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# Attitudinal and Behavioral Responses to Climate Change

## A Case Study of a Rural Community in Hallingdal

Kristin Sørbøen Gåsbakk
International Environmental Studies

# Abstract

Climate change is the greatest environmental problem of our time, which is exponential in rate and globally significant in magnitude. There is scientific consensus that the current and abrupt changes in the climate are extremely likely to be driven by greenhouse gas emitting activities and human behaviors. Reduction of greenhouse gases demands therefore large attitudinal and behavioral changes among individuals across the whole globe. Furthermore, this study takes place in a Norwegian context and will discuss rural people's attitudinal and behavioral responses to climate change. Today, there is not much research about this topic in a rural context, but there are indications that rural people may be less concerned about climate change and less willing to contribute to reduce their emissions, which I will investigate further.

Moreover, this thesis aims to answer the questions: 1. What are the major differences between rural and urban communities in Norway, in terms of climate-related attitudes and actions? 2. How do the locals in Ål municipality perceive and act regarding climate change? 3. What role does people's identity play for how they think and act considering climate change? By exploring these questions, my research strategy is to conduct a case study of a rural community in Hallingdal, where I use mixed methods to collect and analyze the data. I use quantitative research in terms of statistical analysis of primary data of CICERO's survey to answer RQ1 and qualitative research in terms of in-depth interviews to investigate the climate-related perceptions, attitudes and actions among the locals in Ål, in order to answer RQs 2 and 3. I recognize that the findings cannot be generalized to other cases or populations, but it can provide a better understanding of how rural people think and act considering climate change. The results show that rural people are less concerned about climate change compared to urban people. However, the majority of the respondents in Ål believe in anthropogenic climate change and endorse biospheric values, but this study shows a tendency to a more climate-negative youth (18-29 years) compared to people between 45-59 years. Besides, the locals are dependent on the car and lack access to public transportation, which is the same tendency at a national level. Holiday trips have a big importance to the majority, but many also feel a discomfort when they travel with plane. Several of them do not eat meat or have reduced their meat consumption, but in general, meat is an integral part of the village's food culture and social culture. In addition, their identities seem to play an influencing role in several ways, such as how person identity influences what decisions they make regarding electric car purchases or flight travels, or how social and role identities affect how they view meat production and plantbased products.

# Preface

The last six months have been a roller coaster with many ups and downs, but this process has undoubtedly been an educational and enriching experience where I have gained a lot of new insights and knowledge. There have been many contributors to this work that must be acknowledged. First and foremost, I would like to thank my supervisor Arild Vatn for his help, guidance and availability throughout the whole process. Thanks for all your valuable feedback and advices. I would like to thank Marianne Aasen and CICERO for letting me be a part of their project and for taking valuable time to help me with this thesis. I also want to thank each and one of the respondents who have participated in this study. I could not have done this project without your meaningful and interesting insights and opinions about the research topic. I would like to thank my family for your support and help every step of the way. Your encouraging words have been essential in a stressful time. Thanks for always being my biggest supporters! I must also thank my friends for all encouragement along the way and for believing in me.

I, Kristin S. Gåsbakk, declare that this thesis is a result of my research investigations and findings. Sources of information other than my own have been acknowledged and a reference list has been appended. This work has not been previously submitted to any other university for award of any type of academic degree.

Kristin Sørbøen Gåsbakk Tuesday, 30.06.2020

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# Abbreviations

| | |
|---|---|
| CICERO | Center for International Climate Research |
| $CH_4$ | methane |
| $CO_2$ | carbon dioxide |
| $CO_2$ eq | carbon dioxide equivalent |
| ES | Earth system |
| GHG | greenhouse gases |
| GWh | gigawatt hours |
| IPCC | Intergovernmental Panel on Climate Change |
| NSD | Norsk senter for forskningsdata |
| $N_2O$ | nitrous oxide |
| ppm | parts per million |
| RQ | research question |

# Local or Norwegian Expressions

| | |
|---|---|
| Byfolk | People who are from or live in the cities |
| Halling | People who live or are from one of the six municipalities in Hallingdal. The term is also used for the local dialect that is spoken in Hallingdal |
| Ildsjel | an enthusiast who is incredible passionate about something |
| Syden | a term that is often used to describe the countries that are located in or around the Mediterranean - “Southern Countries” |
| Åling | People who live on or are from the municipality of Ål |

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# 1. Introduction

Human behavior and greenhouse gas emitting activities are changing the climate, and humans are, in turn, impacted by climate change in numerous ways (Gifford et. al, 2011). From being an abstract problem that is discussed at international climate conferences, through scientific articles or in the media, it has become an everyday reality for most parts of the world (Eriksen et. al, 2014). The last fifty years have been the most rapid transformation of the human relationship with the natural world in the history of humankind (Steffen et. al, 2004). Along with an increasing loss of biodiversity, climate change is seen as the most serious environmental issue of our time, which is a planetary boundary that has been transgressed (Vatn, 2015).

Furthermore, the Norwegian oil adventure also started for fifty years ago, where Phillips Petroleum informed the authorities about the discovery of Ekofisk in 1969. Petroleum activities have since then played a significant role in the development of the welfare state and are Norway's largest industry today, in terms of value creation, export value, government revenues and investments (Norwegian Petroleum, 2020). Emissions from such activities were 14 million tons $CO_2$ eq in 2019 (SSB, 2020a). The carbon tax from 1991 and the Greenhouse Gas Emission Trading Act that came into force in 2005 are the most important policy instruments for reducing emissions from this industry (Norwegian Petroleum, 2020). However, there is a growing recognition that Norway must adapt to a new era, where one of Norway's targets is to become a low-emission society by 2050. It means reducing emissions by 80-95 % (Regjeringen, 2018).

This goal implies reductions of greenhouse gas emissions from all relevant activities and from people and businesses in all parts of the country. There are indications that rural people may be less concerned and less willing to participate in such a reduction compared to people living in urban areas. The aim of this thesis is to see if this is correct and to furthermore enhance our understanding on rural people's attitudinal and behavioral responses to climate change. Based on this overarching aim, I have defined the following research questions:

RQ1: - What are the major differences between rural and urban communities in Norway, in terms of climate-related attitudes and actions?

RQ2: - How do the locals in Ål municipality perceive and act regarding climate change?

RQ3: - What role does people's identity play for how they think and act considering climate change?

I use primary data from CICERO's climate survey "*ACT: From Targets to Action: Public Responses to Climate Policy Instruments*" in order to answer RQ1, while a case study was carried out in the municipality in Ål in February and March 2020 for answering RQs 2 and 3. Furthermore, I have some comments regarding the concepts that are used in the RQs. With the term "urban communities", I refer to human settlements that have high rates of urbanization and industrialization, which is a geographical area that is densely populated and possess the characteristics of man-made surroundings. Urban communities are often referred to as cities or towns, with main activities such as trade, commerce, and provision of services (Surbhi, 2017). With "rural communities", I mean a geographical area that is not included in an urban area, which are small settlements with low rates of urbanization and population density. They are described as villages and located on countryside-areas, which are associated with activities like agriculture and livestock (ibid). The third concept I want to emphasis is identity, which is defined according to Burke and Stets (2009, page 3) as "the set of meanings that define who one is when one is an occupant of a particular role in society, a member of a particular group, or claims particular characteristics that identify him or her as a unique person". In section 3.2, I offer a broader definition of this concept. The last concept to define is "attitudes", which can be explained as evaluations of objects as good or bad and involves positive or negative evaluation(s) of other people, behaviors, or specific events. With climate-related attitudes, I refer to individuals' perceptions, beliefs, and values considering climate change. Values are an integral component of our identities and the basis for the attitudes we have, such as how we evaluate something or someone (Schwartz, 2012). Section 3.3 offers a more thorough presentation of how I define the concept of values. With climate-related actions, I mean human behaviors on three different areas, which are transportation, holiday trips and food patterns.

# 2. Topical Background

This section provides a general insight in the research topic. Climate change is not a new phenomenon that just occurred since the climate and temperature on Earth have changed significantly over the past millions of years because of natural variability and instabilities. The current and abrupt changes in the climate and its future trajectories differ in the way that they are largely driven by human behavior and GHG-emitting activities, for example the burning of fossil fuels ($CO_2$), industrial processes ($N_2O$) or production of animals for food ($CH_4$) (Gifford et. al, 2011). This involves changes in all components of weather and how they vary across seasons and over a longer period of time, i.e. decades or centuries (Vatn, 2015; Steffen et. al, 2004). The extent to which human activities are impacting or even dominating diverse aspects of the Earth System (ES) and its functions has led scientists to suggest a new geological era, the Anthropocene. Many of the current changes are irreversible, interconnected, and do not occur in a linear trend. They are more complex than simple cause-effect relationships, e.g. $CO_2$ does not only affect the climate but also how vegetation grows (Steffen et. al, 2004).

## 2.1 Natural Variability and Anthropogenic Change

Among climate scientists and the leading scientific organizations worldwide, there is consensus the current trends in the climate over the past century are extremely likely (with ninety-seven percent confidence) to be caused by human influence (NASA, 2020; IPCC, 2014). According to IPCC Working Group II, climate change can result in increased global temperatures, sea level rise, more extreme weather, heat-related deaths, infectious disease epidemics, and decreases in crop yields and freshwater availability. However, the intensity and extent of the changes are still uncertain and unknown, which depends on the mitigation efforts from the world's countries, political decisions and policies and individuals' willingness to change their behaviors and lifestyles (Gifford et. al, 2011; IPCC, 2014). The role of stabilizing and amplifying feedback mechanisms is also uncertain, which relates to complex interactions between temperature, $CO_2$ concentrations and nutrient cycles (Vatn, 2015).

The interactions between human societies and the natural environment is a complex and long history spanning millennia (Steffen et. al, 2004). In the past century, human activities have influenced the Earth's temperature to rise higher than it has been since the modern civilization developed 10,000 years ago. This transformation is strongly impacted by changes in GHG-

emitting activities that increased considerably following the Industrial Revolution (Gifford et. al, 2011), and has undergone a profound acceleration during the second half of the 20th century. IPCC estimates that two-thirds of the $CO_2$ emissions come from fossil fuels and one-third are from land use changes. Moreover, about half of the emitted carbon is retained in oceans or at land, while the rest is in the Earth's atmosphere (Vatn, 2015).

Within the Earth System, there are many modes of natural variability and instabilities, as well as anthropogenically driven changes. These are often impossible to separate because they interact in a complex and sometimes mutually reinforcing way. Now, anthropogenic changes are considered as equal to some of the great forces of nature in its extent and impact. The dynamics of the ES are characterized by critical thresholds and irreversible changes, where human activities directly or indirectly trigger changes that may have catastrophic impacts on Earth (Steffen et. al, 2004). Humans, their societies and activities have been an insignificant force until recently but is today considered as an integral component of the ES (Gifford et. al, 2011). The world's population has more than doubled since 1960, where 7,8 billion people live in the world today. This number is expected to rise to 9,7 billion by 2050 (UN, 2019). It means that basic needs (i.e. food, water and shelter) could reach a critical state in the ways they are met and can be important determinants of how future trajectories will play out (Steffen et. al, 2004). The use of environmental resources is fundamental for human survival, but the way they are utilized causes huge concern for the future living conditions for life on Earth (Vatn, 2015). Individuals' lifestyles, affluence, and the increasingly demand for a wide range of goods and services play a significant role of the exploitation of resources (Steffen et. al, 2004).

Regarding the resilience of the ES, two aspects must be highlighted. The first is whether the changes are pushing the natural ecosystems beyond critical thresholds. The other is if the intensity of the changes are higher than the systems' adaptative capacity to cope with change. Rockström et. al (2009) suggest nine planetary boundaries within which humanity can continue to develop and thrive for the following generations. They regulate the stability and the resilience of the ES, where the question considering whether the boundaries have been transgressed are asked. The authors conclude that the planetary limit is transgressed regarding biodiversity loss, climate change and nitrogen loading. The boundary for climate change is defined by $CO_2$ concentrations at 350 ppm, with a danger zone between 350 to 550 ppm (Vatn, 2015). As the present level is 417 ppm, it means that this boundary is transgressed (NOAA, 2020).

## 2.2 Climate Debate in Norway

CICERO's findings show that most Norwegians believe that climate change is happening, but there is some skepticism if these changes are anthropogenically driven or the result of natural variability. Thus, 70 % of the respondents answered that the statement "Human activity does not affect the climate" does not match or does not match at all, while 11 % replied that it matches quite or very well (Aasen, Klemetsen, Reed & Vatn, 2019). Today, there is a polarizing climate debate that is visible in the media and in all social platforms. With climate debate, I refer to the debate on climate change that involve questions considering, e.g. the extent in which humans affect the climate, and how much that can be explained by natural variability or anthropogenic driven changes (SNL, 2019). There is a wide specter of perceptions on this topic across the globe, but I will focus on Norway and more specifically on a rural community in Hallingdal.

In Norway, there are heated discussions considering climate-related topics. In February 2020, two Facebook groups were set up where people of opposite perceptions regarding climate change joined. The first group "Folkeopprøret mot Klimahysteriet" was made February 7th, which is a protest group for those who do not believe in anthropogenically driven changes. Twelve days later another group was made "Folkeopprøret mot Folkeopprøret mot Klimahysteriet" as a counter reaction (Lilleås, 2020). This illustrates that there is a lot of engagement among the population. In 2019, there were especially three words that became a part of our vocabulary and of the debate. The words "flyskam", "kjøttskam" and "oljeskam" are used to discuss the emissions from aviation, meat production and petroleum activities. When searching on the words online, I got 54.000 hits on "flyskam", "kjøttskam" had 14.100 hits while "oljeskam" got 4.210 hits. Climate activists wanted people to take a responsibility to cut their emissions, e.g. flying less, which was met by strong counter reactions from people who do not think that they should be ashamed. Thus, the meat debate is particularly intense between farmers in rural communities and vegans and vegetarians in urban communities. The debate of oil production is particularly between people who believe that Norway should phase out this production and focus more on renewable energy versus those who want Norway to continue to extract oil and gas, which is Norway's most important income source (Trædal, 2019).

# 3. Theoretical Framework

In this chapter, I introduce and explain theories and concepts needed for answering the RQs. I start with introducing theories on human action, which consist of individualist theories and social constructivist theories. The approaches are used to understand how and why individuals act differently across multiple contexts. Then, I describe and explain identity theories with an emphasis on role identity, social identity and person identity, which is important in order to answer RQ3. I also explain values as a relevant concept for understanding the identity concept.

## 3.1 Human Action Theories

Environmental problems are to a large extent related to human behavior and actions, but also how humans tackle and solve problems regarding conflicts and coordination in the use and protection of the environment. The environment refers to the physical space where human activities take place and from, which humans acquire the necessary environmental resources to sustain their lives. Human action is described in individualist and social constructivist theories that is emphasized in this section. The approaches reflect multiple ways of understanding human action and the relationship between institutions and such action (Vatn, 2015).

### 3.1.1 Individualist Theories

A common idea among individualist theories is the focus of the individual as an autonomous decision-maker, however, the field covers many different viewpoints and theories. The most emphasized of the individualist theories is "rational choice theory" that is developed within neoclassical economics and substantial parts of political science. This theory perceives humans as maximizers of individual utility ("I-Rationality"), that seek equilibrium outcomes. To act rationally in the terms of maximizing utility demands that preferences are consistent and rational, which means that individuals are neither socially nor culturally influenced. That is the basis for terming the individual as autonomous (Vatn, 2015). This theory states that the individual can rank options in what offers the highest utility, and thereby choose the best alternative. One of main challenges of this theory is that it demands full information or unlimited capacity to calculate alternatives. Economists acknowledge that it is not possible to have full information, and there is uncertainty of not knowing the outcomes of different actions. Authors like Simon, March and Screpanti developed the theory of bounded rationality. The idea of bounded rationality is that "the decision-maker transforms complex or intractable decision

problems into tractable ones" (Vatn, 2015, page 116). Individuals tend to make shortcuts that might lead to suboptimal decision-making and are habitual creatures that form habits to make it easier to understand the expectations of others and to reduce the amount of information (ibid).

### 3.1.2 Social Constructivist Theories

The main idea among social constructivists is that individuals are an outcome of social processes and not autonomous as defined above. They emphasize that individuals' perceptions, values, and interests are affected by institutions and the broader culture of the society. Perceptions can moreover be recognized as an individual's "perceived truth". It may be based on sensing. However, in cases where own experience is important, we base sensing on socially constructed concepts. Personal experiences may not always be available when judging an issue and we trust information from, for example, various types of media. There is a tendency that people believe more in information that confirms themselves in relation to other group members that share common beliefs, values and interests (Vatn, 2015).

Vatn (2015, page 78) defines institutions as "the conventions, norms and formally sanctioned rules of a society". Institutions can be perceived as social constructs that people learn about from their upbringing and form the individual to learn what is expected or meaningful to do. They are usually formed by larger groups of people and structure human interaction, support specific values and produce and protect certain interests. In order to change human behaviors, this can be facilitated by changing the institutions. Institutions also form human relations and provide stability, expectations and meaning that are essential to human existence and coordination. It means that there are many "rules" about how we should behave in relation to others, such as the way we great each other (ibid).

Theorists like Berger and Luckmann, Hodgson and Scott emphasize the cultural-cognitive basis for human action and interaction, while March and Olsen emphasize the role of norms as socially constructed. Human action is based on identifying the normatively appropriate behavior, and the value of doing the right thing is emphasized. Social constructivist theories emphasize that rationality can take different forms. Vatn (2015) distinguishes between I-rationality (what is best for the individual), "we-rationality" (what is the right or appropriate thing to do for the group), or "they-rationality", which concerns the idea of what is the right thing to do for others, acts that are altruistic. Societies create their own values, institutions and belief structures that people learn and internalize as part of the society where one is raised or

lives. Here, two processes are going on such as the creation of common beliefs, values and institutions, and the members of the society's internalization of these (Vatn, 2015).

### 3.1.3 Concluding Remarks

This section has emphasized two approaches for understanding human action. Individualist theories focus on the individual as an autonomous decision-maker, i.e. in rational choice theory where the individual focuses on I-rationality. Social constructivist theories suggest two additional forms of rationalities, which are "we-rationality" and "they-rationality". However, these rationalities can change across various context where individuals cannot be labeled as either "egoistic" or "altruistic", because human behaviors are not consistent over time but dependent on the context. People might act selfishly in some situations and otherwise in others, which are dependent on what the institutional environment emphasizes (Vatn, 2015).

## 3.2 Identity Theories

An identity is formed by social processes and is a relevant concept for this study to understand human action and why people act and think as they do. The basis of identity theories involves the search for answering the question "Who am I?". They seek to explain the specific meanings that individuals have for the multiple identities they possess, how their identities influence their perspectives, behavior and feelings, and how their identities link people to the society (Burke & Stets, 2009). According to Yin and Etilé (2019), theorists within this field suggest splitting the concept into two categories. The first refers to the "personal self" (or person identity), which is the individual's feeling of uniqueness and involves their life goals, values and emotions, or other attributes that differentiate them from others. The second category involves social aspects of the "self" with a distinction between the "relational self" (role identity) that derives from interpersonal roles and relationships with significant others, i.e. friends or family, and the "collective self" (social identity) that derives from membership of larger social groups or categories. The relational self is associated with the fundamental need of caring and feeling cared of, through stable and strong relationships, while the collective self requires a sense of belonging to a social group, which is defined by objective characteristics (Yin & Etilé, 2019).

