, 12, 13, INT1, INT3, INT5). However, relying on hydrogen technology will not result in achieving the Carbon Free Island goal by 2030. The required infrastructure is not in place and it is not clear when it would be possible to meet all of Jeju’s energy demand using hydrogen (INT1, INT5, JSSGP, n.d.-a). For now, hydrogen remains as a future technology that is hoped to solve the problems that have come with renewable energy integration.

Maintaining existing systems of economic growth while integrating green technology is another hallmark of ecomodern values. However, on Jeju, the existing systems continue to work against the goals of the policy. A constant drive to grow new industries, such as the EV and battery industries mentioned in the policy plan, and maintain and grow the tourism industry is central to the island’s economy (INT3). The necessity of a constant stable supply of energy to support this makes it difficult for variable renewable energy (VRE) to integrate into the energy system, and little has been done so far to build systems that can help balance VREs, such as ESS or distributed systems (INT5). As Interviewee 5 said, the authorities seemed to care more about the numbers in RE capacity, rather than the actual utilisation of RE. High energy consumption likely to result from this industry growth push also relates to the ecomodern norm of “eco-friendly consumption without considering the volume of consumption.” Although the goal was to power these industries using all RE, continued high energy usage makes it more difficult to produce enough energy from RE to meet demand, as has been seen in the process so far. The promotion of industry growth may also contribute to the continued prioritisation of technical ‘experts’ in the implementation of the policy. Emphasis on technology rather than system change has left little room for non-technical experts such as civil society to contribute in the policy process, thus leaving out diverse voices and opinions.

Long-term commitment by stakeholders such as policymakers is another characteristic of ecological masculinity, and is necessary for the success of ecological projects (Hultman, 2017). However, this is another point that is lacking in the CFI 2030 policy and its implementation. The policy is not legally binding, and thus, policymakers have been able to make other policy decisions that go against CFI 2030

without facing any legal ramifications. A very recent example of this is an announcement made on May 1, 2024, by the Jeju government of a new vision for Jeju, a vision to be “Asia’s first carbon neutral society by 2035 through a great energy transition based on green hydrogen” (Baek, 2024). With this new plan, the vision for a carbon-free Jeju by 2030 seems to have disappeared.

The existing energy and governmental systems on Jeju Island are also still highly connected to and dependent on the national government. Although desires for a more decentralised system are present in the discourse of the policy, this has not completely materialised in reality. Only in March of this year did they begin work on a test project for a distributed energy system on Jeju (JSSGP, 2024b). Financial dependency on the national government and regulatory control of the electricity grid by KEPCO has meant that decisions about the energy system are largely directed by the interests of those up top, such as the decision to construct two more LNG power plants on Jeju Island. The national government and its regulatory bodies have turned out to be very important actors in this policy implementation, however, analysis of the Hultman masculinity characteristics at the national government level is beyond the scope of the research questions for this paper, and therefore will not be discussed here. This would be an interesting point to take up in further research.

6.2 Reflections

Reflecting on the process of this research project, it is inevitable that some bias may exist in the discussions of the policy implementation process. Although I attempted multiple times to reach out to government officials in charge of the CFI 2030 policy, including visiting the offices in person, they did not agree to an interview. Thus, I was not able to hear the direct perspectives of the provincial government on the implementation. Those who agreed to interview with me were often people involved in organisations with environmental interests. I tried to alleviate some of this bias by including official data on the energy and transportation transition as well as content from official government websites for the policy. My position as a newcomer on Jeju Island also contributes to limits in access to stakeholders on Jeju. It took a lot of time to make connections and meet people involved with the policy, which was also made more difficult by the fact that the policy was no longer commonly talked about, so my results may have been broadened if I had been able to spend more time there.

7 Conclusion

Recent decades have seen a rise in feminist research examining the relationships between gender and energy, however, analyses of gendered discourses connected to masculinities and femininities and their implications for energy systems and energy governance are only beginning to arise. Energy and environmental policymaking spaces are dominated by males, and thus masculinities dominate discourse and decision-making. As such, it is important to examine how dominant masculinities effect and shape energy transitions.

