

“Every Windmill is More Coal Mined”

Perceptions of Decarbonization and Metallurgical Coal in BC’s Elk Valley

by

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B.Sc., University of Illinois at Urbana-Champaign 2019

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We acknowledge and respect the ɫək^wəŋən peoples on whose traditional territory the university stands and the Songhees, Esquimalt and WSÁNEĆ peoples whose historical relationships with the land continue to this day.

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Abstract

Decarbonizing the global economy is essential to reducing the effects of climate change, however doing so jeopardizes many communities economically dependent on fossil fuel extraction. A small but growing body of literature has begun to examine how individuals who live in fossil fuel-dependent (FFD) communities perceive decarbonization and renewable energy transitions, with the goal of understanding if and how these frequently oppositional communities can be included in broad scale energy transitions without creating new economic sacrifice zones. The present study expands environmental psychology's contribution to this field of research by exploring the possible inclusion of a novel to FFD community literature: the metallurgical coal mining communities of British Columbia's Elk Valley. Sixteen semi-structured interviews were conducted with Elk Valley community members. Findings indicate that Elk Valley coal communities are distinct from other FFD communities described in current literature by being receptive to renewable energy transitions and disputing metallurgical coal's status as a fossil fuel. Nonetheless, many psychological constructs similar to described FFD communities are present in the Elk Valley as well, including coal's central status in legitimizing and resistance identity formation, perceived outgroup threats by environmentalists, and an inability to imagine a post-mining future. This paper concludes with recommendations on how British Columbia should address its mining dependent communities as it pursues decarbonization in light of these findings.

Dedication

This paper is first dedicated to the community members of the Elk Valley, without whom the present thesis would not have been possible. The kindness, good will, and charity of the participants from Sparwood, Fernie, Elkford, and Crowsnest Pass is a testament that the solidarity and coalition-building needed to address the climate crisis is available if one is willing to seek it.

This paper is secondly dedicated to my parents, from whose unconditional love and support all of my present accomplishments have grown, as well as my partner Lindsey, who has been an uninterrupted source of inspiration, love, and guidance from the very beginning.

Lastly, this paper is dedicated to those most affected by climate change, who are overwhelmingly those least responsible for its occurrence. The only acceptable path forward in our climate-changed world is one firmly and persistently rooted in Climate Justice.

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Chapter 1: Introduction

As the effects of the climate crisis grow more extreme, the required carbon emissions reductions must happen over increasingly short time horizons. Most of the largest emitting countries now have mid-century pledges to reduce carbon emissions by 50% but have been slow to implement the aggressive policies needed to meet them, leaving precious few decades to achieve broad societal transformations (United Nations, n.d.). Rapid decarbonization will have significant effects on carbon-intensive economic sectors, and thus presents potentially significant consequences for the livelihoods of communities and individuals that are economically dependent on fossil fuel extraction and production.

Without appropriate policies, decarbonization will likely hollow out local and regional economies that are dependent upon fossil fuel extraction in a manner similar to the rapid deindustrialization of coal and manufacturing sectors in the global north over the past 40 years (Pollin & Callaci, 2019). For example, the aggressive phase-out of coal in the U.K. led to a job decrease from 221,000 to 7,000 – a 97% decrease in just 20 years (1985 to 2005; Johnstone & Hielscher, 2017). Affected coal-dependent communities continue to grapple with high unemployment rates, disproportionate poverty, crumbling health clinics, and declining funding for schools and public safety, as well as increased rates of drug addiction, suicide, and other deaths of despair (Beatty et al., 2019; “Deaths of Despair,” 2019). High levels of economic precarity are not restricted to rural communities either. Dense urban centers with strong economic ties fossil fuels, such as Houston and Dallas, may have to confront industrial decay similar to that of major manufacturing cities such as Detroit and Pittsburgh (Pollin & Callaci, 2019).

Given this economic vulnerability, fossil-fuel dependent (FFD) communities often become polarized around energy issues and can be leveraged politically to justify obstruction of environmental and climate policies (Boudet et al., 2016; Coren, 2021; Lipton, 2020). Therefore it is essential to address the concerns of FFD communities 1) to develop humane climate policies that avoid creating or reinforcing economic sacrifice zones, and 2) to expand the political support for decarbonization while weakening reactionary dominance in such communities (Evans & Phelan, 2016; Johnstone & Hielscher, 2017; Olson-Hazboun, 2018).

Political opposition to decarbonization within FFD communities is frequently framed by ‘jobs versus the environment’ narratives (de Luna, 2021; Evans & Phelan, 2016; Milman, 2020). However, growing research into the attitudes of FFD communities has shown that patterns of opposition to decarbonization are nuanced and multifaceted; even if a renewable transition would be economically beneficial to a FFD community, it may still be rejected on social, cultural, or psychological grounds (Olson-Hazboun, 2018; Sanz-Hernández, 2020). Understanding the psychological landscape of energy attitudes within FFD communities is therefore a critical strategy to achieving a successful, inclusive, and humane transition to a post-fossil fuels world. While very little psychological research has examined fossil fuel-dependent communities as subjects, multiple psychological constructs have been shown to be highly influential to shaping attitudes and perceptions of climate change, renewable energy transitions, and decarbonization more broadly.

1.1 Political and Economic Ideology

There are clear political associations with support for/opposition to decarbonization. “Conservatives have consistently been more likely to deny the existence of climate change than

liberals (Kliegman, 2014; Ma et al., 2019), although in recent years conservative denial has shifted to accept a qualified existence of climate change, but continue to dispute the risk posed by climate change, oppose government actions to respond to climate change, or recognize the anthropogenic causes of climate change (Leiserowitz et al., 2021; Ma et al., 2019). The conservative tendency to deny climate change and reject proposals for decarbonization has been partially accounted for in beliefs in natural social hierarchies, human dominance over nature, and conspiracy thinking (Harfmann, 2021; Lewandowsky et al., 2013, 2015; Milfont & Sibley, 2014). Campbell and Kay (2014) demonstrated that conservative disbelief in climate science is often psychologically motivated by aversion to popular environmental solutions, and the conflicts of those solutions with conservative ideology.

Political differences in assessing climate change and associated climate solutions have also been shown to relate to economic ideology. Conservative denial of climate change and rejection of climate solutions are deeply tied to support for free-market ideology (Campbell & Kay, 2014; Heath & Gifford, 2006; Longo & Baker, 2014). Further, individuals that identify with social dominance hierarchies (a core tenet of conservative ideology) are in fact *more* likely to support environmental exploitation when the resulting profits would benefit elite groups as opposed to being equally distributed (Milfont & Sibley, 2014). Of course, economic ideology's influence on environmental beliefs is not restricted to conservatives. Olson-Hazboun et al. (2016) found that conservative support for renewable energy was less related to beliefs about the environment than to beliefs about the economy and impacts on the landscape.

1.2 Place attachment

Landscape changes and place attachment are also factors relevant to opposing decarbonization, specifically regarding renewable energy development. Place attachment describes the emotional or symbolic meanings and associations that people assign to a specific place (Devine-Wright, 2009; Scannell & Gifford, 2017). Place attachment is associated with opposition to renewable energy projects that are perceived as incongruent with the symbolic associations of a community (D. Bell et al., 2013; Devine-Wright, 2011; Devine-Wright & Howes, 2010; Olson-Hazboun et al., 2016; Phadke, 2011). Disruptions of place attachment can motivate rejection through both the addition of features seen as incongruent with a place, such as highly visible renewable energy developments that change a landscape's visual appeal, or through the removal of central feature of symbolic meaning, such as closing a mine in a historic coal town (Devine-Wright & Howes, 2010; Lewin, 2019). In both cases disruptions of place attachment are often intertwined with conceptions of local identity.

1.3 Group identity

Group identity has repeatedly been shown to influence views on climate change, and many FFD communities are rural and somewhat remote because they are centered around resource extraction sites. These conditions contribute to the development of a strong sense of group identity within the community. Kahan et al. (2012) show that cultural cognition thesis (the theory that people form risk assessments that cohere with group values) explains climate change concern more reliably than scientific literacy or technical reasoning, and that public divisions over climate change can be partially explained by the conflicts that arise between an individual's personal interest in adhering to social norms versus a broader national (or global) collective

interest in collective welfare. Within FFD communities, group identity is often anchored around the mode of local resource extraction (S. E. Bell & York, 2010; Lewin, 2019; Olson-Hazboun et al., 2016). As a result, attempts to decarbonize the energy sector are frequently perceived as threats to a shared identity from outside agitators, specifically environmentalists (Hoffarth & Hodson, 2016; Olson-Hazboun, 2018).

These divisions are often aggravated by the tendency of perceived emotional injustice to be more motivating than perceived cognitive injustice (Haugestad et al., 2021). Hoffarth and Hodson (2016) show that the perceived threat from environmentalists has been married to residual fears of the “Communist threat” from the Cold War among right-wing individuals, many of whom view decarbonization as a plot by “zealots on the Far Left fringe posing as environmentalists” to embark on “an anti-energy regulatory jihad.” The extremity of right-wing reaction, although not fully representative of FFD communities, indicates the depth to which these challenges to group identity can be felt. Full accounting of psychological opposition to decarbonization in FFD communities should consider the degree to which fossil fuel extraction extends beyond group identity and into reinforcing community narratives of cultural heritage and a constructed social reality.

1.4 Community narratives and social reality

In many FFD communities the role of group identity in psychological opposition to decarbonization cannot be separated from community narratives of cultural heritage due to the extent to which group identity is founded on a shared relationship to a communal past. Nowhere is this more apparent than in contemporary coal communities in the global north. Coal mining communities often already occupy a subordinate cultural, economic, and political position in

modern society – a reality that community members are acutely aware of (Beatty et al., 2019; Lewin, 2019; Olson-Hazboun, 2018). In response, community members frequently engage in and reinforce narratives about identity, purpose, and circumstance that harken back to a time of pride in which miners were validated for their labor and publicly legitimized as essential purveyors of national energy (Abreu & Jones, 2021; Harfmann, 2021; Lewin, 2019; Olson-Hazboun, 2018). These community narratives are also amplified, edited, and managed by industry actors to maintain power and profit margins even while industry employment declines (Bell & York, 2010; Eaton & Enoch, 2018).