### 3.2.1 The Identity Concept

Sociologists and psychologists have investigated the interplay between identity and social interaction for years (Burke & Stets, 2009). The concept is however difficult to conceptualize

because there is no common definition and understood differently in the two fields. The sociologists Berger and Luckmann (1966) categorize identity as an important element of subjective reality, which is a phenomenon that stands in a dialectical relationship between the individual and its society (Oyserman et al., 2012). Identities are created by social processes that are involved in the formation and the maintenance of an identity (Berger & Luckmann, 1966). Moreover, Burke and Stets are influential in the fields of social psychology and sociology who define the concept as "the set of meanings that define who one is when one is an occupant of a particular role in society, a member of a particular group, or claims particular characteristics that identify him or her as a unique person" (Burke & Stets, 2009, page 3). Identities provide a meaning-making lens that create one's own self-concept and influence how people think, what they are motivated to do and how they make sense of themselves and others (Oyserman et al., 2012). Burke and Stets (2009) claim that people possess multiple identities by being members of different groups, occupying several roles in the society and having various personal traits. Moreover, William James (1890) were among the first theorists to write about the idea that individuals have many "selves". Today, theorists talk about identities rather than selves, though the basic components of the concept are the same (Burke & Stets, 2009).

Furthermore, theorists within these fields talk about the salience of an identity, which means the likelihood whether an identity will be activated in a particular situation. Identities that are more salient are more likely to be activated or is trying to verify itself. Identities can be compared and distinguished in terms of their level of commitment or prominence. More than one identity can be activated in a specific situation, hence, the identity with the highest level of prominence will guide the individual's behavior rather than an identity with a lower level of prominence. If one identity is more important than another, then verification of that identity is more important than the other and the other must wait for verification because in individual cannot be all at once. It means the less prominent must wait (Burke & Stets, 2009).

### 3.2.2 Role Identities

In role identity theory, a role identity is explained as the categorization of the self ("who you are") as an occupant of a role, and the incorporation of the meanings and expectations that are associated with the role and its performance (Stets & Burke, 2000). Individuals possess multiple roles in a social structure. They can be a student in one context and a daughter in another, but also a friend, a tennis player, etc. (Stets & Burke, 2014). The general idea in this field is the correlation between the meanings of having a specific role and the behaviors that an individual

enacts in that role. It is characterized by adopting self-meanings and expectations while taking on the role identity, and by comparing the role in relation to other roles in the group. Hence, a set of standards are made to guide their behaviors (Stets & Burke, 2000).

One important element in identity formation in this view is self-categorization. Individuals act as occupants of various roles that creates meanings in terms of expectations of others' and one's own behaviors in a social structure. Having a role identity means that people act in order to fulfill the expectations of the role (Stets & Burke, 2000). According to Berger and Luckmann (1966), individuals are born into an objective social structure with significant others who influence their socialization. These people are the principal agents in the individual's life for the maintenance of their subjective reality, who have their own definitions that are posited for the individual as objective reality. They select aspects of it in accordance with their own location in the social structure. The individual may encounter inconsistency if there is disagreement between these people, which can be solved by modifying own reality or one's reality-maintaining relationships (Berger & Luckmann, 1966).

### 3.2.3 Social Identities

In social identity theory, a social identity is the person's knowledge that he or she belongs to a social group or category (Stets & Burke, 2000). It refers to a group of people who hold a common social identification or perceive themselves as members of the common category. Individuals are characterized by social identities emphasizing the stereotypical similarities shared among the group members, such as "I am an Åling". The social identities may be ascribed from birth (i.e. gender or nationality) or involve groups that one has achieved membership status (Nario-Redmond et al., 2004). This theory deals with intergroup relations that means how people see themselves as members of a group (the "in-group"), in comparison with another, the "out-group". Being in the in-group means being at one with the group, being alike the other members and viewing things from the group's perspective. The core of this view is the uniformity of perceptions and actions among group members (Stets & Burke, 2000).

In social identity formation there are especially two important processes: social comparison and self-categorization. Self-categorization emphasizes the perceived similarities between the self and other in-group members, including the perceived differences between the self and out-group members. It involves attitudes, values and beliefs, norms, styles of speech and other relevant properties that are correlated with in-group categorization. The other process, social

comparison, includes the selective application of the accentuation effect, which means one' s self-esteem is enhanced by evaluating the in-group and the out-group on dimensions that may lead to positive judgments of the in-group while the out-group is judged negatively. The social categories the individuals place themselves are parts of a structured society and exist in comparison to other contrasting categories or groups (Stets & Burke, 2000).

### 3.2.4 Person(al) Identities

Social identity theory define "personal identity" as seeing oneself as a distinct and unique individual (Burke & Stets, 2009) who is different from other in-group members, by saying "I am a unique personality, I am smart, different, an original" (Nario-Redmond et al., 2004). In identity theory, the term "person identity" is used rather than personal identity (that I will continue to use throughout), however, it is understood in similar manner as in social identity theory. Person identity is according to Burke and Stets (2009, page 124), "a set of meanings that define the person as a unique individual rather than as a role-holder or group member".

Person identities is culturally recognized characteristics that are internalized by an individual, which are maintained by the perceptual control process in same way as role and social identities. The verification process leads to an increased feeling of authenticity, which refers to being who one truly is. To be authentic is a feeling that one is being one's true self across situations, time, and relationships (Burke & Stets, 2009). Unlike role identities but like social identities, the person identity is operating across situations and roles. Since person identities refer to important aspects of the individual, they are more likely to be activated across various situations than role identities. They are constantly activated and high in salience. The influence of person identities to role identity and social identity choices suggest that people live in a society with roles and group memberships that are voluntary. Choice is not always available even in an open society because an individual is born into a certain family or must attend a specific school (ibid).

### 3.2.5 Integrating Role, Social and Person Identities

There are multiple bases of identities that operate in similar matters, e.g. the same verification processes, but they can work simultaneously across multiple situations and contexts. Role, social and person(al) identities are distinguished in terms of how the verification process works and how they are tied into the social structure. A role identity is linked to other members of the role set. The verification of an identity comes from what one does, not from who one is. It is a mutual, complementary, and reciprocal process, where a role sustains its counter roles and

thereby itself (Burke & Stets, 2009). Moreover, social identities that are based on membership in a group or category give self-meanings that are shared among other in-group members. An individual verifies the self as a group member who receives approval, acceptance, and recognition from the group. The verification of a person identity refers to an individual as a biosocial being. They are distinguished as unique and identifiable people with valuable traits and characteristics that make one who one is. However, individuals with personal characteristics possess roles within social groups or categories, which are played out in various ways. The role "student" is within the larger category of a school (in-group) that can be compared to another school (out-group). When individuals act the role identity "student", some are hardworking while others are lazy and unfocused. The emphasis is on the personal aspect of the role, where the individual is a unique entity in the way he or she performs that role (ibid).

## 3.3 Values

As indicated, values are an essential part of being able to understand the identity concept. Values can be understood as general goals people strive for and motivating factors that affect a wide range of specific norms, preferences and behaviors. People's core values are often formed during their childhood and become a part of one's identity. They are relatively stable and consistent once formed, and are often used to characterize individuals, groups, and societies, and to explain the motivational bases of people's attitudes and behaviors (Steg, 2016).

### 3.3.1 The Concept of Values

In social sciences, as the disciplines of psychology, sociology and anthropology, the concept of values has played a significant role since its inception. For Max Weber and Émile Durkheim, the concept was important to explain personal and social organization and change (Schwartz, 2012). Moreover, values can be explained as desirable goals that transcend situations and serve as guiding principles in people's lives. Values affect how individuals evaluate different consequences of choices and might influence their preferences, beliefs and choices (Steg, 2016). A simpler way of understanding the concept is reflecting on what you think is important in your life. Individuals possess numerous of values with different degrees of importance, a specific value such as "the feeling of achievement" may be considerably important to one person but not as important to another. According to Schwartz' Theory of Basic Values, there are ten motivational types of value (Schwartz, 2012).

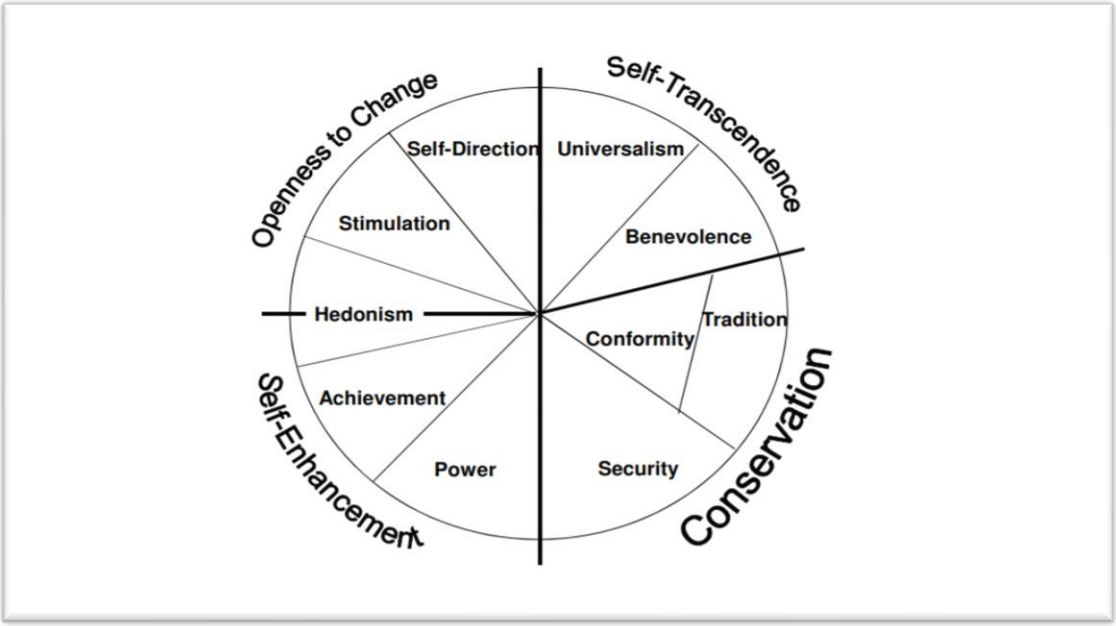


***Figure 1:*** An overview of the Schwartz Theory of Basic Values.
Source: Schwartz (2012)

Schwartz (2012) explains the theory of basic values in two dimensions. The first dimension includes values within "openness to change" which refers to a readiness for new ideas, experiences and actions, and "conservation" that involves aspects such as order, self-restriction and avoiding change. The second dimension is "self-transcendence values" which means transcending own interests for the sake of others, and "self-enhancement values" that refers to the goal of pursuing own interests (Schwartz, 2012). There are two values that are emphasized regarding openness to change, which are *self-direction*, which means a goal for independent thought and action, and *stimulation* that involves the search for challenges in life, excitement, and novelty. Conservation involves three types of values, where the first one is *security*, which is safety, harmony and stability of society, relationships and of yourself. The second is *tradition*, where respect, commitment and acceptance of the customs and ideas that traditional culture or religion provide, are important for a person. *Conformity* is the last value, which is the restraint of any actions and impulses that are likely to upset or harm another and violating social expectations or norms. On the other hand, "self-transcendence" involves two types of values such as *universalism*, which involves the tolerance, understanding, appreciation and protection for the welfare of all human beings and for nature, and *benevolence* that refers to the preservation and enhancement of the welfare of the people you are in frequent personal contact with. Self-enhancement consists of three values, which are *power* (i.e. social status, prestige and control over other people and resources), *achievement*, which involves the goal of personal

success through demonstrating competence according to social standards, and *hedonism* in which means taking pleasure or sensuous gratification for yourself (ibid).

Steg (2016) on the other hand emphasizes four types of values, which could explain environmental behavior. The first value is *hedonic* values that focus on what makes people feel good or ways of reducing effort. The second type is *egoistic* values that focus on how people increase their own resources, such as social status or money. *Altruistic* values are the third type, which focus on ways to benefit other people, while the last is *biospheric* values, which is when people focus on the impacts of their own choices on the environment. The first two values describe personal costs and benefits of choice options and reflect self-enhancement values, as described by Schwartz, while the other two values focus on collective consequences of options and reflect self-transcendence values (Steg, 2016). If people endorse biospheric values, they are more likely to consider environmental consequences while making decisions or before performing an action. Hence, they are more concerned about environmental issues caused by human behavior and to contribute to the environment. Although people act on their biospheric values in many cases, they do not do it consistently. People are less likely to engage in pro-environmental behavior if the action demands high effort, financial costs, or inconvenience. However, people are more likely to act on their biospheric values when these values are activated in the context the choices were made, for example, reminding people of their core values. People are also more likely to act on their biospheric values when the behavior has more benefits than costs and the result can lead to an overall positive evaluation (ibid).

### 3.3.2 Concluding Remarks

I have looked at the concept of values as part of a person's identity, where values can be considered as the things one finds important in your life, such as having a good health or being environmentally friendly. They reflect goals that people strive for and affect human behaviors in numerous ways, such as through specific norms and beliefs. Moreover, Schwartz developed a model for studying people's values emphasizing ten motivational types of value that can be divided into two dimensions i.e. openness to change vs. conservation, and self-transcendence vs. self-enhancement values (Schwartz, 2012). Based on the latter dimension, Steg (2016) developed a categorization with four types of values also including biospheric values.

# 4. Methods

Research methods are techniques for collecting and analyzing data. In social science, methods are closely tied to visions on how social reality should be studied. In this section, I present the research strategy and choices regarding the sampling approach, data collection and analysis.

## 4.1 Research Strategy

The reason why I chose to focus on this research topic is based on my interest in climate change, and the psychological aspects of the topic. There is an ongoing climate debate in the Norwegian society where people's perceptions in urban areas are often more highlighted than people from rural communities. Therefore, found it interesting to look at how rural people perceive and act considering this issue. There is also little research about this topic in a rural context today and can be of interest for others who are engaged in this topic. I also got the opportunity to be a part of a project that was relevant for the research project, where I collaborated with CICERO.

My overall research strategy is conducting a case study. It refers to a design that entails a detailed and intensive analysis of a single case. A "case" refers to a location (e.g. a community), which is the object for an in-depth examination where unique features of the case are highlighted. This is a strength, while it is also commented as a weakness that findings cannot be generalized to other cases or populations (Bryman, 2016). While the main strategy is a single case study, there is also a comparative study involved where I compare rural and urban communities in Norway, in terms of their climate-related attitudes and actions. However, if I had more resources and time to plan and conduct the case study, I would have done a multi-case study (i.e. two or more cases) for comparative purposes between a rural and an urban community in Norway. Then, I could have obtained a better understanding of differences and similarities of rural and urban societies than what is possible from a single case.

My strategy for data production is that of mixed methods. Some researchers find it useful to distinguish between qualitative and quantitative research. Quantitative research emphasizes quantification in the collection and analysis of data, while qualitative research focuses at words and meaning in the data collection and analysis. However, many writers argue that these methods can be combined within a single project, often referred to as mixed methods research. As a strategy for data collection and the analysis, I used mixed methods. I perceive it as the most suitable approach for answering my RQs, which made it possible to produce a more

complete understanding of my field of interest and examine several aspects of it. It could increase the study's credibility and reliability, which means the findings can be seen as reliable and similar results are possible to repeat in another context. Moreover, the phasing of the data collection in mixed methods research can be done simultaneous (i.e. happening at the same time) or sequential (i.e. following a logical order or sequence), which happened in different sequences in my study (Bryman 2016). Creswell and Plano Clark (2011) distinguish mixed methods research in six designs. Four of them are presented by Bryman (2016), which are embedded design, exploratory sequential design, explanatory sequential design, and convergent parallel design. I chose an embedded design, which have quantitative or qualitative research as the priority approach for the data collection and analysis. In this study, qualitative research is the main approach, which draws on a smaller element of quantitative method. I first analyze statistical data from CICERO's survey to answer RQ1. Their project ACT is Norway's first scientifically based survey to track people's attitudinal and behavioral responses to climate change. It is funded by Norwegian Research Council, and the survey's respondents are recruited through Kantar TNS population panel. Annually, it reaches 4000 respondents to investigate their beliefs, attitudes, values, and actions considering climate change (Aasen, Klemetsen, Reed & Vatn, 2019). For answering RQs 2 and 3, I use in-depth interviews for examining people's climate-related perceptions, attitudes and actions. I perceive qualitative research as the best approach for exploring the diversity of perceptions and beliefs on this topic. However, I acknowledge that the sample is not representative for the whole population nor for rural communities in Norway, which may influence the study's validity and the trustworthiness.

## 4.2 The Case

The study site I chose was the municipality of Ål, which is a centrally located mountain village in the heart of Norway (see Figure 2). It is situated midway between Oslo and Bergen along highway 7 and the Bergen railway (Ål Kommune, 2019a), and is surrounded by a high-mountain terrain and beautiful landscape (Ål Hallingdal, 2017). The main reason why I chose this site is based on prior knowledge about the village and a good network. Since I am born and raised in Ål, I know how the culture and society is, which was a big advantage.

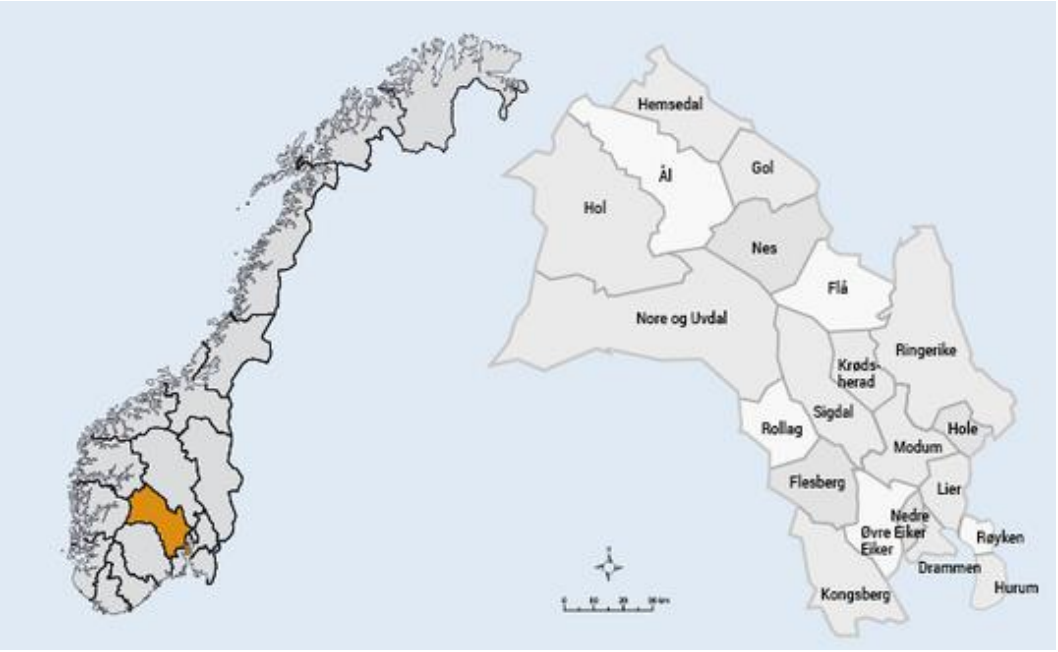


***Figure 2**:* Overview over the municipalities in former Buskerud county [1]
Source: Losnegård (2018)

The village is moreover described among the locals as the cultural municipality of Hallingdal because of its diverse and flourishing cultural life, with excellent performers in dance, folk music and handicrafts. Ål Kulturhus is an example of its status as one of the country's leading cultural municipalities, which newly was expanded and that built Sprang[2] in 2019. This center includes the public library and offers a wide variety of concerts, theatre shows and cinema during the year. Ål has brought up music groups such as Hellbillies, and musicians like Stein Torleif Bjella (Liodden, 2007). At least twelve large events take place there annually, which is the result of the village's volunteering spirit. Norway's oldest musical festival "Den Norske Folkemusikkveka" and two of the world's largest children's ski competitions, Bama Alpine Festival and the Bendit Liatoppen Biathlon Festival, are organized here (Ål Hallingdal, 2017).