I conducted a critical policy microethnography of the Carbon Free Island JEJU 2030 policy to examine the presence of masculinities of energy and environmental politics in the discourse of the policy and how the identified masculinities played out in material reality. I found that the CFI 2030 policy presented characteristics of both ecological and ecomodern masculinities, but ecomodern characteristics such as prioritisation of technological solutions to reduce emissions and promotion of economic growth for sustainable transitions were most dominant. The island has been unsuccessful in meeting its goals to completely decarbonise the island, and it seems that the direction of the policy towards green industry growth and reliance on technological solutions has not been enough to overcome the existing dominant structures based on fossil fuels and centralised governance.

Although ethnography constitutes research of cultural dynamics in a specific place, the concepts of masculinities in environmental politics are present worldwide. However, examinations of masculinities in energy policy discourse and material reality are yet uncommon. Thus, these findings are a first step in advancing knowledge in how values and norms of masculinities of environmental politics emerge and interact with material reality. In particular, my findings show how a decarbonisation experiment characterised largely by ecomodern masculinity norms such as reliance on economic growth and technology-focused solutions was unable to overcome incumbent structures and has so far failed to decarbonise the system. Transitions are complicated processes involving countless actors, levels, and systems, and social values and norms are just one piece of the puzzle. However, it's an important piece of the puzzle because hegemonic norms define the decisions that are made in a transition. Thus, this research contributes to sustainability science by offering an early step into transdisciplinary examination of the roles masculinities play in energy transitions.

8 References

- Akaev, A. A. (2017). From Rio to Paris: Achievements, problems, and prospects in the struggle against climate change. *Herald of the Russian Academy of Sciences*, 87(4), 299–309. <https://doi.org/10.1134/S1019331617040013>
- Azizah, N., & Dwiyantri, A. (2021). South Korea in Reconstructing Masculinity as Brand Image of the State's Economic Diplomacy. *Sociología y Tecnociencia*, 11(2). <https://doi.org/10.24197/st.2.2021.1-22>
- Baek, N. (2024, May 1). 제주도, 2035 년 아시아 최초 탄소중립 사회 도전. *Yonhap News*. <https://www.yna.co.kr/view/AKR20240501063800056?input=1195m>
- Bell, S. E., Daggett, C., & Labuski, C. (2020). Toward feminist energy systems: Why adding women and solar panels is not enough☆. *Energy Research & Social Science*, 68, 101557. <https://doi.org/10.1016/j.erss.2020.101557>
- Bryman, A. (2012). *Social research methods* (4. ed). Oxford Univ. Press.
- Buckingham, S., & Masson, V. L. (2017). Introduction. In *Understanding Climate Change through Gender Relations*. Routledge.
- Cho, U. (2004). Gender Inequality and Patriarchal Order Reexamined. *Korea Journal*, 44(1), 22–41.
- Chung, S. (2024). Challenges to Hegemonic Constructions of Militarized Masculinities in the Neoliberal Era: The Case of South Korea. *The Journal of Men's Studies*, 32(2), 346–364. <https://doi.org/10.1177/10608265231221571>
- Connell, R. W., & Messerschmidt, J. W. (2005). Hegemonic Masculinity: Rethinking the Concept. *Gender and Society*, 19(6), 829–859.
- Devezas, T., Ruão, H., Gonçalves, J., Bento, B., & Liana, H. (2022). How Green Is the Green Energy Transition? On the Road to Decarbonization. In T. C. Devezas, J. C. C. Leitão, Y. Yegorov, & D. Chistilin (Eds.), *Global Challenges of Climate Change, Vol.1: Green Energy, Decarbonization, Forecasting the Green Transition* (pp. 9–28). Springer International Publishing. https://doi.org/10.1007/978-3-031-16470-5_2