The result of these reinforcing narratives is a deep internalization of fossil fuel extraction as a way of life and as a worldview. An ethnography by Lewin (2019) revealed that members of coal communities largely adopt “mining essentialist” narratives in direct response to self-consciousness around the devaluing of their cultural heritage. In these contexts, members of FFD communities do not necessarily oppose decarbonization because of a ‘jobs versus the environment’ understanding. Rather, opposition results from a need to maintain a socially-constructed cultural reality in which members of a degraded community can both feel proud of their group and cope with declining standards of living and cultural significance (Lewin, 2019). Replacing the ‘jobs versus the environment’ frame with an ‘environment versus one’s entire social reality’ frame may help appropriately illustrate the emotional stakes that FFD community members experience, and may also explain the depth of opposition that FFD communities have against decarbonization.

1.5 The present research

Despite the significant role that fossil-fuel dependent communities play the decarbonization efforts of the global north, the discipline of environmental psychology has contributed very little research to help map the psychological landscape of FFD communities. Current literature has largely focused on specific constructs, such as place attachment or climate denial, but none have directly engaged with the community framework that aims to ground these constructs in a social context (Devine-Wright, 2011, 2011; Feygina et al., 2010; Hoffarth & Hodson, 2016; Lewandowsky et al., 2015; Milfont & Sibley, 2014). Additionally, the current environmental psychology literature on opposition to decarbonization is vastly over representative of American contexts; few have tried to apply the questions regarding attitudes towards energy transitions in extractive communities in a Canadian context, which is generally less politically polarized and is culturally distinct from the United States.

Further, while current literature on fossil-fuel dependent communities have documented the effects of decline in thermal coal communities, to the author's knowledge none have examined metallurgical mining communities (Abreu & Jones, 2021; S. E. Bell & York, 2010; Harfmann, 2021; Johnstone & Hielscher, 2017; Lewin, 2019; Mayer, 2022; Miniard & Attari, 2021; Sanz-Hernández, 2020; Svobodova et al., 2021). The distinction between thermal coal and metallurgical coal is significant, as production of metallurgical coal has rapidly increased in recent years due to its presently critical role in steel production, whilst production of thermal coal has continued to decline (Allingham, 2021; British Columbia Ministry of Energy, Mines, and Low Carbon Innovation, 2021). Despite this lack of attention, metallurgical coal is responsible for between seven to nine percent of global emissions, and is therefore an essential sector to target for decarbonization (Riley, 2021).

Canada is the third largest exporter of metallurgical coal, nearly half of which is mined in British Columbia (Allingham, 2021). In contrast to its reputation as a hotbed for climate research, metallurgical coal in British Columbia is largely unexplored terrain, especially so in the social sciences. Thus, the present study is both novel and significant for 1) grounding environmental psychology's research on energy attitudes in the social context of fossil fuel-dependent communities, 2) comparing and contrasting current FFD community research with the unexplored context of British Columbia's Elk Valley, and 3) examining the role that metallurgical coal plays in the broader conversation around decarbonization.

Our research questions are as follows:

1. How do residents of metallurgical mining communities in BC perceive decarbonization?
2. How are their perceptions of decarbonization similar to or distinct from other FFD communities?
3. What psychological processes are involved in these perceptions?

Chapter 2: Description of Study Sites

2.1 Fossil fuel extraction in British Columbia

Currently, British Columbia produces 48 percent of all Canadian coal (British Columbia Ministry of Energy, Mines, and Low Carbon Innovation, 2021). Coal mining is therefore a major industry in BC and generates roughly four billion dollars in annual revenue, more than half of the province's total revenue from mineral production. More than 95 percent of coal mined in BC is metallurgical coal used in steel production, meaning that BC produces relatively little thermal coal for electricity generation (thermal coal being the typical target of coal phaseout climate pledges, while metallurgical coal is often omitted from such commitments). Although some of this coal is transported to steel mills in eastern Canada, most BC coal is exported to Asia (Allingham, 2021; British Columbia Ministry of Energy, Mines, and Low Carbon Innovation, 2021).

Rising coal prices in 2016, especially for metallurgical coal, have led to an increase in production in the Elk Valley mines as well as the restarting of several previously dormant northeast BC mining operations in the Tumbler Ridge area. Environmental assessments are currently ongoing for several other proposed mines in the region (*Mining Sector*, 2021). Teck Resources, the operator of all four of BC's Elk Valley mines and the largest mining company in Canada, says that coal reserves are extensive enough to support up to 47 more years of mining. According to Teck, "analysis suggests that across multiple climate scenarios... demand for [metallurgical coal] will remain robust through 2050," despite fossil fuel expansion being incompatible with Canada's carbon budget to stay below 2° of warming (Allingham, 2021).

That the expansion of BC's coal industry comes alongside increasing commitments to reduce emissions is not lost on industry actors. In fact, coal giants frequently employ public

relations tactics to signal their embrace of climate action while continuing to expand high emissions projects. Teck Resources has publicly stated that “steel-making coal [is] needed to build the infrastructure required for the transition to a low-carbon economy” (Allingham, 2021). Thus, the context of contemporary fossil-fuel extraction in British Columbia is one in which the province presents itself as a global leader in climate policy amidst increasing coal production, as well as a record setting boom in natural gas development. This contradictory arrangement thereby allows massive corporate extractors of fossil fuels to reinforce narratives of their compatibility with a renewable future while conducting business as usual.

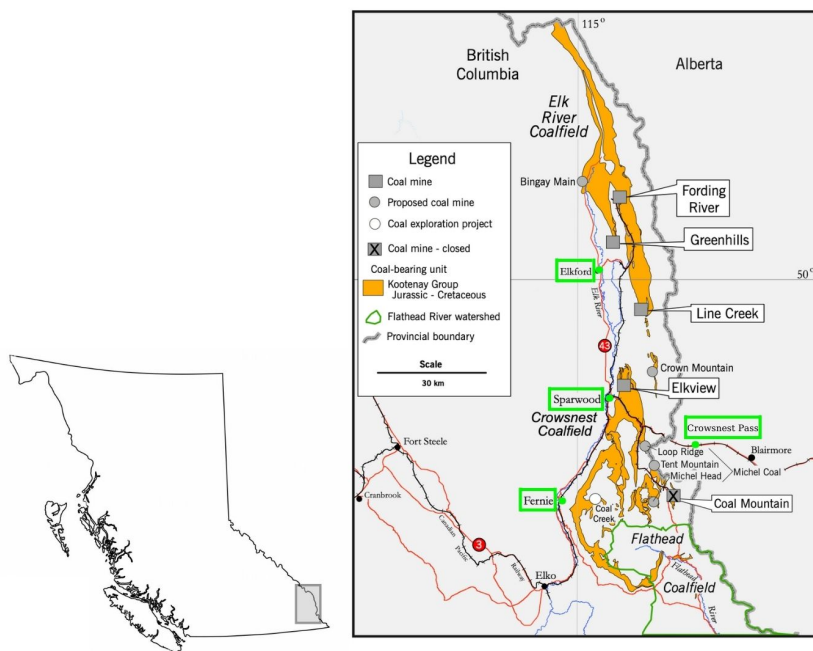


Figure 1. Map of the Elk Valley (British Columbia Ministry of Energy, Mines, and Low Carbon Innovation, 2021).

2.2 The Elk Valley

The Elk Valley is a region in southeast BC that is located on the traditional territories of the Ktunaxa people, now comprised of the ʔakisq̓nuk (Akisq̓nuk) First Nation, Yaq̓it ʔa·knuq̓liʔit (Tobacco Plains Indian Band), ʔaq̓am (Aqam), and the Yaq̓an Nuʔkiy (Lower Kootenay Band).

Following colonial settlement, the Elk Valley settler communities were essentially entirely supported by coal mining. The area now produces roughly half of all metallurgical coal in the province. It is comprised of four small communities: Sparwood, Fernie, and Elkford on the BC side, and Crowsnest Pass on the Alberta side. A brief description of each community is offered below for historical and cultural context.

2.2.1 Sparwood, BC

Sparwood is in the Elk Valley region of southeast BC, and is the second-largest community based around the Elk River and Crowsnest coal fields. Coal mining has been present in the Elk Valley region since the late 1800s and originally supported three small mining communities: Michel, Natal, and Sparwood. Michel and Natal were located in immediate distance to the mines, while Sparwood was six kilometers away. The close proximity of Michel and Natal to the mines meant that residents were constantly exposed to coal dust, the health effects of which led the BC government to relocate Michel and Natal residents to Sparwood in 1964. Today, coal production employs more than 60% of Sparwood's active workforce, promises an apparently stable future, and continues to occupy a central role in the community's culture. Community accounts of Sparwood's heritage pay homage to "a storied collection of tales and events all shaped by the coal industry" and attest that "the strength of the community is still proudly founded on the coal for which it all began" (*Arts, Culture, and Heritage*, 2021).

Sparwood has a population of roughly 3,800 people and is approximately 30 kilometers from Fernie (described below), a larger city and regional center of the Elk Valley. The median household income is \$102,592, which is significantly higher than the provincial median

household income of \$69,995. The unemployment rate in Sparwood (6.6%) is roughly equal to that of BC (6.7%; Statistics Canada, 2017)

2.2.2 Fernie, BC

Fernie is the largest community in the Elk Valley, and although founded with deep economic ties to the nearby mines, mining has never occurred in Fernie proper. Fernie has the most diversified economy of the Elk Valley communities, including a growing tourism sector largely based on the presence of a local ski hill (Tourism Fernie, 2022). Apart from being a cultural hub due to its restaurants, bars, and community events, Fernie serves as an important residential pool for mining labor in addition to Sparwood and Elkford.

Fernie has a population of roughly 5,300 people. The median household income is \$90,112, the median age is 38 years old, and the unemployment rate 7.2% (Statistics Canada, 2017).

2.2.3 Crowsnest Pass, AB

Crowsnest Pass is a municipality just across the provincial border to Alberta. Founded in close proximity to the same coal fields that support the BC communities, Crowsnest Pass was once a successful mining town. Over the course of the 1960s, 70s, and 80s, the mines across the Alberta border closed one by one, with the final Coleman mine closing in 1983 (Lee, 2020). Since then the community of Crowsnest Pass has experienced a prolonged economic decline and cannot support many of the services that the communities on the BC side of the Elk Valley enjoy.