According to SSB (2020b), 4677 inhabitants live in Ål. The age distribution is demonstrated in Figure 3. Ål is moreover the biggest municipality, in terms of the population, out of six municipalities in Hallingdal (Ål Kommune, 2019a). The majority live in the urban center of Ål called "Sundre", which is a small trade center that offers different service providers and the most essential shops (Ål Hallingdal, 2017). About one kilometer from the center, a five-star camping site "Hallingdal Feriepark" is situated along the river "Hallingdalselva" and offers a

[1] Became Viken county 01.01.20
[2] The national scene for dance in Norway

wide range of activities for tourists and the locals. Some rural districts in the municipality of Ål are Øvre-Ål, Leveld, Vats, Votndalen, Liagardane and Torpo (Ål Kommune, 2019a).

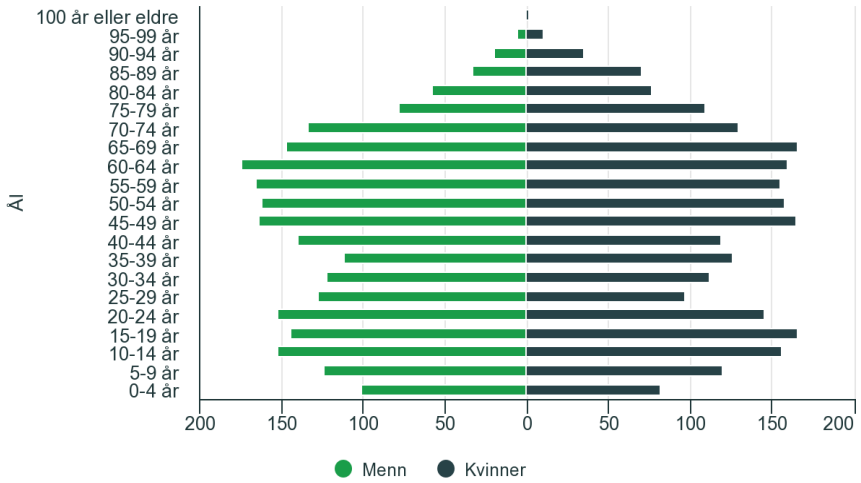


***Figure 3:*** The age distribution of the population per 01.01.19.
Source: SSB (2020b)

In addition, traditional agriculture and forestry are important for the local culture and as a livelihood for many people in Ål. The agriculture is characterized by livestock, e.g. cattle, sheep, and goats (SNL, 2018). In 2019, production grants were paid to 150 farms in Ål (Landbruksdirektoratet, 2019). Ål has the largest agricultural area among the municipalities in Hallingdal (SNL, 2018), and one of the largest populations of domestic animals in Viken county (Ål Kommune, 2019a). According to SSB (2020b), the most important income activities are service sectors such as retailing, hotel and restaurant, or secondary industries (SSB, 2020b). Table 1 offers a summary of the most important professional activities in Ål. Moreover, Ål is a medium-sized producer of hydro-electric power, with an average annual output of 936 gigawatt hours per 2016 (SNL, 2018). Tourists are important for the community, which is a large "cabin municipality" with more than 2 900 holiday cabins for both locals and tourists (SSB, 2020b).

**Table 1:** Overview over the professional activities in Ål. Frequencies to the left and the percentages to the right.
Source: SSB (2020b)

| Agriculture, forestry, and fishing | | Secondary industries | Retailing, trade, hotel, restaurant, transport, real estate, etc. | | | Public Adm., defense, and social insurance | | Teaching | | Health, social services | | Personal service | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 96 | 3,9 | 664 | 27,1 | 736 | 30,0 | 126 | 5,1 | 251 | 10,2 | 490 | 20,0 | 91 | 3,7 | 2454 |

## 4.3 Sampling Approach

In this section, I describe the sampling process in terms of the approaches that I used and my sample, which is a segment of the population that is selected for research (Bryman, 2016).

### 4.3.1 Sampling Criteria

When starting the sampling process, I had three criteria. The first was achieving a gender balance of women and men. The second was reaching thirty people from two age groups: 18-29 years (sample 1) and 45-59 years (sample 2). I focused on these groups because they differ the most in a national context according to CICERO's findings. By concentrating on them, it would be possible to see whether the age as opposed to local identity was a major explanatory factor when exploring how people think and act considering climate change. The last was to select people from the centrum (Sundre) and periphery areas in Ål, which demanded that the informants live there. The result of the sampling process is described in the following sections.

### 4.3.2 Sampling Method

I used a mix of sampling approaches to get in contact with the informants, such as random sampling, convenience sampling and the snowball-method. When planning the study, I discussed with my supervisor different ways of picking the sample. I wanted first to use the phone register or the tax lists over Ål to randomly select people, but I figured out that it was not possible. As a result, I used maps over Ål where I picked out houses. I wrote the street names and the house numbers, and selected 5-10 numbers by random selection, i.e. through an online app that selects numbers randomly. Then, I found the address and the phone number to people in the household online. I wrote a name list that matched the sampling criteria and contacted people by calling or sending a text message, usually the week in advance, where I told them about the project and my purpose. I was met by positive response where most people were welcoming, interested and open. Only a few declined or did not respond when I contacted them.

Moreover, it turned out that this method worked well for the age group 45-59 years but challenging as a way to recruit people between 18-29 years. It was harder to recruit men between 18-29 years from Sundre than women in the same age and location. The reason behind this is difficult to know. Therefore, I had to supplement the above method to be able to recruit enough people in this latter age group. Here, I combined approaches of the snowball-method and convenience sampling. I used my network to figure out who are living in the village of

people in sample 1 and selected the units that were available. The fact that I could not use random sampling for the whole sample may influence the findings' validity.

### 4.3.3 The Final Sample

The final sample consists of fourteen men and sixteen women. I had planned one more interview with a man in sample 1 from Sundre, but it got canceled due to the corona situation. Figure 4 demonstrates the gender distribution in the age groups, where I conducted fifteen interviews with people from each group. It means that people's perceptions and attitudes are well represented among the age groups, which is a strength of the study.

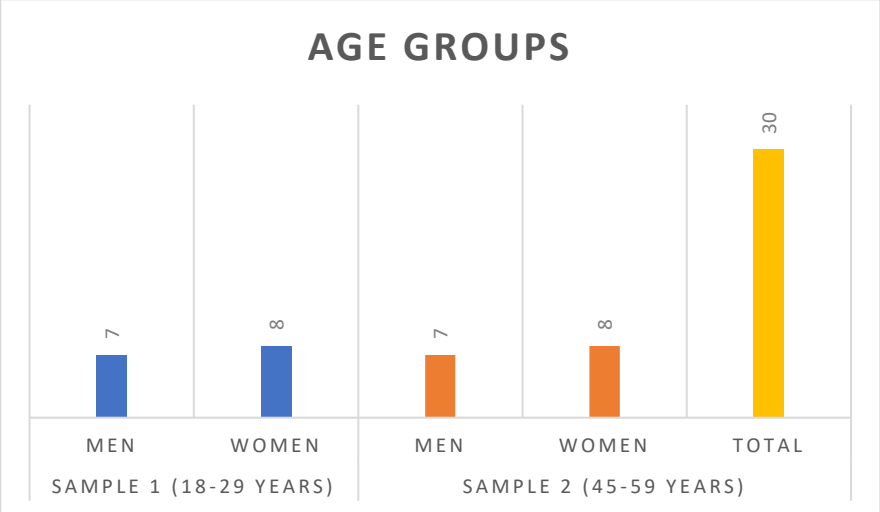


***Figure 4**:* Overview over the sample. In frequency per category.

Fifteen of the informants (6 men and 9 women) live in Sundre, and fifteen (8 men and 7 women) live in periphery areas, such as Liagardane, Øvre Ål, Votndalen and Torpo. Figure 5 illustrates the location of these areas. The majority are either born or raised in Ål, while six have moved from another place in Norway. In addition, a detailed description over the sample can be found in Appendix III. It shows an overview of the sample both collectively and individually. In the individual presentations, you can find their gender, age, occupation, education, etc.

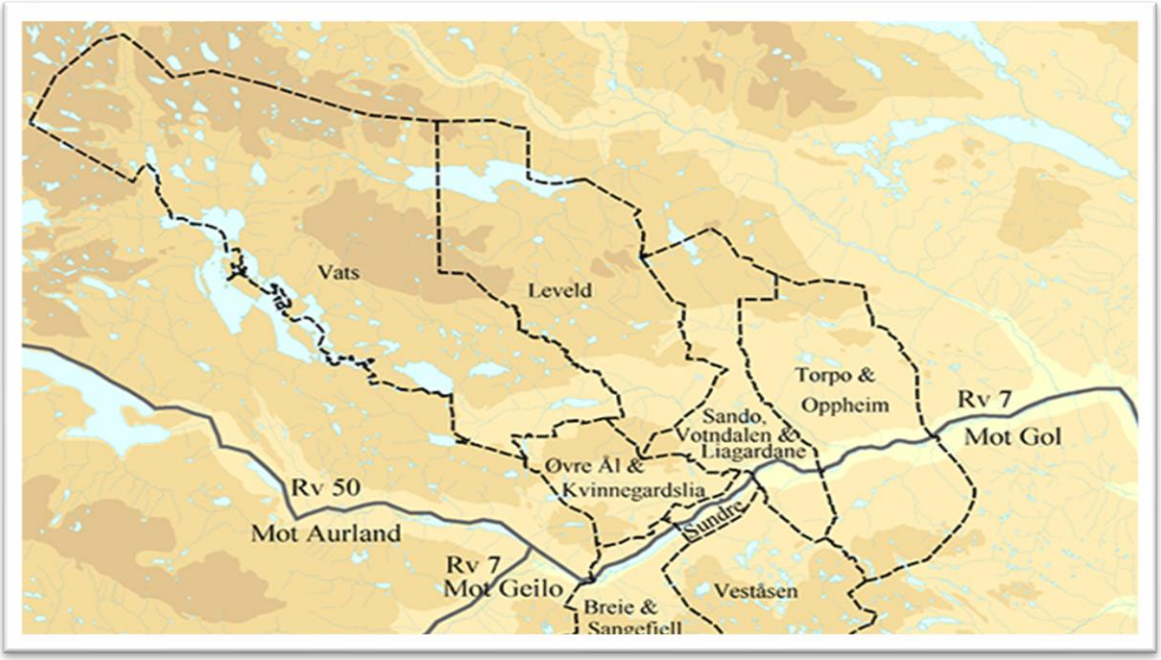


***Figure 5***: The municipality of Ål.
Source: Ål Kommune (2019b).

## 4.4 Data Collection

The fieldwork lasted for four weeks in February and March 2020, where I used semi-structured interviews for data collection. Interviews were the most suitable method to obtain a better understanding of how rural people think and why they think and act as they do. Moreover, I created an interview guide with different questions regarding my topic that I followed, but I also had the flexibility to ask follow-up questions, see Appendix I. This way of interviewing is essential since it lets the informants steer the conversation and emphasize subjects that they have knowledge about or want to elaborate more about (Bryman, 2016).

### 4.4.1 Interviews

Thirty interviews were conducted with an average duration of 45-60 minutes. A few were around 30 minutes, some were about 80 minutes, and the longest interview was 140 minutes. I held the interviews at the informants' house or workplace, but some also took place at the library or at my house. These places were selected to create a comfortable and safe environment for the informants. The majority seem to be comfortable in the interviewing situation, but some thought that the questions were hard to answer while others had not reflected much about the topic. Moreover, the interview guide included open and closed questions, either to examine a

subject more specifically (e.g. their transport mode to work/school) or more openly, such as "what do you perceive as most important in your life?".

Interviewing raises some ethical questions such as keeping the data confidential or asking the informants for their consent (Bryman, 2016). I got the project approved by NSD before conducting the project, see the letter in Appendix VI. Moreover, I did measures to address ethical considerations, where I started every interview by asking the informants to read through a document regarding the project and their rights (see Appendix V). I informed them about third-party information, where the informants could not say anything that could identify a third-party (i.e., the name). After reading the document, I asked them to sign a declaration of consent and if they agreed with the terms. One of the terms was related to whether I could use audio recording of the interview. All informants, except two, agreed on this term. For the other two interviews, I took notes where I wrote the most essential information. Since you must write and ask the questions at the same time, there is a risk that important points get lost or that you misunderstand something that the informant said. This is a weakness of note taking. However, the majority were audio recorded. The strength of using audio recorder is that you have the opportunity to hear through everything someone said, where important details and information will not be missed. The weakness of this method is that it demands much effort and time. I elaborate more on the transcribing process in Chapter 4.5.2.

### 4.4.2 A Form on Values

At the beginning of every interview, a form with thirteen statements (see Appendix II) was handed out. The informants were asked to rate themselves from the categories "very alike me" to "not like me at all". The statements were retrieved from CICERO's survey, where I did some smaller adjustments to the formulations. I went out of the room after delivering the form, except a few times in the beginning of the interviewing process, since I did not want to influence the informants' answers, which worked out well. I asked them how it was answering the statements after they finished the form, where the majority said it was "easy" or "alright". Some thought it was difficult to answer since the statements can be understood in multiple ways. Some of the feedback I got was, according to informant 23, to re-formulate the statement with being exposed for risk and living in a safe environment, which should have been separated into two statements. Informant 3 highlighted, "*It is possible to answer different on many of these questions because it is how you think about it, and there are some of them are not so easy to answer, especially the one that says everyone should be treated equally and have the same possibilities".*

## 4.5 Data Analysis

Data analysis refers to the process of data reduction, which is concerned about the most essential findings in a large amount of information that have been collected through quantitative and qualitative methods. Unless the amount of the data is reduced, which means that quantitative data is made into contingency tables, or the qualitative data is transcribed into textual material, it is more or less impossible to interpret the material (Bryman, 2016). In this section, I describe the data analysis of the primary data from CICERO's survey and my collected data.

### 4.5.1 Statistical Analysis

I used a data set that I got from CICERO in order to compare rural and urban communities in Norway. I analyzed data from their newest survey (2019), where the respondents were asked about their activities from the previous year (2018). The document I received included six zones that were ranked from the most urban area (zone 1) to the most rural area (zone 6). For this study, I chose zone 1 (N=1764) and zone 4 (N=1252) where zone 1 consists of eight municipalities, which are Oslo, Asker, Bærum, Drammen, Lørenskog, Moss, Rælingen and Skedsmo. Moreover, zone 4 is one of the rural area categories (including Ål) and consists of 103 municipalities. Examples besides Ål are Gol, Nesbyen, Nord-Aurdal, Nord-Fron, Alta, Nordre/Søndre-Land, Elverum, Sogndal, Svelvik, Steinkjer, Voss and Østre/Vestre-Toten.

Furthermore, I picked out the most relevant survey questions for this study in order to reduce the material, such as the respondents' perceptions and attitudes on climate change, or activities like transportation, holiday trips and food patterns. After picking out the questions, I made contingency tables that included the observed values for both zone 1 and 4 to a specific statement or question. After that, I conducted chi-square tests in Microsoft Excel in order to calculate the data's p-value. These are tests of statistical significance, where the p-value is defined as the probability of the data being by random chance. I chose p-value 0,05 as the significance criterion. If the value is below 0,05 the null hypothesis (HO) that claim that there is no difference between the zones can be rejected. Then, we can accept the alternative hypothesis (Ha) that states that there is a difference between the zones (Bryman, 2016). The formula that is used for calculating the chi-square value is as follows:

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

"O" in the formula stands for the observed (actual) value, and "E" stands for the expected value.

I also made several charts and figures in Excel related to the questions I found most relevant to answer RQ 1. They were made to receive a better understanding of the findings and to see the differences between the zones clearer, which are best illustrated in a visual form.

### 4.5.2 Transcript-based Analysis

In the transcribing process, audio recording of an interview was transformed into written text. This process involved listening to the recordings and creating condensed transcripts of the informants' replies, which usually took three to six hours to transcribe. However, I did this process perhaps too detailed and ineffective, where I wrote almost everything the informants said. Furthermore, the interviews were transcribed separately into a common file, which involves a file of almost 500 pages. This is impossible to analyze if the amount of data is not reduced, where I used a transcript-based analysis. By using thematic analysis, a form of transcript-based analysis, the raw data was organized into key themes, e.g. climate-related actions, and sub-categories of the topics, such as questions regarding transportation. Thematic codes were categorized with single quotes or larger conversation extracts. I made color codes based on the informants that are in sample 1 and 2. I found it helpful to put the data into different tables, which made it easier for me to analyze the data. Furthermore, I read the transcripts line by line to get a good overview of the data, where I picked out the findings that I found most relevant and interesting for answering the RQs. Since I held the interviews in Norwegian, translating the data from Norwegian to English was challenging at times, such as finding the correct words that reflect the informants' true meanings. Sometimes, they used complicated terminology, or I could not find similar words in English. I may have some errors in the translations where I could have understood the informant's answers in another way than they meant. Regarding the quotes that are used in the analysis, these are directly translated where I have some places deleted some information, for example, if it was not relevant in the context.

## 4.6 Limitations

There are a few limitations that need to be taken into consideration. First, the sample is small and from only one community. Therefore, it is not representative for rural communities in Norway. The study can contribute to a better understanding on how individuals in a rural community think and act regarding climate change, but conclusions to the whole population cannot be drawn. Secondly, research should be value-free, but it cannot be completely since

values may intrude throughout the research process. Since I am from Ål, this may influence the validity of the study. Ål is a small community where everybody knows each other, therefore, my relation to the informants can be a weakness and a strength. However, my experience is that it was mostly a strength because it made it easier to conduct the study and getting in contact with people. I talked with several of the informants who said that they would not have agreed to the interview if it was not somebody that they are familiar to. Thus, I felt that they were comfortable being interviewed and open and honest in their answers. Thirdly, I discussed with my supervisor to have two (the ones I have now) or four age groups (from 18 to 60 +). We found out that it would be more interesting to look at the two groups that differ the most in a national context. This choice made it a bit challenging to find enough people between 18-29 years, since many moves to urban communities after they finish high school. As a result, I could not use random sampling of the whole sample, which may affect the trustworthiness of the study. Finally, I have re-formulated the RQs several times to make them clearer and more specific. Regarding RQ3, I recognize that the identity concept is hard to conceptualize and measure. It is a weakness with this RQ, for example with measurement validity, because how can we really measure identity? The concept is analyzed through different theorists' definitions and my reflections on the concept, and is measured e.g. through the form, how the informants respond to the questions and how they act considering various climate-related actions. As measurement validity is related to reliability, this may affect the validity of the findings.

# 5. Analysis

In this chapter, I first present the results from the statistical analysis of the ACT-data. Here, I compare the results from the most urban area in Norway (zone 1) with data from zone 4 (including Ål). Secondly, I present and describe the findings from my fieldwork in Ål with an emphasis on the informants' own reflections and perceptions of the issue. I will examine the topic in-depth and look more closely at how they perceive and act considering climate change.