- Dubois, V. (2015). Critical policy ethnography. In *Handbook of Critical Policy Studies* (pp. 462–480). Edward Elgar Publishing. <https://www-elgaronline-com.ludwig.lub.lu.se/edcollchap/edcoll/9781783472345/9781783472345.00034.xml>
- Dupont, C., & Oberthür, S. (2015). Decarbonization in the EU: Setting the Scene. In C. Dupont & S. Oberthür (Eds.), *Decarbonization in the European Union: Internal Policies and External Strategies* (pp. 1–24). Palgrave Macmillan UK. https://doi.org/10.1057/9781137406835_1
- Fahy, F., & Rau, H. (2013). *Methods of Sustainability Research in the Social Sciences*. SAGE Publications, Limited. <http://ebookcentral.proquest.com/lib/lund/detail.action?docID=1138480>
- Ha, Y.-H., & Byrne, J. (2019). The rise and fall of green growth: Korea’s energy sector experiment and its lessons for sustainable energy policy. *WIREs Energy and Environment*, 8(4), e335. <https://doi.org/10.1002/wene.335>
- Haack, K. (2022). Breaking the Glass Ceiling? Women’s Representation in the UN System. In K. Haack (Ed.), *Women’s Access, Representation and Leadership in the United Nations* (pp. 73–98). Springer International Publishing. https://doi.org/10.1007/978-3-030-83537-8_3
- Halberstam, J. (1998). *Female masculinity* (Universitetsbiblioteket ÖS Ohj). Duke Univ. Press.
- Haraway, D. (1988). Situated Knowledges: The Science Question in Feminism and the Privilege of Partial Perspective. *Feminist Studies*, 14(3), 575–599. <https://doi.org/10.2307/3178066>
- Hultman, M. (2017). Natures of masculinities: Conceptualising industrial, ecomodern and ecological masculinities. In *Understanding Climate Change Through Gender Relations* (p. 103). Taylor and Francis Inc. <https://doi.org/10.4324/9781315661605>
- Inter-Parliamentary Union. (2023). *Women in Politics: 2023* [dataset].
- IPCC. (2020). *Climate Change 2022, Mitigation of Climate Change. Summary for Policymakers*. In P. R. Shukla, J. Skea, A. Reisinger, R. Slade, R. Fradera, M. Pathak, A. Al Khourdajie, M. Belkececi, R. van Diemen, Hasija, G. Lisboa, S. Luz, J. Malley, D. McCollum, S. Some, & P. Vyas (Eds.), *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Intergovernmental Panel on Climate Change*. Cambridge University Press.
- JSSGP. (n.d.-a). CFI 소개—비전. CFI JEJU by 2030. Retrieved May 12, 2024, from <https://www.jeju.go.kr>

JSSGP. (n.d.-b). 탄소 없는 섬 제주—청정에너지 대전환. 제주특별자치도청. Retrieved May 9, 2024, from <https://www.jeu.go.kr>

JSSGP. (2012). 보도자료—제주의 새로운 미래 Carbon Free Island Jeju by 2030 구축 계획.

JSSGP. (2020). 제주특별자치도 에너지백서(제주에너지백년—진을커에서 부터 보름도래기까지).

JSSGP. (2024a). 제주통계 [dataset]. <https://www.jeu.go.kr/stats/stats/indicator.htm#>

JSSGP. (2024b). 보도자료—제주도, 전국 첫 분산에너지 특화지역 선점 가속.

Jung, G. (2023). Men Who Wear Make-up: Young Korean Men's Masculinity Management in the Neoliberal Korea. *Critical Sociology*, 49(7-8), 1269-1288. <https://doi.org/10.1177/08969205231160295>

KOSIS. (2024). 인구상황판 [dataset]. <https://kosis.kr/visual/populationKorea/PopulationDashBoardMain.do>

KPX. (2024). 발전계획용 수요예측 (원/kWh) [dataset]. <https://www.kpx.or.kr/bidSmpLfdDataRt.es?mid=a10406010200&device=pc&division=lfdDataRt&gubun=today>

Kronsell, A. (2017). The contribution of feminist perspectives to climate governance. In *Understanding Climate Change through Gender Relations*. Routledge.