Crowsnest Pass has a population of roughly 5,700 people. The median household income is \$73,856, the median age is 52.8, and the unemployment rate is 8.8%. The town has a very high retired population, and has an employment rate of 54% (Statistics Canada, 2017).

Chapter 3: Method

3.1 Participants and recruitment

Interviews were conducted with 16 participants (5 women, 11 men) between the ages of 20 and 73 that were residents of the Elk Valley region of British Columbia and Alberta. The mean age of participants was 51.63 years (SD = 13.4). To qualify for participation all participants had to currently reside in the Elk Valley, to have been a resident for at least 10 years, and to have reasonable knowledge about the local economy. In regard to employment, the goal was to capture a diverse range of views across the communities. Of the 16 participants, eight were directly employed by the local mining industry, one was an employee of a municipal government, one was a university student, and the remaining six were a mix of retirees, local business owners, ranchers, and teachers.

Participants were primarily recruited using a digital advertisement and snowball sampling. Several online community boards, including public Facebook groups, were identified for advertisement. Following dissemination of the recruitment advertisement (see Appendix B), 15 respondents made contact expressing interest in participating, 11 of which were eligible. The remaining five participants were recruited via snowball sampling, i.e. referral from a previous participant.

3.2 Data collection and interview procedure

Following recruitment a 30-60 minute confidential, semi-structured interview was conducted. Interviews were conducted in-person ($n = 10$) or via Zoom ($n = 6$), with all audio being recorded following participant consent. One focus group ($n = 5$) was conducted with residents from Crowsnest Pass at their request. Prior to all interviews, participants were

presented with a letter of consent (see Appendix C) and told that all interview data would be fully anonymized and any identifying data would be removed. All 16 participants provided verbal consent and completed all interview questions (see Appendix A).

The semi-structured interview procedure consisted of the researcher guiding participants through 14 open-ended questions, with occasional deviations by the interviewer to request further elaboration or to ask follow up questions regarding participants' viewpoints. The semi-structured approach was chosen both for the freedom it allows researchers to follow the emergence of themes that seem significant, as well for the rapport building and empathy development it allows between interviewer and participant (Cresswell, 2014). The iterative nature of qualitative analysis also enabled the interviewer to ask later participants to reflect on emerging themes from prior interviews (Braun & Clarke, 2006). Upon completion of the written questions participants were invited to share anything they felt was not addressed during the course of the interview. Through this process similar themes began to emerge repeatedly, which suggests that theoretical saturation was reached (Cresswell, 2014).

Many efforts were made to minimize bias in data collection. Before each interview, all participants were read an opening statement outlining the purpose of the present study, with the intention of preventing different participant expectations from skewing results. Interviews began with benign topics such as duration of residence in the Elk Valley, current and past employment, and changes in the community over time. This gave participants time to become comfortable speaking about their personal experiences and allowed time for the interviewer to establish a rapport before moving into potentially polarized topics of mining and the environment. To reduce confirmation bias on the part of the interviewer, as well as conformity bias from the participant, emphasis was placed on the goal of capturing a diverse array of opinions

representative of the community. In the case of the focus group, the interviewer also ensured that the order in which participants spoke was systematically varied and encouraged discussion over topics of disagreement to reduce groupthink. In all cases, the interviewer reinforced the greater knowledge and experience with coal mining on the part of the participants, and clearly stated an intention to represent the views of the community.

3.3 Data analysis

Following the interview procedure and audio recording, all audio files were assigned a number in place of a name and uploaded into NVivo for transcription and analysis. All identifying information was removed from interview transcripts. Transcript data was then analyzed through the thematic analysis approach described in Braun and Clarke (2006), meaning that transcripts were read and coded multiple times to identify emergent themes relevant to the stated research questions. Thematic analysis was chosen for the present study due to the exploratory nature of the research design. Analysis was therefore performed inductively; no predetermined or closed codes were used. Codes were determined based on both the number of occurrences and the significance of experience to participants. Because thematic analysis is performed iteratively, preliminary findings and emergent themes from early interviews (roughly participants 1-8) were presented to later participants for review after completing the standard interview questions in an effort to reduce coder bias. This allowed community members to share whether initial interpretations of community views were representative of their beliefs and experiences.

Initial coding generated 115 unique codes, which were iteratively condensed and organized into 74 unique codes with 35 subcodes. Throughout the iterative analysis process, the

data were analyzed and categorized into themes and subthemes that emerged from the coding process. This process produced seven unique themes. However, because the semi-structured nature of the interviews allowed participants to explore a wide range of ideas, two themes were deemed outside of the scope of the present research questions and therefore omitted from further analysis. The two omitted themes were cost of living and the effect of transient mine workers on the community.

Chapter 4: Results

Thematic analysis generated 74 unique codes and 35 subcodes, from which five key themes emerged: the distinction of metallurgical coal from stigmatized fuels, the centrality of metallurgical coal to renewable transition, identification with mining, outgroup environmentalist threat, and mining dependence.

4.1 *“Actually, it’s metallurgical:” Determined distinctions from thermal coal and legacy mining*

One of the most readily invoked concepts across all Elk Valley communities is the distinction of regional coal as metallurgical as opposed to thermal. Although these two types of coal do vary in their quality and end-uses, their distinction frequently places an additional unspoken distance between the stigma of thermal coal, which is understood to be a dirty energy product of a bygone era, and the reality of metallurgical coal, which is seen as an essential building block of modern life. When asked why some people resist mining expansion, one community member of Crowsnest Pass explained:

People don't know coal. When people think of coal, they think of the spewing smokestacks of the early industrial age, puking out smoke. And they have no idea that coal makes steel, that the cars they drive and the windmills and the transmission towers and the buildings are coming all from coal. They just think coal is just dirty word and dirty element. And they have no idea. They have no idea what coal does.

In response to the same question, an Elkford resident stated:

There are a lot of people who do not understand the difference between metallurgical coal and thermal coal, so we get the ‘Go away you dinosaurs, the fossil fuel era’s over.’ That's not what we're trying to do.

When spoken of in relation to thermal coal, the specific ways in which metallurgical coal is distinct are never explicitly stated. Rather, the utility of metallurgical coal is presented in contrast to an emotionally-charged caricature of coal as a “dirty element.” Referencing this

distinction has the effect of signaling that one is receptive to environmental concerns and the phase-out of polluting thermal coal, while at the same time implying that those concerns do not apply to metallurgical coal without having to state or justify those differences.

This is not to dispute that concerns about environmental degradation are sincerely expressed by many community members. Indeed, environmental considerations are often front-of-mind when discussing community attitudes toward mining expansion. A resident of Crowsnest Pass explained:

We're for coal mining, but we're for it in an economical and environmentally friendly way. So we're very understanding of the environment and the pressure on keeping things green and everything. We're also very aware that there are going to be trade-offs in those areas. So we're pro-mining, but with a caveat that it's done right, that companies, these mining companies fulfill their obligations, do what they say they're going to do.

Frequently, however, recognition of environmental consequences led to a second widely-referenced distinction: that between current mining operations and historic or “legacy” mining:

A great deal of damage has been done to the environment over the years. That is going to take a long time to fix. And what we do today doesn't match what we did in the past. But there are still all those scars from the past on the land and in people's minds.

Similar to the rhetoric around thermal coal, the distinction from legacy mining aims to defend against perceived unjust associations with the environmentally and physically hazardous mining of the past. In this instance, however, community members can point to technological innovations that have allowed mining operations to mitigate pollution and improve safety standards. For example, in regard to selenium, a high-profile mining byproduct that is toxic at high levels and has been found to have been present in several regional water sources, several community members expressed confidence in the measures that local mining operations have taken to reduce contaminant leaching. Many community members feel that, although

environmental concerns were once valid, current mining practices have essentially corrected the problem and removed any cause for concern:

[The environmental issues have] been resolved. Teck has done the research and gone through the scientific method of trial and error, and they've solved the problem. So now we've got to get that information out.

In the views of community members with this perspective, remaining environmental criticisms of mining operations are a result of outdated and misplaced associations with an industry from the past.

Other residents view the environmental and health impacts of mining as relatively inescapable but express a degree of resignation due to a lack of alternatives. One industry employee in the Elk Valley mines remarked:

People are upset about the coal dust... but I think there needs to be some understanding of the coal that we're processing. I mean yeah it is still dirty and it's still bad for you and it's not great. But until they really nailed the electric furnace, metallurgical coal [is] still going to have a place.

All discussions of metallurgical coal's environmental impacts extended only to the problems of local and regional pollution and land-use change; no community members mentioned carbon emissions as an environmental impact, with the single exception of a Sparwood resident and university student studying mining engineering (the youngest participant interviewed). When asked if it was common to overlook metallurgical coal's carbon emissions, he said:

I think that is very common, and I think that's [something I did] until University. I think for all of high school, I thought, 'Well, no, hold up. Something that most people don't know is this is actually metallurgical coal. It's different.' I don't think I even thought about whether it emits the same amount of carbon, and it does. It's just the difference is that it's more necessary because the alternative isn't really there yet.

When discussing issues of decarbonization and climate change, the result of these repeated distinctions from the negative stigmas of thermal coal and legacy mining is a summation of

difference to the point that metallurgical coal’s status as a fossil fuel becomes obscured. It’s not “dirty” or a part of the “fossil fuel era,” and in some verbal representations it isn’t even burned (a conceptual sanitation that may be influenced by the fact that the vast majority of metallurgical coal is exported to Asia, and thus responsibility for those emissions is somewhat diluted).

Instead, metallurgical coal is defined as an essential element for infrastructure that is extracted with state of the art technology with an ambiguous relationship to carbon emissions. This characterization tests the familiar understanding of what it means to be a fossil fuel, and places metallurgical coal in an unclear middle ground. When asked about metallurgical coal’s status as a fossil fuel, the same university student said:

I call it a fossil fuel because I think, scientifically speaking, it's a fossil fuel. But in terms of how society sees it, I think it does occupy a middle ground because it's not clear that the alternative is better, which, in the case of power... I think it's fairly clear to everyone who doesn't mine thermal coal that it's just better to do something else.

In addition to the various ways in which metallurgical coal is conceptually distanced from other fossil fuels, the perceived lack of a “green” alternative for steelmaking is a central component of the role that metallurgical coal is seen to play in the transition to renewable energy.