## 5.1 Climate-related Attitudes and Actions

As emphasized, the results from CICERO's survey will be used to answer RQ1: "What are the major differences between rural and urban communities in Norway, in terms of climate-related attitudes and actions?". In several of the cases, the respondents are asked to respond to a statement. Response categories span from "does not match at all" to "match very well". CICERO has avoided to ask whether the respondents agree or disagree with the statements but have asked if the statements match (very/quite well) or not match (does not match at all/does not match) with people's opinions. Furthermore, I have picked out the most relevant survey questions for this study - see Appendix IV for the full sets of tests conducted.

### 5.1.1 Climate-related Attitudes

In this section, I analyze the respondents' beliefs, values and perceptions regarding climate change by comparing the results for zone 1 and 4.

#### 5.1.1.1 Perceptions on Climate Change

The tendency is that the majority in both zones believe that climate change is happening and that it is man-made. However, there is more skepticism among the respondents in zone 4 that the changes are anthropogenically driven. The differences between the zones are statistically significant according to the p-value demonstrated under the figures.

Figure 6 demonstrates that there is consensus among the respondents that climate change is happening. Only a small percentage answered the categories "does not match at all" or "does not match" to the statement. However, a larger proportion in zone 1 answered the category "matches very well" with 56 % of the responses compared to 38 % in zone 4.

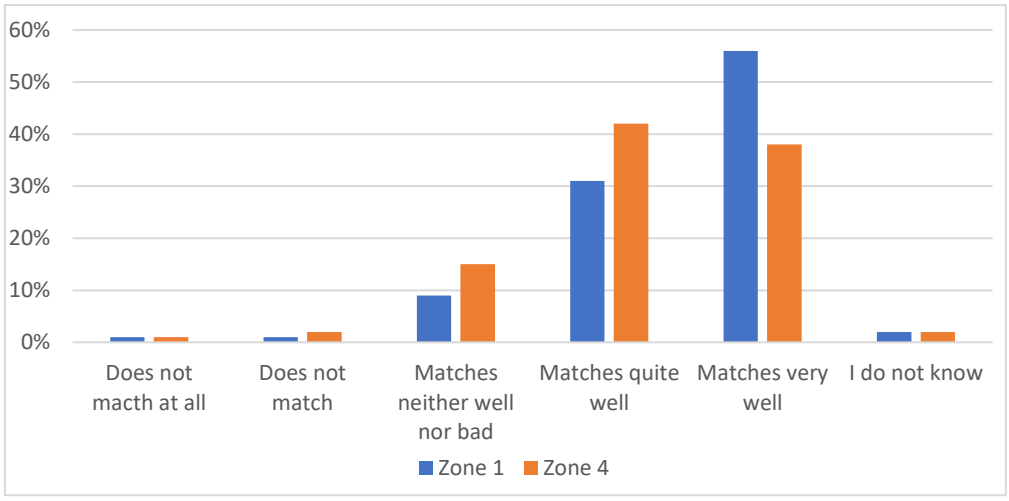


***Figure 6:*** Responses to the statement "*Climate change is happening*". In percentage per category. Chi-value: 11 785. P-value: 2,23444$^{e-10}$

The respondents were asked to respond to the statement "Human activity does not affect the climate". The majority believe in anthropogenic climate change, with 78 % in zone 1 and 64 % in zone 4 answering the categories "does not match at all" or "does not match". Only 9 % in zone 1 and 14 % in sone 4 replied that it matches "quite well" or "very well". Still, the data shows that more people in zone 4 do not believe it is man-made. The differences are significant with a p-value of 8,3172$^{e-12}$ – see full overview of responses in Table 2 in Appendix IV.

The respondents in zone 1 are a bit more worried about climate change compared to those in zone 4. As documented in Figure 7, 46 % in zone 1 replied that they are quite or very worried. Still, the category with the most responses for both zones was "a little worried". In zone 4, 22 % answered that they are "not worried at all" compared to 12 % in zone 1.

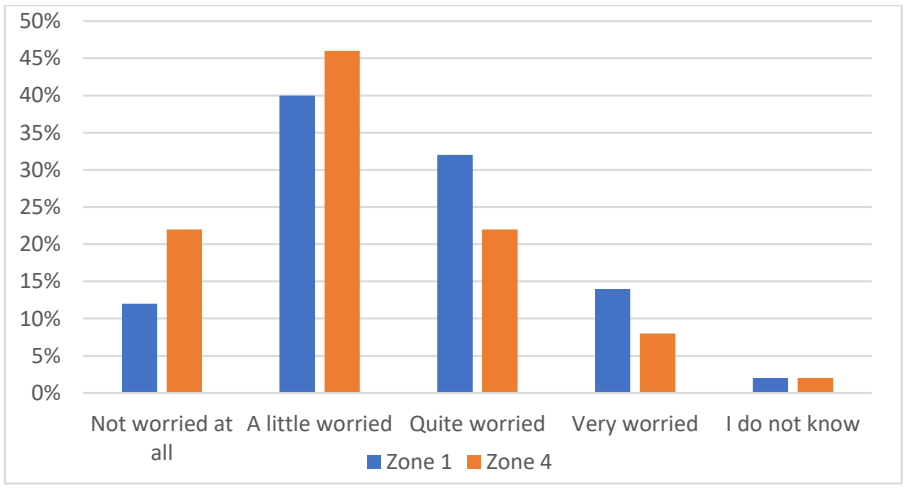


***Figure 7:*** Responses to the question "*To what extent do you worry about climate change*?" In percentage per category. Chi-value: 6 224. P-value: 3,92891$^{e-11}$

#### 5.1.1.2 Feeling of Responsibility

A large majority in both zones feel a personal responsibility to cut their GHG-emissions. However, the same tendency as above occurs here: respondents in zone 1 have a stronger feeling of responsibility to reduce their emissions than in zone 4. The differences between the zones are statistically significant, see Figure 8.

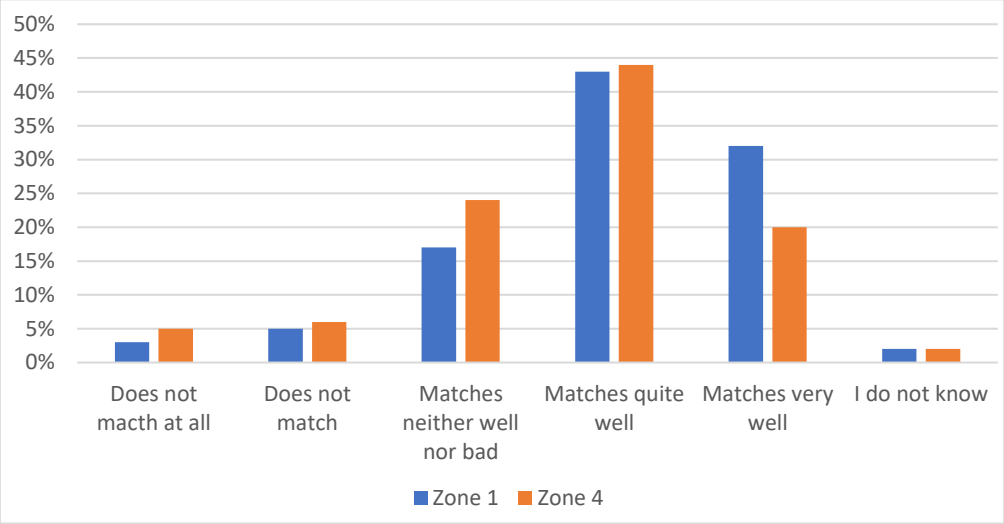


***Figure 8:*** Responses to the statement "*I have a responsibility to reduce my GHG-emissions*". In percentage per category. Chi-value: 3 925. P-value: $6{,}4637^{e-7}$

In both zones, the majority answered that the statement matches their perceptions quite well, see Figure 8. However, there is a larger proportion in zone 1 (32 %) who answered the category "matches very well" compared with 20 % in zone 4.

The respondents were also asked to reflect on who they think has a responsibility to reduce emissions: Norwegians, politicians or other countries. The results are presented in Appendix IV. For all these statements, the distribution of responses is significantly different between the zones. A tendency is that the majority believe that reducing greenhouse gases is a responsibility of politicians, with 78 % in zone 1 and 67 % in zone 4 answering the categories "matches very well" or "matches quite well". Whether it is a responsibility for all Norwegians, there were 75 % in zone 1 and 58 % in zone 4 answering that the statement matches "quite well" or "very well". However, not many of the respondents believe it is a responsibility of other countries, with only 19 % in zone 1 and 21 % in zone 4 answering the same categories as above.

### 5.1.2 Climate-related Actions

I focus on what the respondents in the zones do regarding three fields of actions, which are transportation, holiday trips by airplane and food patterns.

#### 5.1.2.1 Transportation

The data show that people in zone 4 are more dependent on a car, while people in zone 1 use public transportation more frequently. The majority in both zones have a "fossil car" (i.e. a car that uses gasoline or diesel). However, people in zone 4 have more cars than those in zone 1, and more people in zone 1 have a hybrid or an electric car.

Looking more specifically into this, Figure 9 demonstrates the number of cars that are owned by the household in both zones. In zone 1, there are 33 % who do not have a car compared to 7 % in zone 4. The category with the most responses was one car per household. In addition, there are more people in zone 4 who own either two or three cars than in zone 1.

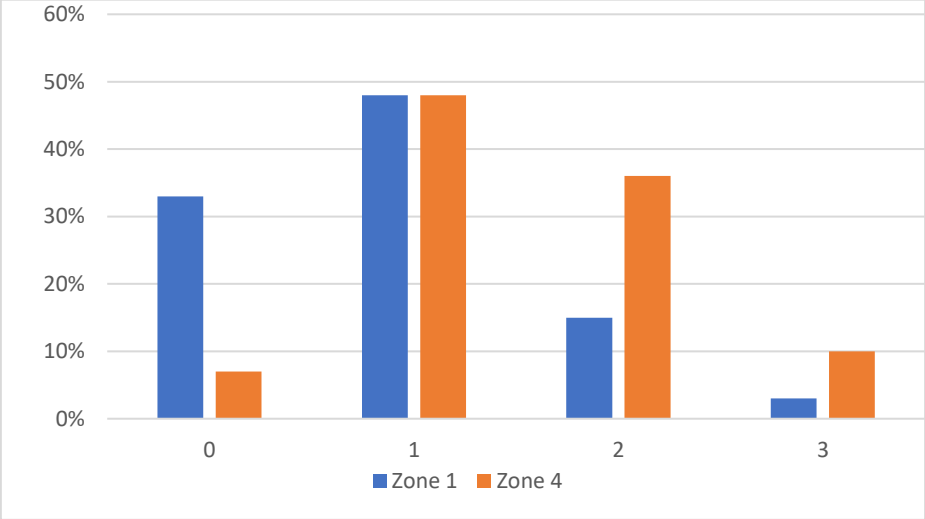


***Figure 9:*** Responses to the question "*How many cars are owned by the household*?" In percentage per category. Chi-value: 205. P-value: $2{,}81824^{e-44}$

When the respondents were asked about which type of fuel their primary car uses, the majority in both zones answered that they have a fossil car (see Table 16 in Appendix IV). This category accounted for 76 % in zone 1 and 88 % in zone 4. However, there are more people in zone 1 have an electric car or a hybrid car than in zone 4. Besides, it is more normal having a hybrid car (14 % in zone 1 and 8 % in zone 4) than an electric car (10 % for zone 1 and 4 % for zone 4). The differences between the zones are significant with a p-value of $1.1855^{e-6}$

Figure 10 demonstrates that more people in zone 1 think it is important that their travel mode generates low emissions than in zone 4. The respondents who answered the categories “quite important” or “very important” were 56 % for zone 1 compared to 35 % in zone 4. A small proportion replied the category “unimportant”, with 8 % in zone 1 and 14 % in zone 4.

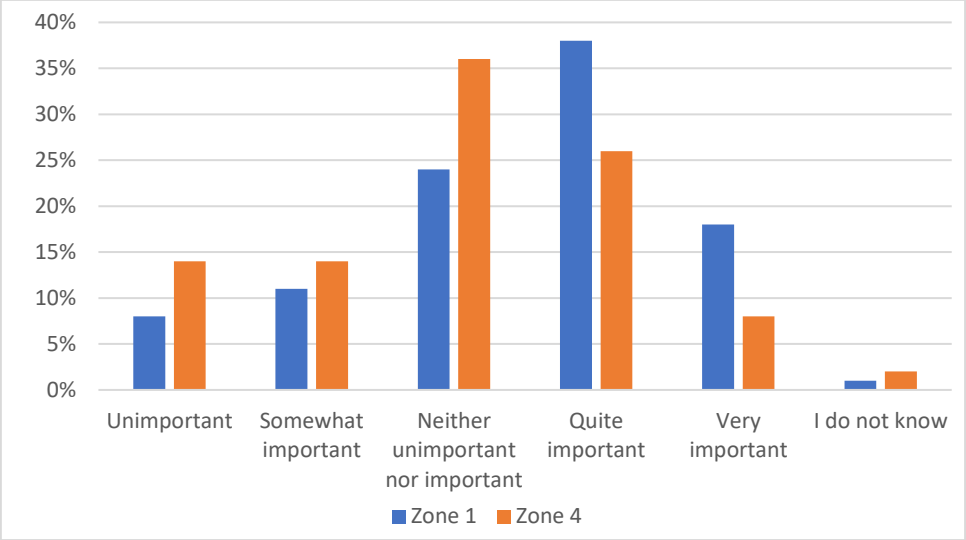


***Figure 10:*** Responses to the question “*How important is it to you that your journey to your work or study site generates low GHG-emissions*?” In percentage per category. Chi-value: 3 672. P-value: 3,31846$^{e-10}$

The respondents were asked about what they believe that people around them do regarding transportation. One tendency among the respondents is that people in zone 4 use fossil cars more, while those in zone 1 use public transportation more. The results are presented in Figure 11 and 12. The differences between the zones are significant – see the p-value under the figures.

Figure 11 shows that the majority in zone 4 believe that most people they know travel with fossil cars, which accounted for 77 % who think the statement matches “quite well” or “very well”, compared to 30 % in zone 1. Besides, the respondents’ answers in zone 1 are more evenly distributed among the four categories to the left in the figure. The largest difference is the respondents who replied the category “matches very well”, with 38 % in zone 4 and only 8 % in zone 1. By contrast, 41 % in zone 1 answered the categories “does not match at all” or “does not match” compared to 8 % in zone 4.

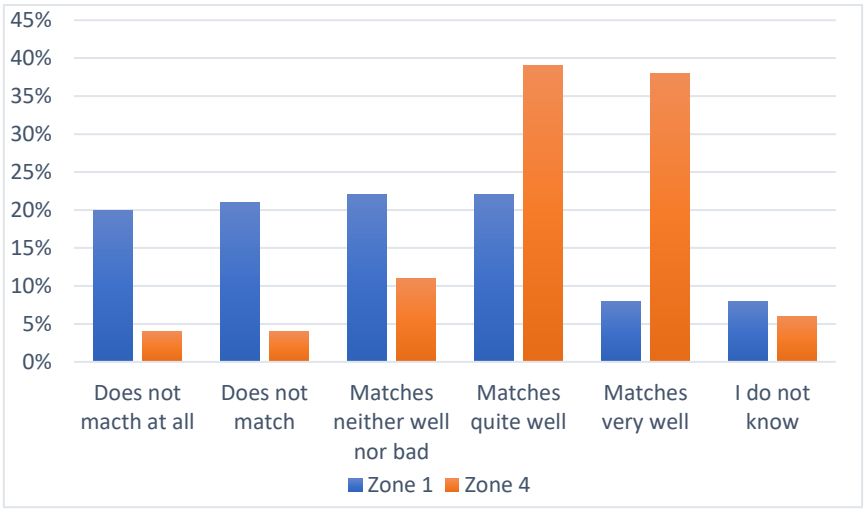


***Figure 11:*** Responses to the statement "*Most people I know travel with fossil car*". In percentage per category. Chi-value: 19 858. P-value: $7{,}83331^{e-52}$

The same statement was used about electric cars. Here, the differences between the zones are lower. The majority answered the categories "does not match at all" or "does not match", which accounted for 57 % in zone 1 and 79 % in zone 4. Only a few of them (3 % in zone 4 and 10 % in zone 1) believe that most people they know travel with electric cars.

Figure 12 illustrates that the majority in zone 4 do not think that most people they know use public transportation. By contrast, only 9 % in zone 1 claim that the statement does not match at all, where most of them answered that it matches quite well or very well. Note, the p-value under the figure shows the most statistically significant difference between the zones so far.

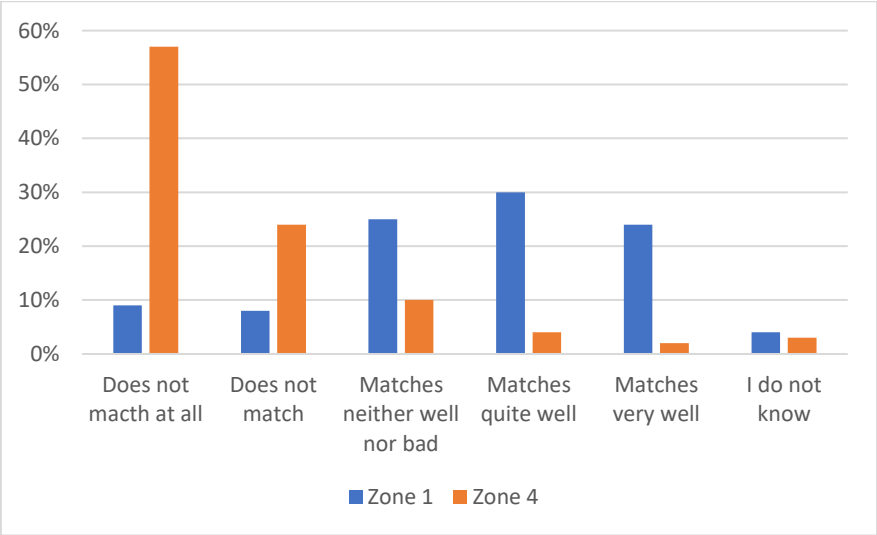


***Figure 12:*** Responses to the statement "*Most people I know travel with public transportation*". In percentage per category. Chi-value: 43 307. P-value: $2{,}97857^{e-91}$

The findings above indicate that people in zone 1 use public transportation more frequently than in zone 4. This is correlated to the amount of departures per hour from the most relevant transport mode in the two zones. As seen in Figure 13, public transportation is more available in zone 1. The category with the most responses in zone 1 was 6 or more times per hour, which was the one with least responses for zone 4. On the other hand, the most answered category for zone 4 was "rarer" with 24 % of the responses, which got less than 1 % in zone 1.