Kronsell, A., Dymén, C., Rosqvist, L. S., & Hiselius, L. W. (2020). Masculinities and femininities in sustainable transport policy: A focus on Swedish municipalities. *NORMA*, 15(2), 128-144. <https://doi.org/10.1080/18902138.2020.1714315>

Kuckartz, U. (2014). *Qualitative Text Analysis: A Guide to Methods, Practice & Using Software*. SAGE Publications Ltd. <https://doi.org/10.4135/9781446288719>

MacGregor, S. (2009). A stranger silence still: The need for feminist social research on climate change. *Sociological Review Monograph*, 57, 124-140. <https://doi.org/10.1111/j.1467-954X.2010.01889.x>

MacGregor, S. (2017). Moving beyond impacts: More answers to the 'gender and climate change' question. In *Understanding Climate Change through Gender Relations*. Routledge.

- Manek, B. G. A. (2023). Confucian Historical Narratives and Misogynic Culture in South Korea. *Journal of Asian Social Science Research*, 5(1), Article 1. <https://doi.org/10.15575/jassr.v5i1.73>
- Messerschmidt, J. W. (2004). *Flesh and blood: Adolescent gender diversity and violence*. Rowman & Littlefield Publishers.
- MOTIE. (2023). 제 10 차 전력수급기본계획.
- OECD. (n.d.). South Korea (KOR) Exports, Imports, and Trade Partners. The Observatory of Economic Complexity. Retrieved May 12, 2024, from <https://oec.world/en/profile/country/kor>
- O'Reilly, K. (2011). *Ethnographic Methods* (2nd ed.). Routledge. <https://doi.org/10.4324/9780203864722>
- Park, S. (n.d.). 제주도 (濟州島). In *한국민족문화대백과사전* [Encyclopedia of Korean Culture]. Academy of Korean Studies. Retrieved May 10, 2024, from <https://encykorea.aks.ac.kr/Article/E0051413>
- Ritchie, H. (2020). Sector by sector: Where do global greenhouse gas emissions come from? *Our World in Data*. <https://ourworldindata.org/ghg-emissions-by-sector>
- Ritchie, H., Roser, M., & Rosado, P. (2022). CO₂ and greenhouse gas emissions. *Our World in Data*. <https://ourworldindata.org/co2-and-greenhouse-gas-emissions>
- Rosenbloom, D., Markard, J., Geels, F. W., & Fuenfschilling, L. (2020). Why carbon pricing is not sufficient to mitigate climate change—And how “sustainability transition policy” can help. *Proceedings of the National Academy of Sciences of the United States of America*, 117(16), 8664–8668. <https://doi.org/10.1073/pnas.2004093117>
- Ryder, S. S. (2018). Developing an intersectionally-informed, multi-sited, critical policy ethnography to examine power and procedural justice in multiscale energy and climate change decisionmaking processes. *Energy Research & Social Science*, 45, 266–275. <https://doi.org/10.1016/j.erss.2018.08.005>
- Skjott Linneberg, M., & Korsgaard, S. (2019). Coding qualitative data: A synthesis guiding the novice. *Qualitative Research Journal*, 19(3), 259–270. <https://doi.org/10.1108/QRJ-12-2018-0012>

Tran, T. (2022). “It’s like Hawai’i”: Making a tourist utopia in Jeju Island, 1963-1985: *Island Studies Journal*. *Island Studies Journal*, 17(2), 107–125. <https://doi.org/10.24043/isj.170>

Um, S. (2023). The militarized workplace: How organizational culture perpetuates gender inequality in Korea. *Gender, Work & Organization*, 30(5), 1676–1693. <https://doi.org/10.1111/gwao.13005>

Waylen, G. (2014). Informal Institutions, Institutional Change, and Gender Equality. *Political Research Quarterly*, 67(1), 212–223.

Zhukov, S. V., & Reznikova, O. B. (2023). Energy Transition in the United States, Europe and China: Latest Trends. *Studies on Russian Economic Development*, 34(4), 439–449. <https://doi.org/10.1134/S1075700723040160>

제주특별자치도 설치 및 국제자유도시 조성을 위한 특별법, Pub. L. No. 7849 (2006). https://elaw.klri.re.kr/eng_service/lawView.do?hseq=6402&lang=ENG