4.2 “For us, it means more steel:” Metallurgical coal’s centrality to a renewable transition

When asked about transitions to renewable energy systems and the effect that may have on local mining communities, responses were almost uniformly cognizant of the increased demand for steel that expansion of renewable energy infrastructure would entail. As a mining employee and former union leader from Sparwood explained:

We're making metallurgical coal. We are making fuel that builds their car, that builds the buildings, build the bridges and the turbines. We're going to make the renewable resources, the frames for the solar panels, or if they're using aluminum or whatever, then [we’re making] the brackets that hold it up. Steel is everywhere.

Residents often stated that they were supportive of renewable energy while emphasizing the reliance of renewable infrastructure on metallurgical coal for the steelmaking process. A Fernie resident and mining employee put it succinctly: “To us, every windmill is more coal mined.”

These sentiments were expanded upon during an interview with an employee of a mining company looking to open new mining operations in the area. After being asked directly about the implications of broadscale decarbonization that could occur if a national transition to renewable energy was implemented, the Elkford resident stated:

It’s pretty easy to see ourselves as part of the transition because green energy production equipment takes steel at the moment, and most of the blast furnaces on the planet are going to take carbon for a few more years yet. Maybe 20, maybe less, maybe more. But if we have a 15-year mine life, we’re right in there. And if the world is ready to switch seriously to hydrogen, we’re also out of the way before that happens.

Some community members were less convinced that metallurgical mining would be phased out anytime soon, especially when the maintenance and repair of preexisting infrastructure were considered:

I don't personally see [metallurgical coal] going anywhere anytime soon. As new technologies come out, products got to be made. So if it's steel or structural or buildings... I mean, you look at what happened in the last flood. After all of the infrastructure and highway projects that got ruined, bridges got to be built. Steel has got to be made. You gotta get the steel from somewhere. [Canada has] I think about 25% of the world's met coal, at least a quarter of that coming from [here in the Elk Valley].

Canada’s status as one of the few places in the world with large reserves of metallurgical coal reinforced the view of many residents that mining was essential, not only to meet domestic resource demands but also to prevent dependence on the mineral reserves of other, often authoritarian, countries. When speaking about the untapped metallurgical coal reserves in Crowsnest Pass, one resident explained:

The coal that we have in our hills, much like the Elk Valley, comes from one of five resources of that quality in the entire world and it's just sitting up there. The other places are Australia, Russia, and China... This world needs metallurgical coal. We need it. And

now we've seen what's happening in Europe [with the Russian invasion of Ukraine], so it'd be nice to produce our own.

Thus the combined lack of alternative fuel for steelmaking and local abundance of a globally limited resource imbues metallurgical coal with an intrinsically irreplaceable quality in the minds of Elk Valley communities. This quality implies a nearly unquestionable role in present and future development and informs a de facto understanding that any transition to renewable energy would likely only strengthen the economic prospects of metallurgical mining communities. This understanding held regardless of residents' attitudes towards renewable energy in general, which ranged from positive ("It's crazy for us not to be doing this") to neutral/ambivalent ("As long as the push to transition is supported by the laws of supply and demand") to skeptical ("I mean, it doesn't work").

Without being prompted, discussion of the need to transition to renewable energy frequently led community members to mention the technological innovations being employed by the mining company to "green" operations. A resident of Crowsnest Pass said that:

When you talk about greening, the other aspect is the electrification of the mines. So the massive shovels, the drills in a lot of cases are electrically powered, so they're not using diesel [like they used to]. And when you're not using diesel, you're not polluting as much. You do have the leakage of lubricants and those sorts of things. And the mine's doing a good job of cleaning that stuff up.

Technological developments to mitigate the mines' Scope 1 and 2 emissions, such as the electrification of haul trucks and other mining equipment, as well as water treatment facilities to address pollution concerns, were repeatedly mentioned across interviews as evidence that current mining operations were in line with progressive environmental standards. Mine electrification, in many resident's eyes, was a path to maintaining a social license to extract metallurgical coal in the face of increasing concerns about environmental impact.

Reiteration of these mining innovations also helped reinforce the idea that metallurgical coal mining was not at odds with future goals of renewable transition or decarbonization. On the contrary, the rehearsal of such measures helped maintain a shared perception that metallurgical mining is a natural component of a post-fossil fuels world. In a similar arrangement to metallurgical coal's status as a fossil fuel, only a single participant explicitly acknowledged the relative scale of emissions from mining and downstream burning of metallurgical coal. The university student from Sparwood explained that:

Teck, like most good actors, has some [goals that they're] going to be net-zero by 2050 or shoot for that. And they have all these sectors [where they're] like, 'Okay, this is what we need to target first,' like the haul trucks. 'We need to electrify the haul trucks first, and then we need to move to processing next, and then somehow figure out how to deal with the methane that just comes out anytime we open up a seam.' But in the background, they also have the data of Scope Two emissions coming from all the electricity they use. I think it's just electricity. And then Scope Three is emissions on the downstream end. And that just completely engulfs all mining emissions by, like, a quadrillion.

4.3 *"We all come from coal:" Legitimizing and resistance identities with mining*

When asked about the local culture of Elk Valley communities, pride in working in the local mines was frequently one of the first cultural aspects mentioned:

There's certainly a degree of pride within the community for what they do. That's what attracted me to [begin] working [at the mines] when I started as a summer student... well, first of all, everything was big and cool. But also everyone seemed super proud of what they did.

This occupational pride consistently contributed to a larger, shared identification with mining as a way of life. A Fernie resident and mining employee remarked that "this's an entire community [where mining] is our livelihood. This is what we do." Identification with mining was often strengthened by an extended familial lineage of participation in the industry, as many residents had families that had lived and mined in the Elk Valley for generations. The sense of identification with mining was so engrained in residents' self-conception that it was often

attributed with an almost genetic quality. One Sparwood resident said, “My whole family is from Trail. Basically, all my grandparents and cousins are smelter people.”

Both pride in mining and mining as a source of identity were deeply entangled, a relationship that community members traced back to an understanding of mining as a collective origin, often citing coal mining as “the only reason we’re here.” This collective origin helped extend identification with mining beyond the residents directly employed by the mine and offered the broader community a cultural heritage in which all could partake. A resident of Crowsnest Pass reflected this sentiment by describing the multitude of communities on the Rockies’ eastern slopes: “If you look at the names of the towns, [they’re all] like Coalhurst, Coaldale, Black Diamond... We all come from coal.”

Aside from coal, another strongly present basis of identification in Elk Valley communities was an appreciation of the natural landscape and a common pride in enjoying the outdoors. As described by Fernie resident and mining employee:

Everyone's pretty in tune with being out in the bush. A lot of hunters, a lot of hiking, biking. They like to ride their quads off in the bush or four by four or whatever. The surrounding area is pretty much why everyone is kind of here in the first place... The town is here just to get basically your essential supplies and then you're out in the bush doing whatever.

A resident of Sparwood described local pass times as primarily ones where “you make your own fun. Everyone's proud of spending all their time outdoors.” Community members often reinforced this pride by contrasting the popularity of outdoorsmanship in the Elk Valley with city life on the west coast, where people lived in a “concrete jungle.” In a closing thought, residents often enjoyed reflecting on the privilege of living in a part of the country known for its natural landscape: “As we always say, we live where people vacation, and we like to take full advantage of that.”

In a broader sense, residents would express pride in their community and their neighbors. Residents often described the local culture as “tight-knit,” and “old-timey.” These endearing characteristics were, again, frequently contrasted to the impersonal hustle and bustle of city life. A Sparwood resident described the tight-knit nature of the community by saying:

Locals are fiercely loyal to each other when there are external problems. It always seems that someone is always available to be there to help you. In essence, it’s just another small town with a deep sense of community pride and spirit.

Reverence for one’s sense of place could sometimes take on an almost mythic quality through stories of the “wild west,” where the region was populated by miners, loggers, rum runners, and “communist escapees.” This sense of legacy and relationship to the land often elevated a commitment to residing in the region to a preordained status: “All I know is my grandpa was born and raised here, my dad, my mom, my sister, and myself were all born and raised here, and my son will grow up here as well.”

The overarching product of these many interlocking bases of identification is a mutually reinforcing sense of communal legitimacy. Through identification with metallurgical mining, which, as we have seen, is considered indispensable, as well as identification with the land and community inherently tethered to resource extraction, community members implicitly validate one another as members of an essential team. This team is one in which they share membership through either deep intergenerational roots or participation in a shared continuity of tradition.

In addition to systems of internal validation, these legitimizing identities are also maintained and reinforced in response to external threats (or the perception thereof). Growing pressures regarding environmental degradation and carbon emissions have contributed to a social and political landscape that increasingly challenges the practices and merits of metallurgical mining. According to an Elkford resident and mining employee, “the coal industry is under siege

in a lot of ways.” Residents cited a disproportionate persecution of coal relative to other polluting industries such as plastic and plywood production, and attributed the hostility to the stigmas of coal being “black and dirty.” This stigma was mostly attributed to city folk who saw mine closures as a foregone conclusion, the execution of which was simply a formality. Several residents described this perception of external judgement as a polarizing force that had increasingly alienated rural resource communities. One longtime resident of Crowsnest Pass said:

I'm going to call sour grapes here because I've been dealing with this all my life in not only this situation but in many other provincial and federal organizations that I've been involved with over the years. The government sees Crowsnest pass. There's an automatic reject stamp. There isn't anything looked into. It's an automatic no. ‘We're not going there and you can take it however you want.’

Perceived stigmas against coal mining communities, especially in the presence of additional aggravating factors, have the power to transform legitimizing identities into bases of resistance. The operation of resistance identities in the Elk Valley is best exemplified in Crowsnest Pass, where a heightened conflict over the status of metallurgical mining has resulted in a starkly divided ingroup-outgroup dynamic with environmentalists.

4.4 “The Antis are anti-everything:” Outgroup threats in the Crowsnest Pass

Perceptions of injustice pervade the resistance of Crowsnest Pass residents to environmental concerns. Although situated “only 20 minutes down the road” from the extremely productive Elk Valley mines, the mines around Crowsnest Pass have been closed for years. One community member and pro-coal advocate explained that:

On the other side of the border where you just came from, [BC is] very pro-coal under an NDP government, and they're just pulling it out of the ground like crazy. This side of the border is under a Conservative government and we are having a heck of a time trying to get our coal resources out of the ground.