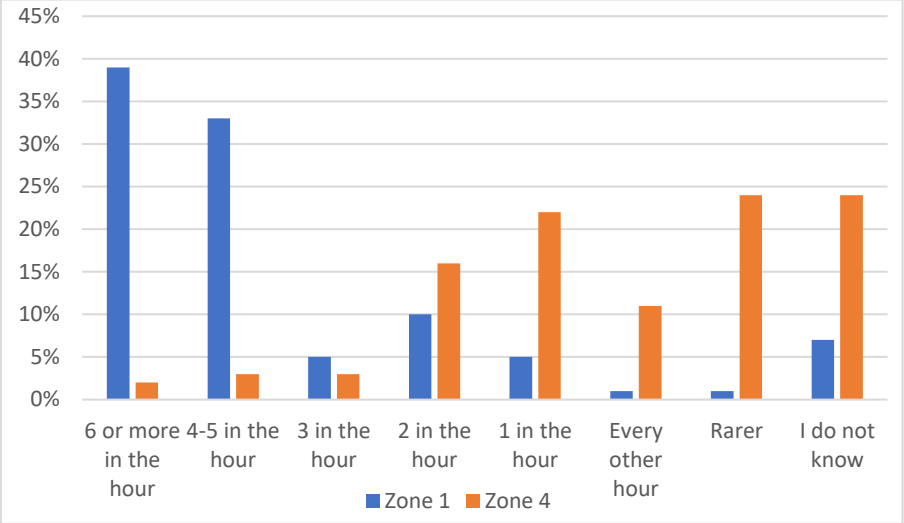


**Figure 13:** Responses to the question "*How many departures per hour is it for the most relevant public transport mode to your workplace or school?".* In percentage per category. Chi-value: 20 828. P-value: 1,91418$^{e-88}$

### 5.1.2.2. Holiday Trips

The data shows that people in zone 4 travel a little less than people in zone 1, where the latter also travelled more to destinations outside of Europe.

Regarding holiday trips by plane, the respondents had to respond to how many trips to Europe (except Scandinavia) they took in 2018. The results are demonstrated in Figure 14. A large majority replied 1-3 trips with 73 % in zone 1 and 85 % in zone 4. The second most answered category for both zones was 4-6 trips, with 17 % of the responses in zone 1 and 9 % in zone 4.

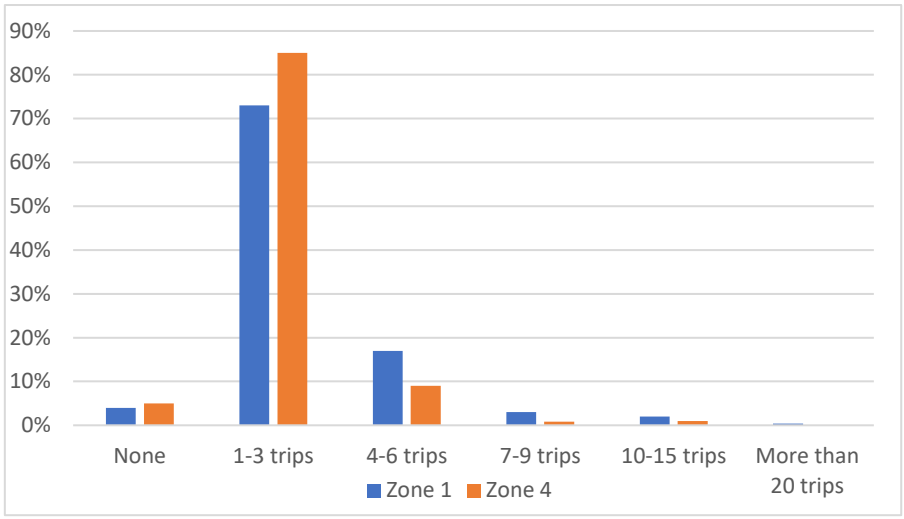


***Figure 14***: Responses to the question "*Approximately how many holiday trips (round-tour) to Europe (outside of Scandinavia) did you do with airplane (2018)*?". In percentage per category. Chi-value: 473. P-value: 0,00300306.

The respondents – only 285 responded to this question - were asked about how many holiday trips with airplane to destinations outside of Europe they took in 2018. The category with the most responses were one trip, with 51 % in zone 1 and 61 % in zone 4. There are some differences between those who replied: 3 trips (11 % in zone 1 and 6 % in zone 4), 4 trips (6 % in zone 1 and 3 % in zone 4), and 6 or more (7 % in zone 1 and 3 % in zone 4). The differences between the zones are significant with a p-value of $3{,}48653^{e-73}$ – see Table 29 in Appendix IV

#### 5.1.2.3 Food Patterns

The last area to highlight is related to the respondents' food patterns, more specifically their preferences regarding red meat (i.e. cattle or sheep/lamb) and whether they think their social circle appreciate being served vegetarian food. The data shows that people in zone 4 eat red meat more than in zone 1. The latter is more positive to vegetarian food and increased meat prices. The differences between the zones are significant – see the p-value under the figures.

Figure 15 demonstrates how many dinners with red meat the respondents had per week, which shoes that people in zone 4 have more dinners with such meat during a week than in zone 1. Still, the category with most responses was less than once a week, with 26 % in zone 4 and 32 % in zone 1. However, more people do not eat meat in zone 1 (7 %) compared to zone 4 (3 %).

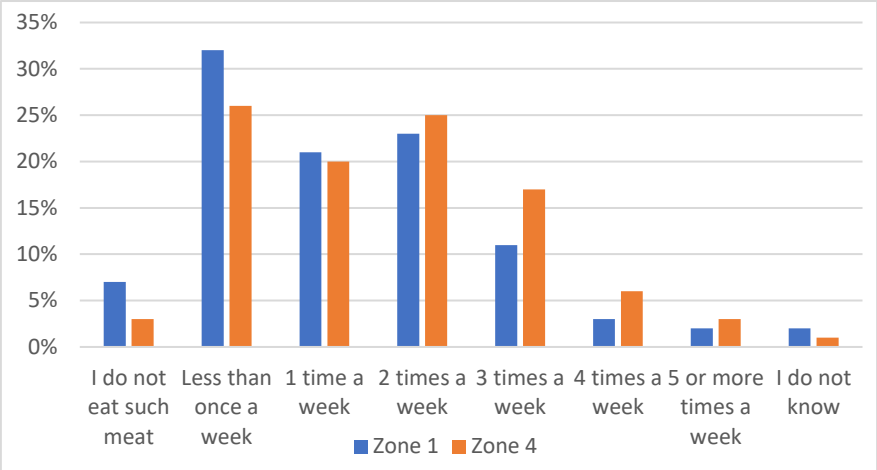


***Figure 15:*** Responses to the question "*How often do you eat dinners with meat from cattle or sheep/lamb*?". In percentage per category. Chi-value: 907. P-value: 2,53505$^{e-5}$

The respondents were asked to reflect on the statement "Meat prices should be increased…", see Table 31 in Appendix IV. The data shows that people in zone 1 are more positive to increased meat prices, with 38 % in zone 1 answering "very well" or "quite well" compared to 19 % in zone 4. By contrast, 18 % in zone 1 and 38 % in zone 4 replied "does not match at all". The differences between the zones are statistically significant with a p-value of 2,71795$^{e-10}$.

Figure 16 demonstrates that a great proportion in zone 4 do not think that their family and friends appreciate being served vegetarian food. It also shows that people in zone 1 are more positive to this statement, where 24 % in zone 1 replied that it matches "very well" or "quite well" compared to 8 % in zone 4. However, a large proportion in both zones are skeptical to this statement, where most of them have replied one of the three categories to the left.

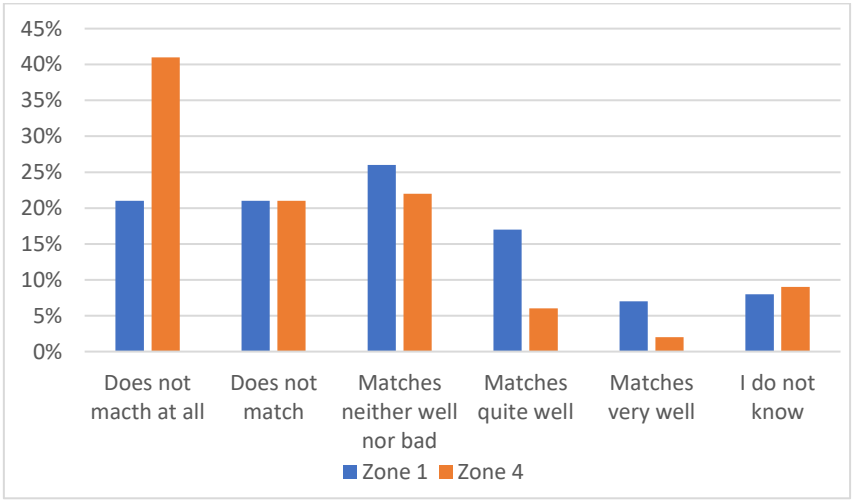


***Figure 16:*** Responses to the statement" *Family and friends appreciate being served vegetarian food*". In percentage per category. Chi-value: 3 192. P-value: 4,01273$^{e-11}$

## 5.2 Climate-related Perceptions and Attitudes

I will now change the focus from the ACT-data for the whole country and look more specifically at my case. Here, I include an age group perspective where I divide into two sub-samples (sample 1 and 2). According to CICERO's findings, people between 18-29 years perceive climate change to a larger extent as man-made, are more worried about climate change and are more willing to make behavioral changes to reduce emissions compared to people from 45 years or more (Aasen, Klemetsen, Ursin Reed & Vatn, 2019). I kept this information in mind and wanted to see whether similar tendencies were found in Ål. In this section, I aim to answer RQ2: "How do the locals in Ål municipality perceive and act regarding climate change?".

### 5.2.1 Perceptions on Climate Change

This section explores topics such as the informants' perceptions on climate change, whether it is talked about in the social circle (i.e. friends, family, colleagues), their feeling of responsibility to reduce their emissions and attitudes towards policy measures to reduce emissions.

#### 5.2.1.1 Reflections on the Concept of Climate Change

Climate change is described among the informants as a term that is negatively charged with negative associations like global warming, the ocean that rises, extreme weather events such as heavy rainfall, more frequent droughts and storms, emissions, natural disasters and pollution. Sustainable development was a concept that was mentioned multiple times, where several are worried about future generations. Informant 15 emphasized, "*Right now we are experiencing the biggest climate change ever, and on a global scale it has not started to go down yet, that stresses me a bit*". Informant 10 and 26 also think it is a scary development of what is happening in the nature, as well as in human societies. Informant 26 said, "*I think it is scary to think about a process that we have lost control over and these irreversible changes. It is a lot of division in the society, globally and at all levels. Everything from people that argue about who is responsible, who has the resources, who has the most emissions, to more internal conditions, such as between urban and rural areas*". Furthermore, the topic is an issue that has created a lot of engagement in Norway, with a climate debate that include many engaged and angry people in opposite fronts. This is described by informant 19, "*The first I think about is many angry people. It is a polarized debate, where people who are in the middle and often has something reasonable to say do not get a say because it is either that the 'world is going under' or those who do not believe in climate change*." Several of them also mentioned the news stories

and narratives about climate change in the media. Propaganda is a word that was brought up several times, especially among sample 1. Informant 20 highlighted, "*All the propaganda that is blown out daily, I cannot bear to read it all since I do not understand what to do. I miss concrete and reasonable information that include both sides of the case. It is a reason why many are skeptical too even if I believe it is man-made and try to live out from that belief".*

Moreover, I asked the informants if they have noticed any changes in the climate in Ål compared to when they were kids. Half of them consider it as a hard question to answer but several think that there have been some changes. Nine think it has changed and seven do not notice any difference. There are no major differences between the age groups. Furthermore, the weather has always been up and down, but a large proportion think it has become more unstable, unpredictable and extreme. Informant 19 emphasized, "*I think there is more extreme weather now than 15-20 years ago, more wind and heavy rainfall. This year, it has been a really bad winter, some days with cold weather, then three days with rain and a lot of ice, and little snow".* Informant 13 thinks that there have been major changes in the weather in recent years, where they have to bring much more clothes now when they are going in the mountains than earlier. She explained, "*If you are not so much outside, you may think that it was hard to get to work, or just bad weather. But there is something completely different now than it was before".*

The majority perceive the changes as most notable in the winter, e.g. how early the snow comes, how long it stays and how cold it is. Informant 7 moved to Ål when she was eight years old, and explained, "*When I came here the first years, it was a lot of snow and very cold. It was not under 20 minus, and now it was raining in January and it has not been more than 15 minus the whole winter, almost only plus degrees. When I see out the window, I see that there is a big difference from when I came here and until now".* Many commented the weird winter this year, with almost only rain in January and almost no snow in February and March, which are normally the months with most snow. The seasons are stranger than before, which is explained by informant 16 who operate an ecological farm. He said that there have been summers that have been so wet that they could hardly get their crops and summers that were almost too dry. Still, the majority do not think the summer has changed much but some mentioned the dry summer two years ago. Informant 26 is originally from Oslo, but her family has a cabin in Hallingdal. She said, "*The summer some years ago, it was drought, and when you went in the mountains, all the water was dried out, it was absurd. I have never experienced that before".*

In addition, several of the informants claim that it is too short time to say anything about long lasting changes in the climate. Informant 9 emphasized, "*I am only 50 years and not able to see the big lines, because 50 years is not a long line in the climate context. Suddenly you have three or four winters that are completely natural and nice, if you look out the window now it is snow, it has been mild and a lot of wind. If you go into the mountains there are many winters there has been so much snow, it is very difficult to measure from year to year. If you have to look at long lines in the climate context, then you have to look at 100 years, and not 10 years".*

#### 5.2.1.2 Anthropogenically Driven Changes or Natural Variability?

> ***"MY FIRST THOUGH IS THAT IT IS REAL AND THAT WE HUMANS HAVE A BIG PART IN IT HAPPENING"***
> ***(INFORMANT 9, SAMPLE 2)***

Among the informants, seventeen believe that current trends in the climate is anthropogenically driven, while two think it is caused by natural variability. There are also ten believe who believe it is a mix of both, and one is unsure. There are no age differences between the informants who said it is man-made or a mix. What is interesting is that those who said that climate change is not man-made, all belong to the age group 18-29 years. One of them is informant 5 who said, "*Personally I do not think so. I think that the Earth has its own processes, but I do not think that we humans can destroy Earth. Much more is necessary*". Informant 23 in sample 2 is unsure whether climate change is man-made. He answered, "*I do not know what to say about it, I know too little nor can I understand that anyone can sit on knowledge that can say what is man-made and what are natural fluctuations*". Last year, he read an article by Ole Humlum who claim that the IPCC has manipulated the temperature data they got from IMO. The informant also seems to be critical to IPCC where he got some arguments that supported the view of Humlum.

There were multiple arguments supporting the view of the majority. They believe in the research that documents that humans play a major role in the current trends with visible evidence of it being a fact. This is highlighted by informant 9, "*One can see in history and millions back in time that there have been natural changes over time, but I think humans play a significant role in what is happening now. After the industrial revolution and after the oil discoveries, we have a completely different amount of pollution than before".* Informant 10 explained that it was much talk about sustainable development and climate change in the late

1980s when he was an exchange student in the US, which is what we are observing now. However, he thinks that the changes will happen much faster since the Earth has transgressed some thresholds. Moreover, informant 20 explained that you often hear only one point of view when you are listening to the radio or watching the news; that climate change is man-made. Therefore, one has to decide what to believe in, where he would rather believe that it is man-made and be wrong than vice versa. Another view is highlighted by informant 25, "*I think maybe not the climate changes in the big picture is man-made, but that the speed is. The climate has always changed, but the changes are going very fast compared to before*". Informant 19 thinks that 99 % is man-made and refers to people's way of living and the extensive use of natural resources, but some is natural, where it has been warm and cold periods in the past. In addition, informant 29 emphasized, "*When you see corona that have been in China, there has been a significant difference in the air quality, so I think some is man-made. But not everything, it can also be natural variations. But with a lot of flight traffic and coal production, it is not very good for the environment. Now, we have seen some proofs that the air is better with corona. Maybe people will now understand that we must change our lifestyles."*

When I asked the informants if they worry about climate change, thirteen answered that they are worried while the rest are not. There are no large differences across the age groups. The informants in sample 2 who worry about climate change said it is about their children and future generations' opportunities and living conditions. This is explained by informant 10, "*I will say that I am worried, but mostly with the kids and what is going to happen in the future. That is maybe something of the challenge since we do not know how it actually will be or how serious it will be. I have a concern that we cannot do anything about it, and that in a few decades the irreversible changes are even greater*." The minority of climate skeptics worries informant 9, who refer to people who do not take the issue seriously but do a good job influencing others to think that they cannot do anything. However, he thinks it is more reassuring that the generation that is growing up today is more environmentally conscious. He said, "*I have kids who are fourteen, sixteen and eighteen, and I am constantly being corrected. The consciousness among the youth is far higher than my generation."* According to informant 13, climate change is something that occupy her mind several times a day and is above average concerned about it, where she has done several measures in her own life to become more environmentally friendly. Informant 11 emphasized, "*It is not that I worry daily, but it is somehow in the back of my head, whether it is something we discuss or something on the TV, or that we work on politically. It is about meeting the expectations of the next generations and it is something about taking it*

*seriously, I cannot sit there as an old lady and being accused of 'they knew they had to do something but after all, it did not happen. That is my horror".*

The informants in sample 1 also worry about what is going to happen in the future generations, where informant 15 emphasized, "*It might be a little foolish to think, but for example, I have thought that if everything goes terrible, then I do not know if I want to have kids since I do not want to have kids who do not have a secure future*". This view is supported by formant 22. Informant 20 does not worry as much about it here in Norway, but there are many other countries that are more impacted by natural disasters. As he is a future farmer, it is something he worries about in his job. He thinks that farmers are probably among those who are most concerned about this issue, where they are always dependent on having the right weather.

By contrast, many of the informants that do not worry explained that climate change is something they think about sometimes, but it does not have a big focus in their lives. Several of the informants in sample 2 explained that they are too old to worry, that they have stopped worrying or that they have other things to worry about. Informant 28 said there is a chance that it will not be possible to live on Earth anymore, but it is something far in the future. She had a boss once who said, "*The Earth will always maintain, but it is not sure that humans will survive*", which she thinks is true. Many of the informants in sample 1 who do not worry are skeptical to climate change. Several of them have the way of thinking that little Norway cannot do much compared to the rest of the world. Moreover, informant 17 argues that it has always been natural disasters, but the difference is that it is now covered by the media. She said, "*For some years back, there were a lot of talk about sea level rise, and it was a crisis 'it will be like that in the future' and you get worried in that moment. But then, the world is standing the next day, and then 1, 2 or 5 years passes, and it did not get as bad as you first believed".*

#### 5.2.1.3 The Social Circle

The majority said that climate change is not a topic of conversation in their social circle on a daily basis, but twenty-four talk about it sometimes. Some conversation topics were whether climate change is man-made or not, meat production and the Norwegian agriculture, the weather, electric cars, pollution, news stories, etc. Only six do not talk about it at all – four from sample 1 and two from sample 2. The informants 5, 6, 17 and 21 (sample 1) explained that climate change is not something that the social circle nor themselves are particularly interested in. Informant 21 said that his friends and him live in the present and do not think about everything that could happen. However, informant 7 thinks that there are various reasons why

people at her age is not concerned, e.g. they are afraid of how serious things will become or believe that they cannot do much. By contrast, most of the informants in sample 1 talk about the topic. Informant 15 believes that people at her age think about it, but they do not stress much about it. Her friends include people who are politically interested, others who are more skeptical, and some who say "we should do something" but that is it. Informant 19 said that it is not the topic they talk most about, but it depends who he talks with, what kind of interests they have and how they know each other. He is a member of the political party "Høyre" and has friends that are politically active, so the conversations are mostly on political perspectives. Informant 26 said that her friends in Oslo are very concerned about the environment, they are academics and on the left wing of the politics. According to informant 20, the topic is discussed much in his social circle. At a grill party last year, it was a heated discussion around meat production, where some of his friends that have moved to Oslo said, "we should reduce our meat consumption". This made him sad and a bit scared with it being his livelihood in the future.