The proximity to productive mines in BC is a nagging reminder of what could be for many community members. Residents of Crowsnest Pass are regularly confronted with what active mines can afford a community, such as Sparwood's new Rec Center, while their own community recreation is underfunded and hard to access due to limited capacity. By nearly all measures, residents of Crowsnest Pass were witnessing "an erosion of services and businesses on the Alberta side, while the BC side is seeing growth and thriving."

When asked about why coal mining was opposed around Crowsnest Pass, community members agreed that the culprit was environmental groups from outside the community. One retired resident explained:

I think, generally speaking, [initiatives to reopen the mines] had really good community support, and I think still have really good community support. But it's the outside groups that are really causing problems, the ranchers and the Livingston Landowners and some of those environmental organizations that are really causing the problem.

Multiple residents credited "staunch environmentalists" for turning coal mining into a fraught political issue. Further, residents of Crowsnest Pass frequently mentioned how they had been involved in a lengthy struggle against "a huge wave of [anti-coal] misinformation" spread by outside environmentalist groups. One resident and local business owner stated: "The level of misinformation is mind-blowing."

Refutation of stated misinformation most often centered on challenging the validity of the claim that selenium was contaminating local water sources. When describing the views of people who oppose opening the local mines, a resident said, "There's a ton of misinformation that has flowed east... they basically think that we're going to poison their water." The credibility of selenium contamination was challenged with a variety of counter points, ranging from appeals to on-site water treatment plants to citations of selenium's presence in some multivitamins.

This perceived scourge of misinformation was naturally characterized as unjust, a conflict in which they, as a community, were routinely and unfairly placed on the defensive. “It’s like the guy who gets the first major wrong rumor out wins,” one resident remarked. Further, residents repeatedly described their resistance to environmental misinformation as a prolonged battle, one in which they faced massively tilted scales. One community member and pro-coal advocate stated, “We’re [resisting] the psychology of tens of thousands that have been told a lie. That’s what we’re up against.” Others placed their current struggle over coal mining in the context of a much larger war against environmentalists weaponizing misinformation:

The underlining issue that’s always there... it’s always a foundation of lies. It doesn’t matter whether it’s don’t cut the trees, don’t mine the coal, don’t bring the oil sands out of the ground, don’t use the LNG. It’s always got a foundation of lies. And that’s the frustrating part, is to try and turn the mindset of the people because they’ve been lied to and they bought into it.

Similar to how Elk Valley community members distinguished metallurgical coal from the stigma of thermal coal, residents of Crowsnest Pass repeatedly expressed frustration with the feeling of being tarred by offensive generalizations. One community member explained:

They’ve as much told us that ‘you’re just for some short-term gain, just for some jobs you’ll destroy the river.’ Well, I find that, and I’m sure everybody in this room finds that, extremely insulting because if that selenium couldn’t be controlled, if there was a risk here or there, none of us would be in favor of it anyway.

Discussion of perceived misinformation narratives frequently led to appeals of Canada’s stringent environmental regulations as a way to assuage environmental concerns. While sympathetic to environmental degradation, many residents held the belief that Canada’s environmental standards were beyond sufficient, especially in comparison to other countries globally, and thus mining in Canada would result in a “net gain for the planet.” This frequently led to feelings of exasperation at the continued resistance that mining operations faced, and the perception that mining opponents were engaging in bad faith. Specifically, residents of

Crowsnest Pass expressed the feeling that their efforts to find a reasonable middle ground were not shared by environmentalists:

We're finding that there is a lack of people on the other side willing to have a reasonable conversation about exactly that. There it is. Yeah. The mine is not going to produce rainbows and the rest of it, but we could do it responsibly and it's something that we need globally, not just in Alberta or Canada.

In both the perceived battle against misinformation and efforts to carve out an environmentally reasonable path to mining expansion, residents of Crowsnest Pass felt they were fighting an asymmetric war. Their opponents, the outside environmentalists, seemed to range anywhere from woefully misinformed to criminally negligent to malicious. When asked what they believed to be motivating the environmentalists, residents offered a variety of explanations:

Well, the Antis are anti-everything. I had a forestry career and it was the same thing, actually. Some of the same players. That's a tough one. Why do you think they're against it? But it wouldn't matter if it was an oil and gas field or if it was a logging operation. They're kind of set up and they don't understand resource extraction.

A common source of anger was the perceived hypocrisy of environmentalists that fight mining expansion to the detriment of the Crowsnest Pass community while presumably being unaware of their own environmental impact. In regard to a local golf course donated to the community by the mining company, one resident shared that “the part that angers us most is the environmentalists that golf on that golf course.” Environmentalists were also seen as hypocritical for driving Teslas while being unaware of the amount of mined minerals required to manufacture electric vehicles. One resident and local business owner expanded on this sentiment by explaining how environmentalists’ own dissonance leads them to demonize extraction-based communities:

[The Antis] need to feel good about the consumption that they do. They buy shit, they own shit, they do everything, and they need to feel good about it. So they need an enemy. So if it's a duck that gets tarred in the tar sands, then that's what they're with, because that's horrible. And I'm going to feel better about supporting those ducks. And then that

pitters away, and then it's the spotted owl. And then it's the fish. We can't kill the fish because our children need to fish. They need an enemy. And they feel good about having that enemy, and they feel good about donating to these companies, organizations that fight against that.

Other residents offered a more charitable view of environmentalists where the nature of their offenses was one of overreach. Similar to distinctions from legacy mining, this view held the environmental concerns of mining opponents as having once been valid but now being taken too far:

The greensies have made people aware [of environmental issues] and you've seen some very positive results. But now they're so full of themselves that they're not seeing the forest through the trees. Their relevancy is shifting from what they originally set out to do to just being blind, saying industry is bad in any case and then all cases.

In the view of many community members, speculation on the motivations of outside environmentalists only accounted for a portion of the larger battle that pro-coal residents of Crowsnest Pass saw themselves in. Behind individual actors there appeared to be a large, well-funded network of organizations pushing a relentless environmental and anti-coal agenda. The environmental movement, in their eyes, had become a lucrative industry. A frequently cited hub of these organizations was the Yellowstone to Yukon Conservation Initiative, or Y2Y, a joint Canada-US nonprofit organization. One resident explained:

The Livingstone Landowners group was probably the strongest lobby group against coal mining in this area. And we discovered that for their donations they were telling people, 'If you want a tax receipt, do it through the Yellowstone to Yukon Environmental Initiative.'

The depth of this financial backing was often credited to US trust funds, "US players," and "big money." Several residents cited the work of Vivian Krause, a controversial Canadian writer and researcher who claims to expose foreign influence over environmental organizations and anti-extraction campaigns (SourceWatch, 2018; The Narwhal, n.d.), as the source of much of this information.

This vast network of donors appeared to have the means and opacity to implicate just about anyone into their hostile environmental agenda. One resident stated: “Even the [Indigenous groups] aren't aware of it. They're being funded through environmental groups that are hiring [Indigenous people] to be lobbyists¹.” Further, these large donors were believed to have significant influence within the provincial government of Alberta. The sum total of this rampant misinformation war backed by the deep pockets of international organizations was a David-and-Goliath battle for justice.

We're battling well-funded environmental groups, and our little group, we just use our own resources and our own experiences. We receive some donations from people, but a lot of it is just out of pocket, by ourselves. When we talk about the economics... well, you might say our economy per se is depressed.

The emotional effects of regularly engaging in this battle were often frustration, scorn, rage, and isolation. When explaining the depth to which the pro-coal advocates of Crowsnest Pass were outmatched, one resident had to take a break to regain composure, saying “I’m trying not to get upset.” As stressful as resistance was, pro-coal advocates felt that as long as the life of their community was on the line, quitting was not an option. One community member said, “We need [the coal]. We need it, and without it, we're going to crash. That's what I hope doesn't happen.” The dire material, cultural, and economic implications of a life without mining

¹ A brief note on the presence of Indigenous communities in the present results: Although no interview questions were asked about the role of Indigenous communities, they were mentioned a total of six times (four times during the focus group in Crowsnest Pass and twice during an interview with an Elkford resident and mining company employee). During the focus group in Crowsnest Pass, Indigenous communities were twice referenced to lend further credibility to coal extraction (residents claimed they had the support of local First Nations – a claim that was not verified) and twice referenced to describe how local Indigenous communities had been “duped” by environmentalists into opposing coal mining (quoted above). That these few acknowledgements rhetorically stripped Indigenous communities of agency and self-governance is evidence of the settler-colonial context within which the present study takes place, as well evidence of the effects that such a colonial context have in contemporary issues regarding community sovereignty, land, and natural resource extraction. The two invocations of Indigenous communities in the Elkford interview described Indigenous resistance to coal extraction in the region and the historical accumulation of false promises made by coal companies to practice environmental stewardship. The participant’s concluding thought on the topic speaks for itself: “The companies say they’ll pollute less and then they don’t, and the First Nations are trying to find ways to put a stop to it... but that could put a stop to the coal industry.”

underlaid the passion with which residents of Crowsnest Pass advocated for restarting the mines, and it was a shared understanding of these same implications that informed many of the attitudes towards mining discussed above in the broader Elk Valley communities.

4.5 “Without it, we’re going to crash.” A lack of alternatives and a precarious future

Amongst all communities of the Elk Valley, there was a deeply internalized understanding that the life of the community was directly tied to the success of the mines. This understanding had been shaped over a century-long relationship to the boom-and-bust cycles of the coal industry, which always corresponded with feast or famine oscillation in community vitality. Even residents that lacked direct experience with the community suffering from bust cycles inherited those memories from others. A resident of Fernie said:

It happened earlier, before I arrived here, in the 90s. Like, some of the women that I work with, they remember times in the 90s when people were just leaving the milk in the fridge and abandoning their homes.

In this sense, the closure of the mines around Crowsnest Pass has turned the community into something of a living reminder of the threat that faces any mining community should their mines close. One resident of Crowsnest Pass described the human cost of the town drying up: “People are getting hungry. People want to be able to, especially with gas and the cost to heat your house and all the rest of it, go buy groceries.” She later elaborated, “some people are making decisions on whether they're heating their home or they're putting food on their table here. And that's a sad thought.” It is in the immediate context of economic depression that opposition to reopening the mines makes the least sense to residents of Crowsnest Pass. Another resident asked:

How bad does it need to get before we accept that we can responsibly mine the coal that's in our hills here and people can have a good standard of living and a good foundation to send your kids off?

An extended communal memory combined with recent examples has cemented the reality of dependence on the mines for many residents as a fact of life.

Although historic and present reliance on mining for economic survival is evident, there is also a nearly universal belief that there are no viable alternatives that could present a sustainably diversified future. The prospect of transitioning towards a tourism economy was one that Elk Valley residents appeared to be routinely fatigued by. An Elkford resident said:

They talk about trying to make these tourist towns, but there're zero vacancy rates and our hotels are always full of mine workers. So hard to make it a tourist town when there's nowhere to stay and no restaurants to eat at. So just sort of that push-pull of trying to diversify while you can't house a worker to build a restaurant. Or why would you spend the money to build a hotel? Because if the mine closes and the town dries up, you've wasted all that money. The towns are really nervous. The community is nervous.

A lack of infrastructure to support tourism was frequently cited as an obstacle to diversification, as was the concern that wages from tourism would be incommensurate with those from mining. Multiple residents noted that tourism wages were not only lower than mining wages, but that tourism wages were also vulnerable to seasonal fluctuations in economic activity. In combination, these factors prevented community members from viewing tourism as a viable path to change. Another resident of Crowsnest Pass said:

Well, if everybody was employed doing that, the wages are so low, you can't even sustain a proper residence and own a car at the same time. That's just a chasms difference between the two. So you're asking for a Band-Aid when you need surgery, or you need the hole to be fixed and you're cutting an artery. I mean, it's just stupidity. It's injury added to insult. Like, 'Hey, you guys can become a tourist town.' And you're like, 'Yeah... no.'

Elk Valley community members held similar grievances towards suggestions of transitioning to a renewable energy-based economy, such as the vastly reduced workforce required to maintain

operation of renewable infrastructure and lack of sunlight hours necessary to support solar powered infrastructure.

In short, as another Sparwood resident said, “They see no alternative.” This view was explicitly endorsed by several community members:

Shutting [the mines] down would just destroy the entire community. I don't think there's any real transitioning for Sparwood itself other than, like, as a highway pit stop in a place that's near Fernie.

In addition to boom-and-bust cycles and political restrictions on mining expansion, Elk Valley communities have had to regularly confront the prospect of mine closures due to their reliance on extracting a naturally finite resource. As a Crowsnest Pass resident and mining employee explained: “The thing with mining is you're mining yourself out of the job because once the resource is gone, it's gone.” Other mining employees described a “weird” arrangement where miners all understood that coal would eventually be gone, either from resource depletion or technological advancement, but never verbally acknowledged the implications of what that meant. The recognition of eventual of mine closures was universal, but so was the unspoken agreement not to talk about it.

The combination of the ever-looming end of the mines with the stark recognition of mining dependence produced a fraught conception of the future. An Elkford resident and mining employee observed:

Knowing that there's a sunset on coal, either from policy or just from the end of life of the facilities, makes the communities quite nervous about their futures. Beyond people wanting to have a clean planet, they still want to pay for their kid's hockey gear and groceries and things.

Another resident shared:

There's a lot of people nervous about their you know... Is my house going to be worth anything in five years? I'm still paying a mortgage on it. But if the coal mine closes, my retirement savings, everything goes, disappears. My job disappears.

Regardless of how dire residents' views of the near future were (recall from section 4.2 that many residents believed that metallurgical coal would be around for at least a few more decades), characterizations of the end of mining were always defined by loss. A commonly held view was that mine closures would, if nothing else, result in the death of the local culture. Even if replaced by a tourism economy, residents shuddered at the concept of the Elk Valley turning into a "soulless" community where there were many visitors but few permanent residents. One Crowsnest Pass resident said: "It'll be a resort and not a community as much. The place still exists, but the community itself [will die]."

In addition to the loss of identity, economic depression from mine closures was understood to inevitably contribute to the loss of familial connection. An elderly resident of Crowsnest Pass described the pain of watching her community and family slowly drift apart over the years since the mines closed down:

I see my community slowly, slowly for the last I'll say 15 years for sure, 20 years, maybe even longer... it's dying. My kids, my grandkids, have had to leave here because there isn't anything for them. And that saddens me. And I'm sure I'm not the only person that is saddened by that. We're losing our most precious resource and that's our youth. And I think we're fighting for that as well because we would love our family generational to be able to stay here and to earn a proper wage and to provide the energy for the community. Because us old people, we're getting tired. We're volunteered up to wazoo and we're working really hard, but we need the energy of youth. And that's the way I feel.

The prospect of losing familial connection was especially salient to a Crowsnest Pass resident with a son nearing his high school graduation. When reflecting on what the future looked like without a reopening of the mines, she said:

Why would he stay here? Right? Why would he stay here even at his age? Now their job options are what? Like his options are the grocery store, one of the restaurants, or the golf course. Right. That's it. The golf course is seasonal, and grocery stores... that's what the majority of the options are for the younger kids here.

In the absence of mining, residents of the Elk Valley saw themselves as living in a place without a future. In the eyes of many, transition was not an option because a free market would never allocate resources to rural communities. One Sparwood resident said:

We can say that we want to transition, but that transitioning will [only] happen to other places [where it] makes sense. It's more feasible for other energy sources to pop up where they're best needed, and that's not where they currently are.

In this worldview, there were no alternate paths through which community members could envision a way forward. This limited attempts to imagine optimistic futures to a kind of medically-assisted death. One Fernie resident said:

I think best-case scenario is that it's known well in advance what the end will look like and that everyone is taken care of, and that all of the environmental problems that all of the mines have... need to be properly funded out to as long as it takes. I think that's the best-case scenario.

Therefore, imagining a post-mining reality became a grieving process. Without tools with which they could construct an alternative future, residents of the Elk Valley had nothing to come back to other than the support of the community they loved and the way of life they knew. A

Sparwood resident and university student reflected:

So the most sustainable thing to do is for us to all kind of bunch up into super sustainable cities, but part of my heart really likes that we're able to live in the Rockies somewhere that's like super inhospitable generally because of [mining]. And I like this lifestyle and I like this way of living. And I would be sad if it died, even though that, on the whole, might be the best thing for the world.

Chapter 5: Discussion

5.1 Perceptions of decarbonization in the Elk Valley

Results relevant to the first objective of the present study, to understand how residents of the Elk Valley perceived decarbonization, were interesting. A large majority of participants were supportive of transitioning from fossil fuels towards renewable energy, while the remainder were mostly neutral and a small few were skeptical; none were seriously opposed. Regardless of personal or political preferences regarding investments in the expansion of renewable energy, all residents interviewed perceived a renewable transition as likely being beneficial to metallurgical mining communities due to the associated increase in demand for steel production. Further, due to metallurgical coal's present centrality to steel production and infrastructure development, Elk Valley community members see metallurgical coal as an essential part of achieving a renewable transition.

Additionally, industry efforts to “green” mining operations and remediate environmental damages are well received by residents and play a large role in shaping their perceptions of metallurgical coal's place in a decarbonized world. The ongoing electrification of large, diesel-dependent haul trucks and the emphasis on water treatment to address selenium contamination are among several recent measures taken by Teck Resources to reduce onsite environmental impacts that residents have incorporated into their conception of a modern, environmentally responsible mining industry. This image of a newer, cleaner mine is frequently used to differentiate present practices from the mining of stigmatized thermal coal and the environmental wreckage of historical mining operations and is therefore critical to justifying the continuation of metallurgical mining amidst a broader pursuit of decarbonization.

Perhaps the most important implication of this representation of metallurgical coal is the obscuration of the industry's carbon emissions. Although onsite emissions are recognized alongside pollution of contaminants and land-use change as environmentally harmful, the downstream carbon emissions of metallurgical coal were rarely acknowledged despite the fact that downstream carbon emissions dwarf onsite emissions, sometimes by a factor of more than 20 to one (Teck Resources, 2022). This conceptual sanitation is likely aided by the fact that the vast majority of the coal mined in BC is exported to Asia, and thus the responsibility for the carbon released when metallurgical coal is burned is spatially and psychologically diffused.

Because of these conceptual distinctions and omissions, metallurgical coal is often not perceived as a fossil fuel by Elk Valley residents despite having a relative carbon content higher than that of thermal coal (CabinRidge, 2021; Hong & Slatick, 1994). Metallurgical coal's ambiguous status as a fossil fuel, in conjunction with its present essential status in the steelmaking process, helps maintain a perception that metallurgical mining is exempt from further implications of decarbonization. In other words, because metallurgical coal is seen as an essential part of advancing a renewable transition, residents of the Elk Valley see little threat from advanced decarbonization strategies such as a managed wind-down of fossil fuel extraction.

Although separated from the perceived effects of decarbonization, mine closures are universally understood as being unavoidably devastating to Elk Valley communities. Residents have no conception of a future that extends beyond the life of the local mines, and thus any future scenario without active mines is defined by loss of community, culture, family, and identity. Thus any attempt to reduce BC's coal industry that is not paired with (or preempted by) the development of a meaningful alternative economy not only risks triggering the deepest-held anxieties of Elk Valley communities but also risks mobilizing cultural identification with mining

into bases of resistance to decarbonization. In short, a lack of regard by policymakers for the impacts of decarbonization on the Elk Valley risks turning hopeful allies of a green future into economic sacrifice and political opponents.

5.2 Contrasts and comparisons: a nuanced addition to fossil-fuel dependent community research

The second objective of the present study was to explore how the perceptions of Elk Valley community members were similar to or different from other fossil-fuel dependent (FFD) communities represented in academic literature. Several notable distinctions were identified. For one, residents of the Elk Valley generally do not consider metallurgical coal a fossil fuel. Metallurgical coal is instead perceived as a building block of steel with a somewhat ambiguous relationship to carbon emissions, a perception that is a product of repeated distinctions from the stigmas of thermal coal and past mining operations, the utility of metallurgical coal in renewable infrastructure development, industry efforts to “green” current mining operations, and the psychological distance from the burning of metallurgical coal, virtually all of which occurs after the coal is exported to East Asia. Associations with pollution and fossil fuels are actively resisted by community members, who instead emphasize their alignment with environmentally progressive ideas.