Among most of the informants in sample 2, the topic seems to be talked about more frequently. Informant 11 said it is a topic that is discussed much in her social circle, which could be everything from climate measures at home to topics as the car fleet, consumption or traveling. According to informant 13, the topic is discussed in the family and among close friends, mostly on topics like food and food waste, reducing flight trips and consuming less. She said if the children want something new that they do not really need, they must use their own money. Informant 1 said it has become a greater focus in his job, which has been environmentally certified, where his boss is particularly interested in the topic. Informant 23 talks much about the topic with a close friend and in the family where he focuses on that, "We need to do something, but we also need to take care of Norway". Informant 27 talks a lot about this topic in his social circle, where the Norwegian agriculture and meat production is being emphasized the most. In addition, informant 28 said that the topic has been discussed at family gatherings. She highlighted, "*Something I have thought is about vegans and farmers, which makes me fascinated. Sometimes, I wonder what they are really discussing and if they are discussing the same thing. It is a very polarized debate, and I sit in the middle and I think that 'it can be good to eat less meat', but not necessarily because of the environment. You have many of them at Ål, farmers and haunters, who get provoked about this discussion. I am almost more worried about that than the topic itself. It is perhaps the media who have created it, that you can discuss it with whomever you want in Norway. There are many hard words from both sides. People are so against or for things, but they do not always discuss the environment."*

### 5.2.2 Responsibility

> ***"A MIX BETWEEN POLITICS, POLITICIANS, BUSINESSES AND THE PEOPLE, BUT WE NEED AN INTERPLAY OF THESE. FROM THE POLITICAL VIEW, WE NEED TO FIND "CARROTS" AND TRY TO CHANGE PEOPLE'S BEHAVIORS IN A SUCH WAY THAT THEY WANT IT THEMSELVES. BUSINESS LEADERS MUST SEE THE OPPORTUNITIES IN THE GREEN SHIFT, THAT IS OFTEN TALKED ABOUT"***
> ***(INFORMANT 19, SAMPLE 1)***

The majority think that everyone has a responsibility to reduce the emissions, but the politicians and the government have a special responsibility to create the policy instruments for reducing emissions and to say what is allowed and not allowed. Informant 30 emphasized, "*Not everyone can be idealists, so it must be done such as with electric cars, to make sure that people make the right choices. Even those who do not care about the climate, that they make such choices because they see the benefits*". Several of them also claim that industries have a responsibility, such as reducing its emissions or making environmentally friendly products.

Furthermore, the majority feel a responsibility for reducing their emissions while six do not feel such a responsibility – four from sample 1 (6, 7, 17 and 21) and two from sample 2 (14 and 23). Some do not think consciously about it, while others do not think the things that they do in Norway have an effect in the larger picture. However, the majority try to make environmentally friendly choices in their lives. Informant 19 is an example, even if he notices that many things are motivated by other things than reducing emissions. One example is that he bought an el-car because of the financial benefits, but the policy on electric cars still works since people choose more environmentally friendly. Informant 2 feels a responsibility, but she thinks that it is difficult to make conscious choices. She misses good examples of what to do, is it washing less clothes or eating less meat? For informant 3, being environmentally friendly is something that he thinks about in his job as a farmer, e.g. when he spreads the muck, it is done a minimum of 10-15 meters from a river that runs on each side of his property, so there is no runoff. Informant 27 was among the first to buy an electric car in Ål and have also installed solar panels due to environmental considerations. Another informant who has installed solar panels and bought an el-car is informant 28, a choice based on environmental and financial considerations. Informant 4 also tries to do her part, e.g. eating less meat, reducing car use and consuming less. Informant 9 recently got a question from an employee about "What is our company doing to reduce

emissions and to include environmental accounting?", which made him think about what can be done as a company and not only personally. He has started to explore options for perhaps undertaking an environmental certification. Moreover, informant 30 feels a responsibility as a private person and in her job as a farmer and thinks that agriculture may be a part of the solution.

### 5.2.3 Norway's Contribution to Reduce Emissions

> ***"IT IS A PROBLEM THAT IS HARD TO DEAL WITH, AND IMPOSSIBLE TO NOT DEAL WITH"***
> ***(INFORMANT 26, SAMPLE 1)***

The majority thinks the largest emissions in Norway come primarily from the transport sector (i.e. aviation, road traffic, cruise ships, etc.) or industries with the oil and gas production as the most polluting sector. Some mentioned agriculture, but not as the worst. Informant 3 said that there is a report from SSB (2018) with an overview over the different sectors and the emissions from these. He explained that 27 % of the emissions came from oil and gas production, 23 % from industry and mining, 18 % from road traffic, 14 % from aviation and 9 % from the agriculture. Therefore, I examine how the informants perceive the statement "Norway should reduce its emissions", and their attitudes on policy instruments to reduce emissions.

A large proportion agree that Norway should reduce its emissions, in line with the rest of the world. Since Norway has become rich due to the oil and gas production, it has the resources and a responsibility to do something about this issue. Some also think that Norway is one of the best countries on climate solutions, which could set a good example for others. When I asked them if it has been done enough in Norway, there were different replies. One of the discourses on Norway's contribution is that there is a good focus on climate today, where Norway has done many great achievements. Several examples are emphasized by the informants, such as that Norway is far ahead many other countries with a cleaner oil production, where the new field "Johan Sverdrup" is the one that pollutes the least out of all oil fields in the world. The fisheries and the farmers are also doing their part to reduce emissions. Informant 21 explained that there is no other country that has as many electric cars as Norway, as well as that we have a great recycling system and it has become more "trendy" being environmentally friendly. Informant 9 said, "*I think there is an important and increasing focus, and we have done a lot of good things. We have some opposition parties and an environmental party that make sure*

*we are pulled in the right direction. So, I have to say, yes, I think Norway is doing well, properly and does enough*". Moreover, informant 23 thinks that there is a good focus on climate and the environment, but the society is on the limit to be hysterical. He explained that reducing emissions should be done at the speed that is possible for the Norwegian society to handle.

Another discourse is that several of the informants think that Norway should reduce their emissions in some extent, but that the focus is wrong. Many are upset about that countries like China, Russia and India are going to increase their emissions by 400-500 % by 2030. By contrast, Norway's goal is reducing their emissions by 50 %. Then, they ask themselves: What does it help if Norway reduce their emissions when others will increase? This view is explained by informant 23, "*I think about the Paris agreement, and I do not understand the logics on how they can justify that Norway who emit little and are very clever when it comes to climate and the environment. Why should we reduce our emissions by 50 % while other bigger countries can increase their emissions?".* Informant 3 supports this view, who said that half of the world's emissions come from China, India and the US, while Norway only stands for 0,03 %. He emphasized, "*Cannot we in Norway think about the climate, but cannot we also spend more of the energy on changing the attitudes in other countries?"*. Hence, the focus should be on helping other countries that pollute more and invest money to reduce pollution in other countries. Informant 7 highlighted, "*Norway cannot save the world, but we can contribute to that other countries can be more focused on the climate. They are not as rich as Norway and perhaps they cannot do anything about it*". The informants, such as 3 and 23, explained that environmental pollution is terrible in Asia. Therefore, the focus should be on making action where it has the biggest effects. One solution could be to invest money into building a plastic and rubber reception where the inhabitants (e.g. India) were given money (a kilo price) for gathering garbage in their local environments. The result is a win-win situation, which is good for the environment, and people without a job in poorer countries get an opportunity to earn money. Another example is that Oslo was awarded the Green Capital of Europe last year. Informant 23 said this status costed the municipality of Oslo almost 120 million NOK. He asked the question, "*Instead of using 120 million kroner to tell the world how clever they are in Oslo, why could we not use the money to invest in something good*?" Several are frustrated when there is used so much money on promotion rather than using the money on something good for Norway's citizens, such as more welfare, or for other countries, e.g. reducing pollution.

By contrast, many of the informants think that things are going too slow in Norway. Informant 27 thinks there is a double moral among the politicians who want Norway to be the best in the

class on climate, but at the same time, they do not dare to invest in the factories that e.g. produce ethanol from wood because oil production is so important. Informant 16 highlighted, "*You can buy climate quotas which is completely meaningless, should the rich countries continue to do as they please? We need to use the money to reduce it here and everyone has to do something if it shall matter. We need to start where it is worst, and they do not dare that".* According to informant 10, Norway is in a phase trying to figure out what to do next, but the right things are not discussed. Two things are necessary: radical changes in the society and political discussions that involves measures of both "carrot and stick". He explained, *"The discussion we have today, especially politically, is terribly frustrating. We do not discuss something that is radical, not what actually matters, that is what I think about and I am frustrated about".* For example, when there is talk about a flight charge of 80 NOK per seat, there is a lot of resistance among the citizens. The best solution would be if people changed their attitudes and influence the decision makers to do the right things, but it would take too long time. Therefore, the politicians must say clearer what kind of areas that must be addressed and what solutions that are needed. Informant 30 said, "*I think we must look at the big things first, what matter the most, such as emissions from aviation. I think it is easy to say that we need to help other countries instead of doing it ourselves, and I understand that Norway does it very well compared to many other countries. At the same time, it is a lot that can be done here, I think Norway has to think about Norway first*". Several of them think that aviation should be improved or changed, where informant 19 and 26 do not understand why one of the busiest flight routes in Europe is between Oslo-Bergen. One solution is investing more money into improving public transportation, making train tickets cheaper or flight tickets more expensive. This would make it easier for people to choose environmentally friendly. Informant 9 thinks that reducing the flight frequency is a step in the right direction, but he asked, "*Are we willing to change so much that we drop the trip to Syden, the skiing holiday in the Alps and the football trip to England*?".

#### 5.2.3.1 Policy Instruments for Reducing Emissions

A large proportion think the idea of policy instruments is great since it can force changes in the right direction, but not all measures have worked out as they should. The measures should fit the physical context in rural and urban areas, which is not the case today. In this section, the informants' attitudes on increased fuel prices, electric cars and the oil industry is emphasized.

The majority think that increased fuel prices is bad for people's private economies and will hurt the districts in Norway. Then, according to informant 19, the government should invest in more

charging stations and make a transition to electric cars instead of using fossil cars. Several of the informants claim that increased prices are more relevant for urban communities where it is better access to public transportation, better developed infrastructure and have more frequent departures than in rural areas. Informant 6 emphasized, "*I do not feel that they think a lot of us that lives in rural communities, because they say, "use public transportation" but that is not easy here because there is only one bus*". Many of them think that the prices should increase in the cities and be cheaper or at the same level in rural communities. Informant 11 explained that her daughter does not have a driver certificate which make things difficult for her and more dependent on others, but at the same time, people should be able to live in Ål without a driver certificate. According to informant 18, the topic is something that Senterungdommen[3] have promoted for a long time but getting a proper public transport system in Hallingdal is difficult.

There are many perceptions regarding electric cars among the informants. A large proportion think that the focus on electric cars are great. Informant 9 is one of those who have bought such a car. He said, *"Although many climate skeptics believe that there is little to gain from driving an electric car rather than a car with an internal combustion engine, it is one of the instruments that has worked well, where Norway is the leader in the number of electric cars compared to the total car fleet".* If people's choices are based on environmental considerations or financial benefits can be discussed. Some said that having an el-car in Ål is not favorable because the charging network is not well developed and that the cars are most suitable for shorter trips. However, informant 19 thinks the focus should be on seeing the positive effects of such cars compared to fossil cars, and that the state must make it easier with better infrastructure and charging networks. On the other hand, informant 3 said that there is used a lot of money on research in the car industry today, where one of the newest diesel engines has no $NO_X$ in emissions. In one way, it has less environmental footprint compared to the total package of an electric car since the battery is terrible for the environment. This view is shared among informant 23. He said that an average fossil car lasts for 19,1 years, but the electric cars that were made for 3-4 years ago, nobody wants to buy them due to a low range, and the battery technology is not the best. He emphasized, "*That is one side of the case, but you also have the man in Asker who says to his son that 'it is a good environment here' because many people drive electric cars. At the same time, he does not say anything about the father who holds his son in the hand in Singapore, which is one of the biggest places of cobalt production for battery*

[3] The youth organization of the political party "Senterpartiet"

*technology. They do not have a good environment, but it does not matter since it is fresh air in Oslo. Maybe we should think about others who live in such places that has a dirty production*."

The informants have many perceptions towards the oil and gas industry. One perspective is to phase out oil, gas and coal and focus more on renewable energy in Norway. A large proportion understand that it is not smart to phase out all at once, but it is a necessity to make a difference. Informant 16 said that there is a need for a new oil policy and that it is not only Norway who has to do it, but it applies to the whole world that has used more oil reservoirs than the Earth can handle. But he understands it is difficult since the industry has provided the wealth we have today. Moreover, informant 26 said that Norway should invest money into developing new solutions and focusing on renewable energy sources, but it should still be petroleum studies and research on this field. Another perspective is that putting an end date is not the right thing to do and it must be another alternative before phasing it out. Many of the informants are frightened about the thought of phasing out this industry, since is Norway's most important income source. Informant 25 emphasized, "*My impression is that Norway has the best solutions so far on purification and it seems like Norway takes their responsibility seriously. As long as the world relies on oil, before it can be phased out completely, I think Norway should be one of the last countries to end its production because they are trying to make it clean, who takes their responsibility and do things safely".* Moreover, informant 3 thinks that many would change their minds if all the goods it gives were taken away. For example, everything inside a house have residual waste from its production that is not used. Informant 23 explained that the total package does not add up and he emphasized, "*We have the cleanest production in the world with 30 % better than the next best in the class, then another country like Saudi Arabia, the US or Venezuela would have moved their production, because the world needs oil and will use it in many years ahead. Then, we lose many workplaces, and the income for the state*". He said it is 238.000 people who get their income from this industry today, which must be replaced by green workplaces. Norway can be able to make 5.000 green workplaces each year, much less than 238.000, which would take a long time to create and most of the money from the oil fund would be used. Another solution is to increase the taxes drastically or reducing the costs of the state significantly. If these green workplaces exist, people must get education in those workplaces and build them fast enough, so after time this production can be reduced.

## 5.3 Climate-related Actions

After asking questions about their perceptions and attitudes towards climate change, I asked them more directly about their actions to see what they actually do on areas that are important for our emissions. Here, I focus on three areas: transportation, holiday trips and food patterns.

### 5.3.1 Transportation

There is a tendency that the majority take the car when they are going to, for example, work or to the store. Sometimes, they walk or take the bike if they have time or the opportunity. Several of them work from home or are farmers, but most of them drive when they are going somewhere. However, a few in each age groups (4 and 26) deviate from the rest, who usually walk, due to environmental considerations but also getting some fresh air. Informant 4 explained that there are some exceptions, such as if she is picking up her grandchildren from the kindergarten. Informant 15, who is still at high school, usually takes the school bus. She explained that autumn last year, her friends and she drove more to school because they had recently got their driver certificate, but this semester, she convinced her friends to take the bus. This is a choice done in consideration to the environment. Some of the informants have also bought an electric or a hybrid car but they have a fossil car for longer distances. Others have also decided to buy an electric car the day they will change car or when they can afford it.

When I asked why they usually take the car, the majority answered, “I do not have another choice”, “there is no public transportation”, “we are completely dependent on the car” or “it is the fastest and most practical choice”. It is challenging for the informants who live in periphery areas to walk or take the bike because the distance (10 kilometers) is too huge, the hills are too steep or because of other practical considerations. For the informants who live closer to the centrum, there is a greater possibility to walk or taking the bike, but many prefers to take the car because it is practical and gives more flexibility. Several are also dependent on using the car in their job since they have to travel to different places during the day or must bring a lot of tools with them. Some said that they would walk or take the bike more if they lived closer to the center, had another job or more solid working days. For the informants with kids, there is an issue of logistics, such as driving and picking them up from the kindergarten or coming home quickly after work for preparing the dinner before driving the children to leisure activities.

I asked the informants what they think about public transportation in Hallingdal, where they said it is "absent", "extremely bad", "does it exists public transport at all?" or "it could have been much better". They said that public transportation is based on the school buses that goes a few times a day and the Bergen railway which do not match people's work schedules because the departures are not frequent enough. Several, such as informant 7 and 18 in sample 1, claim that there are coordination problems between, for example, the bus coming from Votndalen and the bus going to Gol. They said the bus has already left before they come to Sundre, then the only option is to drive themselves. On the other hand, some of them feel lucky to have the Bergen railway, which makes it easier to travel to the cities. More of them would have taken the train if it were improved, had more departures and cheaper tickets. However, the informants acknowledge that it is difficult or even impossible to get a proper public transport system since there are too few people who live in the village, there are too large distances within the municipality and people like to have flexibility. Informant 15 said, "*I understand it is difficult because sometimes I only see one person in the bus, and it is not affordable to have more buses*".

Furthermore, there is a tendency that many of them walk or take the bike when it is summer or spring, while others always take the car despite the season where people in periphery areas most likely drive. If choosing the bike or walking, many said it is for recreation, fitness or something they enjoy doing. In the winter, the weather is an influencing factor. Informant 2 is an example who emphasized, *"When it is winter, slippery, dark and cold outside, I usually drive. My goal is when it is good weather outside that I walk or take the bike".* Informant 13 said that the family walk or use the bike more in the summer due to environmental considerations and reducing car use when it is not necessary. In the winter, they normally drive and pick up the kids if they are going somewhere, but in the summer, the kids must walk or take the bike, except some special occasions, but "if it rains, it rains", and they have to bring extra cloths or change when they get home. When I asked the informants about what people in the village do, they said that most people drive. There is however a growing tendency that more and more people buy electric cars, as well as electric bikes. Several of them think that both economic benefits and environmental considerations are motivational factors for what they do. Moreover, they think people who live close to Sundre walk or take the bike more frequently when it is summer or spring, while others think that people use the car even if they live close to the centrum.

### 5.3.2 Holiday Trips

The main pattern regarding holiday trips is that the majority take the plane when traveling abroad or over longer distances, which is the most practical and fastest way of traveling. When traveling in Norway, most of them take the car but several choose public transport if the bus or train hours fit their plans or while traveling alone. Other factors are that they think taking train is comfortable, safer, more environmentally friendly and you can do two things at once. The bad thing is that the tickets are expensive, which make the car a cheaper option. Other transport modes in Norway are by motorbike, motorhome and caravan. There are no major differences across the age groups. When I asked about how many holiday trips that they took last year, their responses varied from 0 to 8 trips, which could both be within Norway and abroad. Regarding holiday trips abroad with plane, their responses span from 0 to 6 trips where the majority had one or two trips. Also, one third said that they did not have any holiday trip with plane last year.

The importance of holiday trips for the informants varies in different degrees, but it has a huge importance for the majority. Holiday trips are also important for the social circle, which is a tendency in both age groups. They believe that most people in their social circle prioritize vacation and like to travel abroad and within Norway. Informant 2 emphasized, "*There are many who travel many times a year, especially in my age group who have good jobs, better income and more flexibility because the children are not living home anymore*". However, a tendency is that traveling abroad has become less important for many of the informants and people in the social circle in recent years. Many explained that summer, sun and beach life in Syden is less important, where people want active vacations and adventure trips. Furthermore, the informants describe that holiday trips are important in order to get a break from the busy everyday life, for relaxation and recharging their batteries, spending valuable time with family and friends, exploring new places, cultures and climates, receiving new perspectives and inputs, and getting some sun and warmth. Several of them said that it should be a place outside of Ål in order to relax completely, because at home it is the normal everyday life with many disturbances. The number of holiday trips abroad seems to vary based on factors such as its importance to them, environmental consciousness and financial considerations (for sample 1).