The ambiguous status of metallurgical coal as a fossil fuel contributes to another significant difference between the Elk Valley and other FFD communities: Elk Valley residents are broadly supportive of renewable energy expansion and decarbonization generally. This is starkly different from the adversarial climate of cultural rejection of climate action documented in other FFD communities globally (Hoffarth & Hodson, 2016; Lewin, 2019; Miniard & Attari, 2021; Olson-Hazboun, 2018; Phadke, 2011). Residents of the Elk Valley were broadly

supportive of investing in renewable energy infrastructure and transitioning away from fossil fuels, a viewpoint almost certainly supported by metallurgical coal's intrinsic role in steelmaking. By being tethered to steel and infrastructure development rather than traditional fossil fuels-based electricity production, metallurgical coal maintains a non-competitive relationship to renewable energy that is absent in other FFD contexts.

In addition to the aforementioned factors, these unique perceptions toward fossil fuels and decarbonization may be partly attributed to a sense of retained legitimacy, a key feature that is largely absent from many other FFD communities represented in current research. While many other FFD communities mobilize resistance efforts in the face of degraded economic and cultural significance (Lewin, 2019; Olson-Hazboun, 2018), the metallurgical mining communities of BC's Elk Valley still enjoy robust economic activity that both supports the material needs of their communities and validates their labor as essential to the functioning of society writ-large. This retained legitimacy and relative economic stability have likely helped prevent the polarization that has occurred along political and environmental lines in many other FFD communities.

Further, the contrast between the anti-coal politics of the conservative Albertan government and the pro-coal politics of the progressive NDP-led BC government has likely helped prevent any polarization of environmental and mining issues from falling along strictly ideological lines, yet another significant difference between the Elk Valley and other FFD communities. This climate of reduced polarization also extends to the broader national context of Canada which, although polarized in many energy contexts, is overall less politically adversarial than the FFD communities of conservative areas in the United States that are overrepresented in current literature.

Despite these key differences, Elk Valley communities share many crucial similarities to other FFD communities such as the incorporation of coal mining into multiple levels of identity and understanding of cultural heritage. Residents of the Elk Valley share a deep pride in their connection to metallurgical mining and express it through both emphasizing the essential role metallurgical coal plays in modern society and by emphasizing their personal and recreational connections to the natural landscape from which they obtain their livelihood. While identification with mining holds those directly employed by the mine in high esteem, the greater community shares in it through an appreciation of and reverence for a cultural heritage shaped by mining. Despite resisting associations with fossil fuels and thermal coal specifically, the incorporation of coal mining into individual, familial, communal, and cultural identities is almost identical to the identity frameworks described in research of other FFD communities with intergenerational ties to coal mining (Ey et al., 2017; Lewin, 2019; Sanz-Hernández, 2020).

Of course, a foundational similarity to other FFD communities that inform many, if not all, of the psychological constructs presently explored is the Elk Valley's economic dependence upon resource extraction. In this regard, the key difference is that the economy of BC metallurgical mining remains strong and therefore the corrosive effects of economic depression that actively shape other FFD communities play a less direct role in the Elk Valley, and instead operate largely as hypotheticals or inform community anxieties of a precarious future. Crowsnest Pass, however, does not share the economic security of the metallurgical mining communities just across the border to BC, and correspondingly exhibits some of the same inflammatory effects of polarization reported in the literature of economically depressed communities that historically mined thermal coal such as heightened levels of anti-environmentalist sentiment (Hoffarth & Hodson, 2016; Olson-Hazboun, 2018). Not only does this cross-border contrast

validate the anxieties of Elk Valley community members about the implications of future mine closures, but it reveals that despite the many significant differences between the Elk Valley and other FFD communities, the Elk Valley remains susceptible to the same vulnerabilities that have eroded the livelihoods of FFD communities time and time again.

5.3 Place, identity, and social narratives: psychological processes at play

The third research objective was to identify the psychological processes involved in shaping community perceptions of decarbonization in the Elk Valley. The present study confirmed that many of the findings of previous literature on FFD communities are at play in the novel context of the Elk Valley, such as how relationships to coal mining form multiple, interlocking tiers of legitimizing identities (Lewin, 2019; Mayer, 2019; Olson-Hazboun, 2018; Sanz-Hernández, 2020). Sanz-Hernandez (2020) described how, in historically coal-reliant mining communities in Spain, identification with the coal industry took place on three dimensions: economic, territorial, and social. These dimensions can be mapped onto Elk Valley communities via the occupational pride of mining employees and validation of mining as essential labor, the place-based attachments of residents to the landscape and natural resource, and the communal maintenance of a social identity rooted in an inherited relationship to mining as a provision of livelihood.

While these multilevel bases of identity serve a legitimizing function in the community by allowing individuals to validate one another as members of an essential team (Lewin, 2019; Sanz-Hernández, 2020), they can also be transformed into bases of resistance when put in contact with outside forces that may seek to challenge the legitimacy of the coal-based project. Resistance identities have been shown to organize around dependence, solidarity, and justice,

and can provide a basis for the community to unite in the face of fraying economic and social ties (Sanz-Hernández, 2020). The transformation from legitimizing identities to resistance identities can in many ways be captured through the comparison of BC's Elk Valley communities and Crowsnest Pass, where emphasis on community dependence on mining to maintain basic standards of living, citizen advocacy, and community resistance to perceived injustices are considerably heightened.

Similarly, the relatively advanced erosion of community health in Crowsnest Pass likely contributed to an increased focus on malicious outgroups, namely environmentalists. Although less severe than the community perceptions of environmentalist threat reported in Hoffarth and Hodson (2016), defensive attitudes in Crowsnest Pass exhibited many similar patterns and were much more pronounced than in the Elk Valley communities across the BC border. In comparison to the American context of Hoffarth and Hodson (2016), perceptions of decarbonization in Crowsnest Pass were significantly tempered by a generally positive or neutral attitude towards renewable energy. However, similarities include more widely expressed conservative values and a very well-defined mobilization of ingroup identification in response to a perceived outgroup threat. These findings are consistent with other literature that report associations between increased polarization of energy issues and higher levels of collective despair, especially in regard to the future of one's community (Olson-Hazboun, 2018).

The foundations of both individual and group identity in the Elk Valley are deeply rooted in community narratives that reinforce a shared cultural heritage in metallurgical mining. In addition to involving community members in the maintenance of a longstanding tradition of coal extraction, these regularly rehearsed narratives keep alive a worldview in which coal mining is publicly validated as essential to the functioning of society (Lewin, 2019; Mayer, 2022). While

economically depressed communities historically reliant on thermal coal have adopted “mining essentialist” narratives in response to the economic and social devaluing of their mining heritage (Lewin, 2019), the essentialist narratives of the Elk Valley still enjoy an economy that continues to validate their metallurgical coal as essential to the steelmaking process. However, the social valuation of metallurgical mining is increasingly scrutinized in the face of climate change and intensifying cultural attention to carbon emissions, a fact that Elk Valley community members are keenly aware of.

The function of place in shaping community perceptions of decarbonization in the Elk Valley is another interesting contribution to existing literature. Most present research regarding place attachment in FFD communities is based on how new energy developments can garner community support or opposition depending on the developments’ affirmative or disruptive interactions with place attachment, which is often heavily contingent on said developments’ location in a polarized debate between fossil fuels and renewable energy (Devine-Wright, 2011; Devine-Wright & Howes, 2010). However, this polarized energy landscape is less present in the Elk Valley given the communities’ perceived alignment with the expansion of renewable energy infrastructure.

While the place attachment of Elk Valley community members is strong and deeply rooted in both the natural landscape and intergenerational mining culture, community identification with modernizing and environmentally aware mining practices contributes to the novel arrangement of a fossil-fuel dependent community that is willing and able to incorporate renewable energy into its pre-existing place meanings and attachments. Renewable energy development and other decarbonization efforts may in fact be place enhancing, provided that they occur alongside the continued operation of the local mines. How place-altering

developments that threaten mining operations would be received is unclear, especially given the psycho-spatial distance that lies between the decarbonization of steel processing, which occurs overseas, and the Elk Valley.

5.4 Implications and recommendations

These findings have important implications for how BC should address the communities that depend on its large metallurgical mining industry as it pursues decarbonization. In contrast to many of the economically depressed and polarized fossil-fuel dependent communities described in current literature, the Elk Valley is both economically stable and generally in favor of decarbonization, which indicates an ideal context for preemptive engagement with community members and stakeholders. Critically, the implementation of Just Transition policy frameworks is essential to avoiding the historic repetition of the economic sacrifice of fossil-fuel dependent communities, an observation that is supported by rich scholarship and citizen advocacy (Evans & Phelan, 2016; Johnstone & Hielscher, 2017; Olson-Hazboun, 2018; Pollin & Callaci, 2019; Svobodova et al., 2021; Tvinnereim & Ivarsflaten, 2016). However, present decarbonization policies have been slow to incorporate Just Transition principles into their design. Present decarbonization strategies have also largely ignored the influence of social and psychological factors such as identity, place attachment, outgroup threat, and cultural narratives, despite their relevance to reducing threat perception and crafting more effective policy (Della Bosca & Gillespie, 2018).

Incorporation of these psychological mechanisms into transition design would be a significant step forward in crafting decarbonization policy that works with critical resource communities rather than against them. For example, affirming community self-conception as

carrying on traditional legacies through modern, environmentally responsible industrial practices, while also emphasizing how transition designs represent a continuation of this community history, could be an effective strategy to build community support.

Further, the majority of decarbonization scenarios are designed at national and provincial levels, thus limiting engagement with and consideration of specific localities, which are the political plane most salient for fossil-fuel dependent communities (Sanz-Hernández, 2020). Community engagement is therefore critical to developing adaptive projects that align with the sociocultural dimensions of Elk Valley communities. Delaying engagement with metallurgical mining communities risks allowing local economic conditions to deteriorate, which will likely only increase tensions regarding a post-mining transition. However, directly involving community leaders in decision making and community engagement processes will help mitigate local perceptions that decarbonization is being imposed upon them by outside, urban elites. Failure to involve Elk Valley communities in transition designs increases the likelihood that legitimizing identities (which could otherwise be further aligned with decarbonization efforts) might mobilize into bases for resistance identity formation.