There are different travel patterns among the informants. Many of them have not been much abroad or travelled much with flight, such as 5, 6, 7, 12, 18, 20, 21, 27, 28 and 29. However, several of the informants in sample 1 (6, 7, 17 and 19), want to travel more since financial

considerations or studies have stopped them earlier. Informant 7 said that she prefers a longer trip of two or three weeks than many smaller trips a year, which is also better for the environment. For some of them (4, 14 and 24), it is particularly important to travel abroad in order to experience other cultures, countries, climates and get to know new people. Informant 4 has also started a project in Kenya, where she has decided to build a home for homeless youth. However, the regular amount is 1-2 trips a year, where many of the informants (1, 2, 3, 8, 9, 23 and 25) want to travel in the same extent as earlier. Moreover, when I asked the informants if they could reduce the amount of holiday trips for reducing their emissions, some were more positive to it than others. Many of them are positive to reduce and travel more within Norway, but they want to have one trip a year to be guaranteed some sun and warmth. This is because the Norwegian climate is too cold, and the summers are very unstable. For the informants 3, 4, 6, 14, 17, 19, 23 and 24, holiday trips are their largest barriers to reduce since it has a big importance for them. Informant 3 does not want to just sit at home because he thinks it is important to explore new places and to see other parts of the world. However, it could also be traveling in Norway. Informant 19 emphasized, "*As long as I am within 2-3 trips a year, I feel than I am within the average but if I had 5-10 trips a year, I would have stepped down a bit*".

On the other hand, several of the informants (10, 11, 16, 26 and 30) have decided to not fly this year or for a certain period. Since holiday trips with airplane is as one of the most polluting sectors, it is the most effective and important contribution in order to reduce emissions and take a personal responsibility. Informant 15 and 22 (sample 1) want to travel as environmentally friendly as possible and do not want to fly due to environmental considerations. Even if they still want to travel, it is crucial to find new ways of traveling, such as interrail in Europe. For informant 26 (sample 1), there is a struggle where she wants to travel more, but at the same time, it is hard to justify a spontaneous trip to Paris. She has a goal to reduce flight trips as much as possible and travel more in Scandinavia. Informant 13 (sample 2) has also decided to reduce flight trips as much as possible. Moreover, many of the informants are influenced by the "flyskam" debate. Informant 11 emphasized, "*I had a flight trip to Berlin in January with work, and I thought 'it was that climate quota', so I think about it. At the same time, I think if we reduce it a lot, it does not mean that you never have to fly again. But you do not need to travel all the time or every year, and if you have the chance to take other alternatives, you should*".

### 5.3.3 Food Patterns

When the informants were asked about how many dinners with meat they eat (i.e. all forms of meat as cattle, sheep, pork and chicken), the most frequent answer was 3-5 days a week. However, their responses span from 0 to 7 days, including both red and white meat. Two of the informants (15 and 26) said that they do not eat meat because they are pescatarians[4]. Informant 15 decided to not eat meat after visiting a slaughterhouse in the ninth grade, because of animal welfare and environmental considerations. Informant 26 became a pescatarian for five or six years ago, due to environmental considerations. Informant 4 is a flexitarian who has usually a plantbased diet but eats meat once a week to get variation. Informant 22 tries to reduce the meat consumption where she eats plantbased meals a couple of times a week. A similarity among them is that all are women, and three of them belong to sample 1. Hence, the data shows that women seem to be more positive to a plantbased diet than men. In addition, some of the informants (10, 11, 12 and 28) is trying to eat more plantbased products, e.g. having a meat-free day once a week, which is a tendency among both women and men in sample 1 and 2.

In general, the majority eat little or almost never plantbased products. Eighteen of the informants said that they do not consciously choose such products. Since Ål is an agricultural village, it is natural that meat is important for them since agriculture is the livelihood for several of the informants. When I asked them, "Do you think about which products you buy at the store?" and "Is it important to you that the food you eat produces low emissions?", I got different replies. Regarding the latter question, most of them did not think consciously about it, while others think it is important and try to choose ecological products when it is possible or plantbased products. The price, quality and that the food does not take long time to prepare are influencing factors. However, almost all the informants said that they choose food that are produced in Norway. One of their arguments is that Norwegian produced products have less environmental footprint than imported products. Informant 21 emphasized, "*As I am born and raised on a farm, I mean that we should trade more locally, then you do not have the transport costs, such as getting things imported with a flight or boat from other countries*". Many are concerned about that Norway should reduce the import share and focus more on being self-sufficient in case of an emergency or crisis. Another argument is that if you choose local food, you support the Norwegian agriculture, the rural communities, and the farmers get something back for their work. A third argument is that if the fields and pastures are not used, these will

[4] Vegetarians who eat fish and seafood

be over-grown and still emit $CO_2$. Therefore, it should be used for meat production, which becomes a complete protein for human consumption. Some explained that domestic animals are good for the climate since they create more activity in the soil, then the root system gets stronger, and it binds phosphorus to the soil. They claim that this is often lost in the debate (i.e. "kjøttskam") and only one perspective is emphasized (e.g. cows emitting $CH_4$) but they think it is important that the whole cycle is included. Also, several of the farmers I interviewed said that the Norwegian agriculture is basically ecological, and that the products are safer to eat than imported products, since the production has strict demands and do not use much medicines.

Furthermore, the informants think that most people in the village eat meat like them. Some people in the social circle eat a lot of meat, while others have a more balanced diet with red meat, fish, chicken and a lot of vegetables. Having a nutritious, healthy and varied diet are important for the informants and the social circle. Moreover, several know people who are vegans or vegetarians, but not many live in Ål. Informant 15 is the only pescatarian in her social circle, but she has a friend who does not eat red meat. Informant 4 has a colleague that is vegan, but the rest have a "normal" diet. Informant 26 said that more people in her social circle in Oslo are pescatarians or eat more plantbased. Informant 17 has some friends that have vegetarian weeks sometimes, but the rest of her social circle are meat-eaters like her. In addition, informant 9 believes there is an age difference where the youth are more environmentally conscious and have a more plantbased diet than people in his age group (50-60 years).

## 5.4 Identity

In this section, I aim to answer RQ3: "What role does people's identity play for how they think and act considering climate change?" I acknowledge that it is difficult to say exactly how people's identities influence their perceptions, attitudes and behaviors. However, I look at the concepts that were emphasized in Chapter 3.2 and 3.3 and see if I can make any connections between the informants' identities and their climate-related perceptions and actions. I will examine the informants' values, with a focus on the form they filled out. Biospheric values will be most emphasized, but I also examine their values regarding openness to change, conservation, self-enhancement and self-transcendence values. I will also look wider at the topic throughout the section and include other factors.

### 5.4.1 Local Identity

Since our identities are often considered as social and cultural constructs, it is necessary to look more closely at what characterizes the community in Ål. This section is based on the informants' reflections of the village and is a short summary of Appendix VII.

The majority describe Ål as a small, calm and transparent agricultural community where everyone knows each other. Many describe Ål as the cultural municipality of Hallingdal which offers a wide specter of different events and leisure activities to both kids and adults. Ålinger are loyal to their village and have a deep bond to the nature and outdoor activities, i.e. hiking trips in the mountains or cross-country skiing in the winter. They thrive in a calm environment that is not much impacted by criminality or natural disasters, but the society is considered to be a bit conservative, especially among the older generation, where it is difficult to achieve bigger changes. Ålinger are moreover considered to be sympathetic, easy-going, down to Earth and have a strong volunteering spirit, but many are also quiet, reserved and closed-minded.

There are particularly three groups of people in Ål, which are those who have always lived in Ål, what can be called as the "newcomers[5]", and the locals who were born or raised in Ål and moved back home after living a longer period outside the village. Ten of the informants belong to the first group, six are "newcomers" but have lived in Ål from one to thirty-five years, and fourteen belong to the last group. The local (or social) identity "Åling" is considered as the "in-group" that the group members share common beliefs, attitudes and values with, which is compared to another group, in this case: "byfolk" (the out-group). To get a broader insight in the village's most relevant characteristics, such as the social culture in Ål, important conversation topics and people's core values, it can be found in Appendix VII.

### 5.4.2 The Informants' Core Values

The concept of values is a key component of people's identities and how they think and act, which is also the core of person and social identities. The informants' replies from the form are summarized in Table 2. I have also separated their answers into sample 1 and 2 to see whether there were any differences across the age groups – see the results in Appendix II. Since the sample only includes thirty people, I have not conducted any statistical tests of the findings.

[5] People who have moved from another place in Norway or from abroad

***Table 2:*** Overview of the informants' responses to the statements from the form. Frequencies are the left in each main column and the percentages to the right.

| | Very like me | | Like me | | Something like me | | Not like me | | Not like me at all | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **You are convinced that people should protect the environment. It is important for you to ensure sustainability for future generations** | 9 | 30,0 | 10 | 33,3 | 7 | 23,3 | 4 | 13,3 | 0 | 0,0 | 30 |
| It is very important for you to help the people around you. You want to do something to make them feel good | 13 | 43,3 | 16 | 53,3 | 1 | 3,3 | 0 | 0,0 | 0 | 0,0 | 30 |
| It is important for you to be rich. You want a lot of money and expensive stuff | 0 | 0,0 | 0 | 0,0 | 11 | 36,7 | 18 | 60,0 | 1 | 3,3 | 30 |
| It is important for you to be successful. You hope that others will recognize what you achieve | 0 | 0,0 | 9 | 30,0 | 10 | 33,3 | 11 | 36,7 | 0 | 0,0 | 30 |
| It is important for you to come up with new ideas and to be creative. You like to do things your own way | 6 | 20,0 | 16 | 53,3 | 8 | 26,6 | 0 | 0,0 | 0 | 0,0 | 30 |
| It is important for you to have fun. You like to "pamper yourself" a little | 5 | 16,7 | 6 | 20,0 | 15 | 50,0 | 4 | 13,3 | 0 | 0,0 | 30 |
| You are looking for adventure and enjoy taking chances. You want to have an exciting life | 4 | 13,3 | 6 | 20,0 | 13 | 43,3 | 7 | 23,3 | 0 | 0,0 | 30 |
| Traditions are important to you. You try to follow traditions in religion or in your family | 8 | 26,7 | 11 | 36,7 | 8 | 26,6 | 2 | 6,6 | 1 | 3,3 | 30 |
| It is important for you to always behave properly. You will avoid doing something that people will say is wrong | 5 | 16,7 | 13 | 44,3 | 6 | 20,0 | 6 | 20,0 | 0 | 0,0 | 30 |
| It is important for you to live in a safe environment. You avoid anything that could put you at risk | 0 | 0,0 | 15 | 50,0 | 10 | 33,3 | 5 | 16,7 | 0 | 0,0 | 30 |
| **You strongly believe that people should respect the earth. Human must live in harmony with other species** | 6 | 20,0 | 10 | 33,3 | 11 | 36,7 | 3 | 10,0 | 0 | 0,0 | 30 |
| You think it is important that all people in the world are treated equally. You believe that everyone should have equal opportunities in life | 16 | 53,3 | 13 | 43,3 | 1 | 3,3 | 0 | 0,0 | 0 | 0,0 | 30 |
| **Preventing pollution is important to you. You strongly believe that people should protect natural resources** | 12 | 40,0 | 9 | 30,0 | 7 | 23,3 | 2 | 6,7 | 0 | 0,0 | 30 |

### 5.4.2.1 Openness to Change

Openness to change involves two of the statements in the form. The first statement is "*It is important for you to come up with new ideas and to be creative*…", where a large proportion (53 %) feel that the statement is like them. None of them answered the categories "not like me" or "not like me at all". It seems to be a difference across the age groups, where the informants in sample 2 score a bit higher on this statement than sample 1 - see the responses in Appendix II. The second statement is "*You are looking for adventure and enjoy taking chances...*", where 43 % answered "something like me", while 23 % did not feel that the statement matched their values. Being adventurous seems to be more important to the informants in sample 1, where 40 % of them answered the categories "very like me" or "like me" compared to 27 % in sample 2.

### 5.4.2.2 Conservation

Regarding conservation, it includes three of the statements. The first is "*It is important for you to live in a safe environment*…", where 50 % answered the category "like me" meanwhile 17 % answered that the statement is not like them. There are no major differences between the age groups. The second statement is "*It is important for you to always behave properly*…", where a great proportion replied the category "like me" with 44 %. Behaving properly seems to be a bit more important for sample 1, with 67 % answering the categories "very like me" or "like me" compared with 53 % in sample 2. The last statement is "*Traditions are important to you*…", where 27 % answered that the statement is very like them and 38 % replied "like me". Only 10 % - three informants - replied the categories "not like me" or "not like me at all". However, Figure 17 demonstrates that the two age groups think traditions in the family or religion is important, but it seems to be a little more important for sample 2.

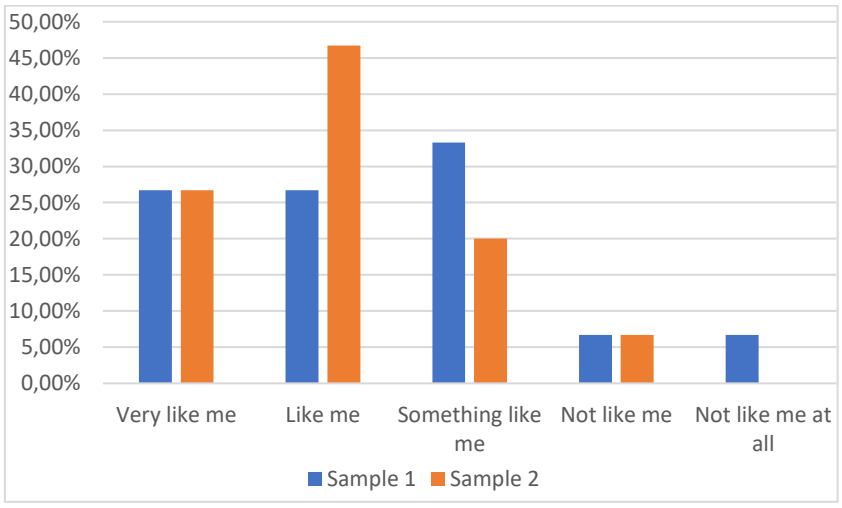


***Figure 17***: Reponses to the statement *"Traditions are important to you. You try to follow traditions in religion or in your family*". In percentage per category.

#### 5.4.2.3 Self-enhancement Values

Self-enhancement values include three of the statements. The first statement is "*It is important for you to be rich…",* where the majority score low on this statement with 60 % answering "not like me". However, it seems to be less important for sample 2 to be rich, where 73 % of the informants in sample 2 answered "not like me" compared to 47 % in sample 1. The second statement is "*It is important for you to be successful…",* where 37 % answered that the statement is not like them, while 30 % replied the category "like me". Being successful seems to be more important to sample 1 with 47 % answering that the statement is like them compared to 13 % in sample 2. The last statement is "*It is important for you to have fun…",* where the category with the most responses (50 %) was "something like me" 50 %. Many of them also replied the categories "very like me" and "like me" with 27 %.

#### 5.4.2.4 Self-transcendence Values

The informants score very high on self-transcendence values, which involve two of the statements in the form. The first statement is "*It is very important for you to help the people around you…",* where 43 % of the informants answered the category "very like me" and 53 % replied "like me". The second statement is "*You think it is important that all people in the world are treated equally…",* where a large proportion (53 %) answered that the statement is very like them, meanwhile 43 % replied it is like them. Moreover, 60 % of the informants in sample 1 replied the category "very like me" compared to 47 % in sample 2.

#### 5.4.2.5 Biospheric Values

The majority endorse biospheric values, where most of them answered the categories "very like me", "like me" or "something like me". Biospheric values involve three of the statements in the form, see Figure 19, 20 and 21. None of them answered the category "not like me at all" for any of the statements. However, it seems to be some differences across the age groups. People between 45-59 years (sample 2) scores a little higher on two of the statements compared to those between 18-29 years (sample 1), see Figure 18 and 20. In contrast, sample 1 score a bit higher on the second statement, see Figure 21. The reason behind this is difficult to know.

The first statement is "*You are convinced that people should protect the environment*…", where a large proportion (63 %) answered the categories "very like me" or "like me". Only 13 % - four respondents - replied that the statement is not like them. All of them belong to sample 1. It seems to be a difference across the age groups, where sample 1 scores lower on this statement,

see Figure 18. Moreover, the informants who replied "very like me" were 27 % in sample 1 and 33 % in sample 2. There is a tendency that women in sample 1 score higher on this statement compared to men in the same age group.

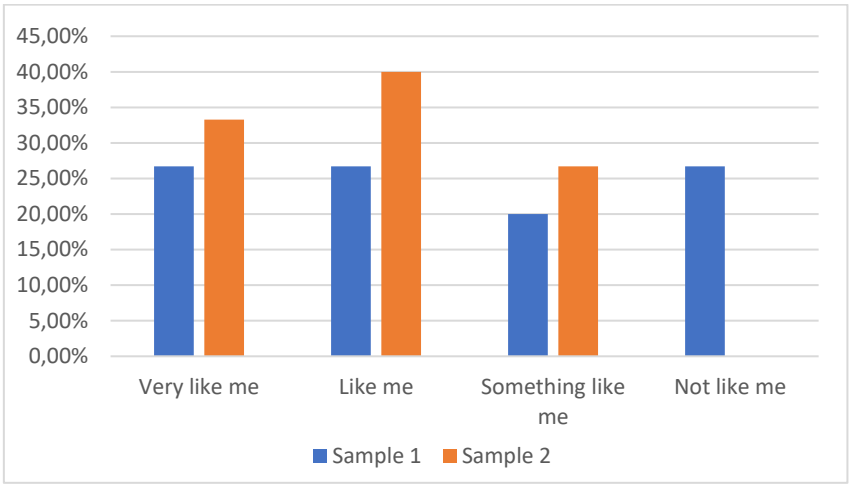


***Figure 18***: Reponses to the statement *"You are convinced that people should protect the environment. It is important for you to ensure sustainability for future generations*". In percentage per category.

The second statement is "*You strongly believe that people should respect the earth…"*, where the category with the most responses (37 %) was "something like me". 20 % of the informants answered that the statement is very like them. Only 10 % – three informants - do not feel that the statement matches their values. The informants replies divided in the two age groups are presented in Figure 19, where sample 1 score higher with 60 % of the responses compared to 47 % in sample 2, for the ones who answered the categories "very like me" or "like me".

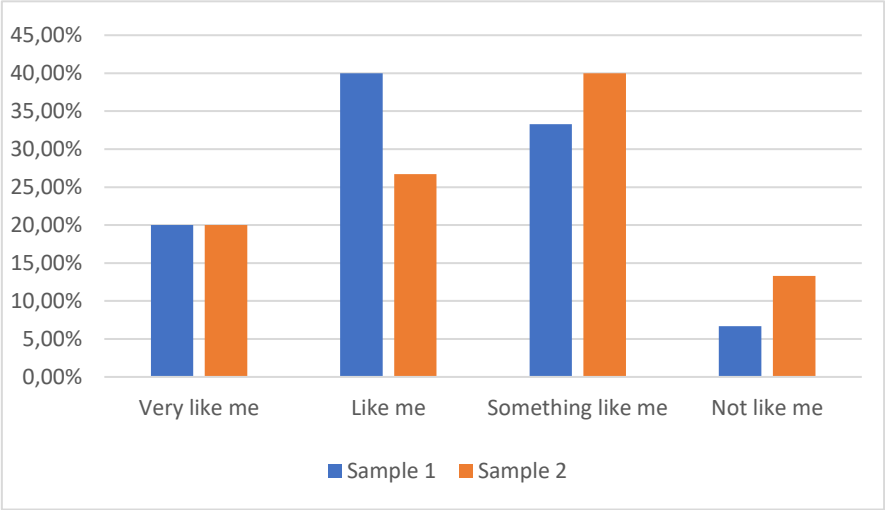


***Figure 19***: Reponses to the statement *"You strongly believe that people should respect the earth. Human must live in harmony with other species*". In percentage per category.