The crux of engaging Elk Valley communities in transition design will be developing a shared vision of a fulfilling and alternative future, one that is both post-mining and in line with the shared identity, sense of place, and cultural narratives of the region. Elk Valley communities have already internalized that eventual mine closures are inevitable, whether they be from technological innovation or resource depletion. This is a key entry point for encouraging economic transition or diversification and is not reliant on potentially polarizing environmental or energy issues. Framing decarbonization strategies in terms of economic security could likely avoid invoking the much resisted association of metallurgical mining with fossil fuels. Although

this paper does not offer a concrete path forwards for metallurgical mining communities to develop alternative economies, direct engagement with local communities based on an understanding of the above psychological and social dimensions will be critical to crafting a socially acceptable and effective transition away from metallurgical coal.

5.5 Limitations and future research

Although this study provides many novel contributions to the literature on fossil fuel-dependent communities, it has several limitations. First, multiple community members noted that anonymity was essential for their participation due to fear of retribution from Teck Resources. Fear of retribution likely introduced a bias of low participation from hourly mining employees in more vulnerable positions and may have resulted in an overrepresentation from employees in management positions. This may have led to an overrepresentation of individuals with post-secondary education, a demographic trait that is associated with environmental concerns, and thus skewed interview data towards environmental concerns than is true of the actual Elk Valley population (Marquart-Pyatt, 2012; Newman & Fernandes, 2016). Similarly, the voluntary nature of participation and snowball recruitment strategy may have resulted in an overrepresentation of people amenable to environmental concerns and decarbonization while underrepresenting those with more conservative ideologies. Another limitation of the present study was the lack of independent coding comparisons. Data analysis was performed by a single researcher and thus results are more prone to bias than if the codes and themes were agreed upon by a second researcher following independent analysis performed in parallel. Future research should include more rigorous data analysis performed by multiple researchers and should invest more time and resources into establishing a presence in Elk Valley communities in an attempt to recruit

additional participants that may be unlikely to initiate contact. Additionally, future research should include a more in-depth consideration of the role that industry narratives play in shaping the views of community members, an influential factor in fossil fuel-dependent communities that is not sufficiently considered in the present study.

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Appendix A – Interview Questions

Life in Sparwood

1. How long have you lived in Sparwood? In BC?
 - a. Has Sparwood changed much over your time here? How about BC?
2. What do you/did you do for work? Please describe your current job or former employment.
 - a. How long have you been doing this job?
3. How would you describe the local economy?
4. I'm interested in learning more about the local culture of Sparwood. How would you describe the cultural and heritage of the community?
 - a. What is unique about Sparwood? What makes you proud to live here?

Coal Industry

5. How would you describe the current state of the coal industry in BC?
 - a. How has this affected the Sparwood community and local economy?
6. How do you think the Sparwood community views the coal industry? Are they supportive or unsupportive?
 - a. How do you view Teck Mining?
7. What do you think the future of the coal industry in BC looks like?
 - a. What does this mean for the future of Sparwood as a community?

Renewable Energy and Transition

8. In general, do you think that BC or Canada should be trying to develop renewable energy sources? Why or why not?
9. The United Steel Workers union has advocated for policies that emphasize reducing fossil fuel use and transitioning to a low-carbon economy. Is this approach in line with your personal views?
10. Some scientists argue that we should attempt to develop more environmentally friendly “green steel” by using hydrogen as a fuel source instead of coal. In general, do you think that society should try to develop “green steel”? Why or why not?

Climate Change

11. How worried are you about climate change?
 - a. Do you see climate change as a manmade phenomenon or as a result of natural causes?
 - b. What do you think should be done to address climate change (if anything)?

12. Have you noticed any signs of climate change around Sparwood?
 - a. If so, how does this make you feel?

Environmentalism

13. How do you view people who advocate for ending coal mining or coal expansion?
 - a. What do you think motivates them?
14. Because researchers have found political differences around views on climate change, would you be willing to tell me how you identify politically? Why?

Thank you for participating in this interview. Is there anything else you would like to add? Is there anything important about your opinions on your community, energy, or climate change that I did not ask about?

Appendix B – Recruitment Advertisement

Participate in a Study on BC Mining Communities

Interviews needed

Share your opinions, represent the views of your community!

What is this study about?

Researchers from the University of Victoria are interested in understanding the views of Sparwood and Elk Valley community members on mining, the local economy, and renewable energy transitions.

Why participate?

- You will contribute valuable information to help researchers understand the needs and concerns of mining communities
- You can represent the views of your community in the ongoing debate around renewable energy transitions

Who can participate?

- Current or former employees of the coal industry
- Any Sparwood or Elk Valley community member who is familiar with the local economy and energy industry



Interested in being interviewed?
Contact researcher Severin Odland
at severino@uvic.ca

Interviews can be held in-person, over the phone, or on Zoom. Interviews may last between 30-90 minutes.

This study is a RAIS ethics approved research being conducted by Severin Odland, who is a master's student at the University of Victoria. You can contact Severin with any comments or questions at severino@uvic.ca, or his supervisor Dr. Robert Gifford at rgifford@uvic.ca.

Appendix C – Letter of Consent



**University
of Victoria**

Faculty of Social Sciences | Department of Psychology
Cornett Building Room A236 PO Box 1700 STN CSC Victoria BC V8W 2Y2 Canada
250-721-7525 | 250-721-8929 | web.uvic.ca/psyc | Email psyc@uvic.ca

Letter of Information for Implied Consent

Attitudes Towards Renewable Energy Transitions

You are invited to participate in a study entitled Attitudes Towards Renewable Energy Sources that is being conducted by Severin Odland. Severin Odland is a Graduate student in the Department of Psychology at the University of Victoria and you may contact him if you have further questions at severino@uvic.ca. As a Graduate student, Severin is required to conduct research as part of a MSc of Psychology degree. It is being conducted under the supervision of Dr. Robert Gifford. You may contact his supervisor at rgifford@uvic.ca.

Purpose and Objectives

The purpose of this research project is to understand how renewable energy transitions are viewed. We are interested in a diverse range of responses. You can participate in this study regardless of your political affiliation or ideology.

Importance of this Research

Research of this type helps to understand how communities involved in natural resource extraction view renewable energy transitions, and how concerns from such communities can be addressed in transition policies.

Participants Selection

You have been selected for participation in this research by volunteering, as well as the fact that you meet the eligibility criteria for the study (i.e., are age 18 or older and are employed or were formerly employed by the coal mining industry).

What is involved

If you consent to voluntarily participate in this research, your participation will include being asked a series of questions about your views on renewable energy transitions. The interview will take approximately 30 minutes.

Risks

There are no known or anticipated risks to you by participating in this research. Participants will be advised if they have or may have come into contact with an individual who has tested positive for COVID-19. Contact information for participants will be stored in a separate file from research data in the event that follow up is needed.

Benefits

The potential benefits of your participation in this research include representing the views of yourself and your community in the body of research around renewable energy transitions.

Voluntary Participation

Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time during the interview without any consequences or any explanation. If you withdraw prior to completing the study your data will be destroyed. In the event that a participant leaves the study after the research has been completed and does not wish for any data to be used, their data will be summarized with all possible identifiers removed or changed.

Anonymity

In terms of protecting your anonymity, your personal information will not be connected with your interview. If you withdraw prior to completing the study, your data will be removed and destroyed. If you withdraw prior to completing the study your data will be destroyed. In the event that a participant leaves the study after the research has been completed and does not wish for any data to be used, their data will be summarized with all possible identifiers removed or changed. Zoom servers are located outside of Canada, and Zoom stores users' names and usage data outside of Canada. No other information is stored outside of Canada, and recordings of Zoom meetings are not stored on Zoom servers.

Confidentiality

Your anonymity will be protected because no identifying information will be associated with your data. As well, your confidentiality and the confidentiality of your data will be protected by storing it on a secured computer that is password protected and only accessible by the researchers.

Your data will be collected confidentially, with the data only tagged to a random identification number. This random identification number cannot be used by anyone to re-identify you. Therefore, the fully anonymized data contains no links or identifiers that can be used to identify you. In the event that a participant leaves the study after the research has been completed and does not wish for any data to be used, their data will be summarized with all possible identifiers removed or changed.

Dissemination of Results

It is anticipated that the results of this study will be shared with others through a thesis paper, defense presentation, publicly available internet posts, academic and media presentations, and published scholarly articles. However, no individuals' names will ever be used in any dissemination of the results.

Disposal of Data

Data from this study will be disposed of five years after publication of the results. Computer files will be deleted and paper copies will be shredded.

In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca)

Contacts

Individuals that may be contacted regarding this study are listed at the beginning of the consent form.

In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria (250-472-4545 or ethics@uvic.ca).

Printed Name: _____

Signature: _____

Date: _____

Appendix D – Ethics Approval Certificate



Office of Research Services | Human Research Ethics Board
 Michael Williams Building Rm B202 PO Box 1700 STN CSC Victoria BC V8W 2Y2 Canada
 T 250-472-4545 | F 250-721-8960 | uvic.ca/research | ethics@uvic.ca

Certificate of Approval

PRINCIPAL INVESTIGATOR: Robert Gifford (Supervisor)	ETHICS PROTOCOL NUMBER 21-0613 Expedited review - delegated
PRINCIPAL APPLICANT: Severin Odland Master's student	ORIGINAL APPROVAL DATE: 09-Mar-2022
UVIC DEPARTMENT: Psychology PSYC	APPROVED ON: 09-Mar-2022
	APPROVAL EXPIRY DATE: 08-Mar-2023

PROJECT TITLE: Attitudes Toward Renewable Energy Sources

RESEARCH TEAM MEMBERS: **None**

DECLARED PROJECT FUNDING:
UVic Faculty of Graduate Studies Travel Grant, University of Victoria

DOCUMENTS INCLUDED IN THIS APPROVAL:
 tcps2_core_certificate(1).pdf - 26-Jan-2022
 Thesis Interview Questions.docx - 01-Feb-2022
 Recruitment Script.docx - 01-Feb-2022
 Thesis Letter of Consent.docx - 07-Mar-2022

Conditions of approval

This Certificate of Approval is valid for the above term provided there is no change in the protocol.

Amendments
To make changes to the approved research procedure in your study, please submit "Amendments" or "Annual renewal with amendments" form. You must receive research ethics approval before proceeding with your amended protocol.

Renewals
Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a "Request for Renewal" form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.

Project Closures
When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a "Notice of Project Completion" form.

Certification

This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria's policies for research involving human participants.


 Dr. Sandra Gibbons
 Chair, Human Research Ethics Board


 Dr. Matthew Murphy
 Vice-chair, Human Research Ethics Board

Certificate Issued On: 09-Mar-2022