The last statement is "*Preventing pollution is important to you…"*, where a large proportion in both age groups think that the statement is important, with 40 % of the informants answering the category "very like me". Only 7 % - two informants - answered that the statement is not like them. It seems to be a difference between the two age groups, where sample 2 think that it is more important to preventing pollution than people in sample 1 – see the results in Figure 20.

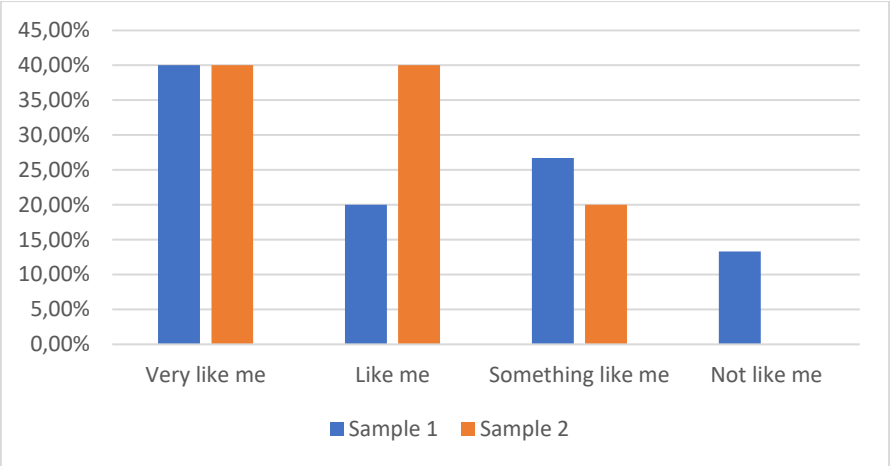


***Figure 20**:* Reponses to the statement "*Preventing pollution is important to you. You strongly believe that people should protect natural resources".* In percentage per category.

#### 5.4.2.6 Concluding Remarks

To sum the main characteristics of the sample, they score high on self-transcendence values and openness to change, but sample 1 seems to be more adventurous than sample 2. The majority is concerned about traditions in the family or in religion, living in a safe environment and behaving properly, but being rich is not very important. Being successful seems to be more important for sample 1. Moreover, the majority endorse biospheric values and think that it is important to take care of the environment, but the data shows a more climate-negative youth.

### 5.4.3 Connection between Identity, Values and Attitudes

Our values are considered to the basis for people's attitudes, such as how they evaluate something or someone, and are closely tied to our (person and social) identity. Regarding biospheric values, many of the informants stands out. Some score high on biospheric values and others do not identify themselves with such values. The points in Table 3 is measured by giving the category "not like me at all" one point and up to five points. The highest possible sum is 15 points if one has answered "very like me" to all the statements. None of them have scored the lowest sum of three points, but a few have scored seven points as the lowest sum.

***Table 3*:** The informants score on biospheric values, divided in age groups.

| | Score very high on biospheric values (15 points) | Score high on biospheric values (14-12 points) | Score middle on biospheric values (11-9 points) | Score low on biospheric values (< 9 points) |
|---|---|---|---|---|
| Sample 1 | 15, 26, 30 | 12, 18, 20 | 7, 19, 22, 24, 25 | 5, 6, 17, 21 |
| Sample 2 | 4, 13, 16 | 8, 9, 10, 11, 29 | 1, 2, 3, 14, 23, 27, 28 | |

Looking at this grouping (see Table 3) and their attitudes on climate change, some patterns appear. Four of the informants score low on biospheric values, who belong to sample 1. This illustrates more climate-negative youth. Some characteristics between these informants are that they do not worry about climate change, do not think consciously about the topic and are not interested in this issue. They do not feel a responsibility to reduce emissions and rarely or never talk about the topic in their social circle. Three of them have vocational education and have almost lived their entire life in Ål, while informant 17 has a bachelor's degree and moved to Ål for one year ago but is from another village. By contrast, three of the informants (sample 1) score very high on biospheric values. A common feature is that all of them are women but with different backgrounds. Two have higher education, one has professional studies in psychology and the other has a master's degree in animal science. The third is still at high school, but had an exchange year to Canada last year, which made her even more interested in the issue. All of them have no doubt that climate change is man-made, they are concerned about being environmentally friendly and feel a personal responsibility and worry about climate change. There are also many of the informants who score high or middle on biospheric values. Here, there are large variations on how they have responded to the questions, but the majority believe in anthropogenically driven changes and feel a personal responsibility to reduce their emissions, but their attitudes towards climate-related subjects, how often they talk about the topic and worry about climate change vary. One thing that is important to highlight is that informant 22 supports pro-environmental behavior in same extent as the ones who score higher.

Three of the informants in sample 2 score very high on biospheric values, while the rest score high or middle on such values (see Table 3). The majority believe in man-made climate or that it is a mix of natural variability and human influence. However, the informants who score very high on biospheric values believe that the changes are anthropogenically driven. Furthermore, most of the informants talk about the topic in their social circle and feel a responsibility to reduce their emissions. A tendency is that many (9, 10, 11, 13, 16 and 29) who score high or very high on biospheric values worry more about climate change compared to those who score

middle on such values. All the informants want to take care of the environment and reduce the emissions, but they agree on the extent and which measures to be used. The informants who hold strong biospheric believe more in drastic measures to reduce Norway's emissions than those who score middle. Another note that is important to mention is that informant 27 and 28 tend to support pro-environmental behavior in same extent as those who score higher.

In addition, there is a tendency that the informants with higher education hold strong biospheric values. Eight of them (9, 10, 11, 16, 26, 27, 28 and 30) have finished a master's degree or another five years education, where most of them score high or very high on biospheric values. Informant 4, 8, 17 and 19 have a bachelor's degree, where two of the informants in sample 2 score high or very high on biospheric values, while the two informants in sample 1 score middle or low. However, it is hard to say if higher education plays a vital role for how they perceive and act considering climate change, but it seems to be an influencing factor. This may be connected with that they have lived outside of the village for a period and have been influenced by new and other impulses, insights and knowledges, perhaps leading to an increased environmentally consciousness. Since the community is described as conservative and many value traditions, this form their attitudes, perceptions and values, also regarding climate change.

### 5.4.4 Identity in relation to Climate-related Actions

If being environmentally friendly is an important part of how someone identifies the self, then one would expect that measures like recycling, buying ecological products, reducing flight trips or buying an electric car are important things to express, maintain and protect that identity. However, it must be recognized that humans are complex biosocial beings, where multiple factors can explain how they act. Hence, they do not always act consistently across various situations. In this section, I look at how the identity concept can explain people's behaviors.

#### 5.4.4.1 Identity and Transportation

There is a tendency that the informants who hold strong biospheric values are more motivated to choose environmentally friendly transport options and reduce emissions in this matter. For example, reducing car use is important for several of the informants (4, 13, 15 and 26) who score very high on biospheric values. Moreover, several of the informants (9, 10, 19, 27 and 28) have bought an electric car or a hybrid car, where many (9, 10, 27) did it in consideration to the environment while others (19) see more the financial benefits. This can be connected with their (person) identities, such as their attitudes regarding electric cars and what they

perceive as important. The ones who hold climate-positive attitudes are more likely to support pro-environmental behavior. However, decisions can also be made jointly, which is the case with informant 28. Buying an electric car was a decision she took together with her husband that she describes as more environmentally conscious than her. On the other hand, most of the informants choose transport mode based on what is the most practical choice of various options or the fastest way of traveling from A to B. For example, if it is a lot of snow or rain one day, most of the informants would choose the car because walking is inconvenient and demands higher effort. Therefore, the costs are perceived as higher than the benefits and is based on a I-rationality mentality. Different factors like cost and benefits, time aspects and the issue of logistics, particularly for the informants with children, who work in practical occupations or travel much within their job, must be taken into consideration. The physical context in the village, e.g. long distances, a bad public transportation system and a poor charging network for electric cars, are also described as important motivational factors behind how they act.

Table 4 demonstrates that there is little difference in values, but the informants act differently because of context, as I described above. The informants who live in periphery areas or close to the centrum describe that they are fully dependent on the car. Therefore, reducing car use is one of the biggest barriers for them but is also influenced on what they are motivated to do and how much effort they want to perform. In this way, it is connected with their person identity.

***Table 4***: The informants' score on biospheric values if they live in Sundre or periphery areas.

| | Score very high on biospheric values | Score high on biospheric values | Score middle on biospheric values | Score low on biospheric values |
|---|---|---|---|---|
| Sundre | 4, 15, 26 | 9, 10, 11 | 1, 2, 22, 23, 24, 25, 28 | 5, 17 |
| Periphery areas | 13, 16, 30 | 8, 12, 18, 20, 29 | 3, 7, 14, 19, 27 | 6, 21 |

#### 5.4.4.2 Identity and Holiday Trips

Holiday trips seem to be closely linked to the informants' (person) identities. This is reflected in their values and attitudes towards the relation between climate and the flight industry. However, other aspects such as financial considerations or having time for traveling are also significant for what the informants can do. Some of the informants, such as 5, 20, 27 and 29, do not have a special desire for traveling a lot, which is also the reason why they do not. A common feature is that the majority score low on being adventurous and stimulation values.

Furthermore, there is a tendency that the informants who score, for example, high on self-enhancement values (i.e. having fun) and on stimulation (i.e. being adventurous) but low on biospheric values, are more likely to not consider how their actions impact the environment since the benefits are bigger than the costs. By contrast, those who hold strong biospheric values are more motivated to reduce their holiday trips with plane, which is the most effective contribution for reducing their emissions. They also experience in larger extent a feeling of shame if they travel with plane, which is related to our social identities. Hence, "flyskam" is a socially constructed term made by a big group of people that influence most those who hold strong biospheric values. Moreover, some of the informants who score high on biospheric values but also high on stimulation and self-enhancement values, they experience an unpleasant feeling where two cognitions, such as a personal value and a behavior, are incompatible with each other. Often referred to as cognitive dissonance. Informant 15 is one example. She wants to travel and explore more of the world, but at the same time, she does not want to fly since it contradicts with her values. The result is a sense of discomfort or shame if she does since it does not match with the (person) identity that she has (i.e. being environmentally friendly).

#### 5.4.4.3 Identity and Food Patterns

A large proportion have a strong relation to agriculture (see Table 5). Five are farmers themselves, one was a farmer before (23), and one is a future farmer (20). Seven live or have been raised on a farm, while sixteen do not have a specific relation to agriculture. Still, they live in an agricultural community, where many people in their social circle are farmers. Hence, many of the informants think it is worrying that "eating less meat" has become the new "norm" among many people, which is not good for a village such as Ål that is based on agriculture and livestock. The discussion around "kjøttskam" is something that many feel misjudged and sad about. If this identity is being attacked or questioned, it can result in strong emotions.

***Table 5***: The informants' score on biospheric values based on their relation to agriculture.

| | Score very high on biospheric values | Score high on biospheric values | Score middle on biospheric values | Score low on biospheric values |
|---|---|---|---|---|
| Farmers | 16, 30 | 29 | 3, 27 | |
| Raised or live on a farm | 13 | 12, 18, 20 | 2, 7, 23 | 17, 21 |
| No specific relation to agriculture | 4, 15, 26 | 8, 9, 10,11 | 1, 14, 19, 22, 24, 25, 28 | 5, 6 |

To look more closely into the social culture in Ål, I asked the informants to think about a situation where they one day woke up and they have decided to become vegan. Then, they should reflect on how their friends and family would react. Many think that their social circle would have been either surprised or thought that they were joking. Several believe that their decision would be accepted after some good argumentations but being vegan because of health considerations was the most acceptable reason. Personally, many thought it would be a struggle to visit people because they would feel like a burden. However, one answer that describes how the social culture is, was by informant 11 who answered, *"Why should we do it? We live in a rural community and we have survived on animals. I think it is so inherited in the culture of rural communities in Norway, and at least in such agricultural areas as ours, to not choose from what we have received from nature, it almost seems like a scorn of what God has created".*

The informants' perceptions and attitudes towards eating meat and plantbased products seem to be closely connected to their identities. The society that they are born and raised in strongly affects how they perceive meat production and impacts their food habits, which is related to their social identity. Informant 30 is a farmer who said that being a vegan would be a "total lack of character", which would not match with who she is. Similar reactions were described among other farmers. Some said it would be impossible to be both a farmer and a vegan, which are two contradicting roles. Therefore, the informants with a relation to agriculture are more negative to a plantbased diet compared to the informants without any relation. Hence, the informants (15 and 26) who are pescatarians or flexitarian (4) hold strong biospheric values and do not have any specific relation to agriculture (see Table 5). The informants 2, 9, 10, 11, 12, 22 and 28 are positive to eating more plantbased but being a vegan is not actual. A common feature is that the majority do not have a relation to agriculture and score high or middle on biospheric values.

# 6. Discussion

In discussing the main findings and answering the posed RQs, I will link back to relevant theories that I explained in Chapter 3. The emphasis will be on RQ2 which I structure the discussion around, but I also draw on important findings from RQs 1 and 3 in order to produce a better understanding of the research topic in a rural context.

## 6.1 Perceptions and Attitudes

One of the main findings is that the majority in zone 1 and 4 believe that climate change is happening and that it is man-made. However, there is more skepticism among rural people that the changes are anthropically driven. In Ål, the majority believe in man-made climate change but there are some climate skeptics, particularly among people between 18-29 years (sample 1). This is the opposite pattern from CICERO's findings, showing that young people are more concerned about climate change than people between 45-59 years (sample 2). Moreover, the climate sceptics in sample 1 do not have much knowledge about the issue and lack will to perform pro-environmental behavior. They hold climate-negative attitudes and expressed that they do not care much about the issue, do not feel a responsibility to reduce their emissions and do not think that one person can make a difference in the larger context. However, there are also differences within this age group, with many engaged and environmentally conscious youths who hold climate-positive attitudes and supports pro-environmental behavior. They score high on biospheric values and are concerned about minimizing the negative outcomes of their behaviors on the environment. One example of this is informant 26 who usually walks to work, is a pescatarian and has decided to fly as little as possible. All is done in consideration to the environment, which is closely connected with her (person) identity. Being environmentally friendly is therefore an important way to express, maintain and protect of how she identifies herself. If she performs a behavior, such as flying to Rome or eating meat, that contradicts with her values, she can experience a sense of discomfort or shame. Her person identity is therefore high in salience, which means that this identity is likely to be activated across various contexts. Therefore, there are in particular two opposite groups with contrasting beliefs, values and attitudes regarding climate change. In addition, there are also many who can be placed in the middle that are more "climate-neutral" who endorse biospheric values and hold climate-positive attitudes, but they do not necessarily act environmentally consciously in all situations.

The distinction between the informants in sample 2 is more smoothen out, with many who score middle on biospheric values. Most of these people endorse climate-positive attitudes and are concerned about environmental issues but are not necessarily environmentally conscious in the everyday life. Some expressed that they miss more concrete examples of what they should do or wish a "recipe" of what is allowed and not allowed. Hence, they must be reminded about their values, so a pro-environmental behavior (e.g. washing the plastic instead of throwing it in mixed garbage) becomes a habit instead of a barrier. There are also several who stand out that endorse climate-positive attitudes and support pro-environmental behavior. The informants score high on biospheric values and are concerned about environmental issues that is caused by human influence. Not all of them act consequently across different situations. Informant 4 is an example. She scores very high on biospheric values and supports pro-environmental behaviors, such as eating less meat and reducing car use. However, she is one of the informants who travelled the most last year (4 holiday trips) and score very high on stimulation and self-enhancement values. She experiences cognitive dissonance when flying but exploring other parts of the world is also very important. Therefore, more than one person-identity (i.e. being adventurous vs. environmentally friendly) is activated in one situation, where the identity with the highest salience verifies itself. Furthermore, two of the informants stand out as so-called "climate realists" who score middle on biospheric values. However, they hold a strong social identity, such as members of a rural community, where they think and act what can benefit the group ("we-rationality"). Moreover, they also have roles in the social group as farmers, which guide their beliefs, preferences, values and behaviors. One example is that eating meat is an important way both to support the group and fulfill the role's expectations and meanings.

Moreover, the majority in zone 1 and 4 are a little worried about climate change, but a greater proportion in urban communities are quite or very worried. Less than half of the informants in Ål are worried about climate change, which shows that they are less worried even than people in zone 4. Certainly, my number of respondents is low, so this observation is uncertain. Furthermore, there is a tendency that the informants with higher education endorse strong biospheric values and are more worried about climate change. By contrast, the climate sceptics (sample 1) explained that they are not interested in the topic and do not have knowledge. It shows that there may be a connection between environmentally consciousness and knowledge. The social identity plays a certain role, in the way the society forms their values, perceptions and beliefs. It also can be hard to see the severity of the issue if it is understood as an abstract problem that happens in other parts of the world than something that directly impact themselves.

Moreover, an issue to highlight in this section is regarding some of the informants' attitudes towards the statement "Norway should reduce its emissions", where several compare countries with very different populations. One argument was, *"Norway emits little compared to other countries, such as China or India"*. Looking at how much emissions China emits compared to Norway, this argument is correct. However, Norway's population of 5,3 million people cannot be compared to China, which is the world's most populous country with 1,43 billion people (Worldometer, 2020). If one looks more specifically at how much an individual emits in these countries; the situation is something else. According to Climate Carbon Budget, a Norwegian emitted 8,3 tons $CO_2$ in 2018, while an Indian emitted 2 tons and a Chinese emitted 7 tons. This is less than an average Norwegian (Energi & Klima, 2020). This can be connected with a high consumption level and living standard in Norway, in addition to emissions from the oil and gas industry that have increased by 70 % compared to 1990. Another argument among the informants is that Norway is one of the best on climate solutions. One may question this argument as Norway has only reduced its emissions by 2,3 % compared to 1990 (SSB, 2020a).

## 6.2 Actions

### 6.2.1 Transportation

One of the main findings is that rural people are more dependent on the car compared to urban people who use public transportation more. Ål is a typical rural example, where the majority drive fossil cars and lack access to public transportation. Based on my own experience and where I do not have a driver license, I understand that the physical conditions in the village make it difficult to walk or take the bike everywhere, especially for those who live in periphery areas. Based on an individualist perspective on human action, people choose the option that offers the highest utility and that is the best alternative for themselves (I-rationality). Choosing the car is therefore the most practical choice, where walking is inconvenient and demands more effort and time. For the informants who have kids or live in periphery areas, time and logistics aspects must be considered. Their (person) identities play a role when it comes to decisions, such as buying an electric car. Several who hold strong biospheric values have bought such a car and they hold climate-positive attitudes, such as how they evaluate electric cars compared to fossil cars. In addition, pro-environmental behaviors, such as reducing car use, are measures for the informants to express and maintain their identity as being environmentally friendly.

### 6.2.2 Holiday trips

Another finding is that rural people travel less than people in urban areas, but the most responded answer for both zones were 1-3 trips. In Ål, the majority had one or two trips by plane last year. There is a large proportion who did not travel abroad last year. Most of them belong to sample 1, but other factors (e.g. financial considerations and time) play a role than environmental considerations. A main pattern is that many of the informants who score high on biospheric values have decided to travel less with plane due to environmental considerations, which is linked to their person identities. They think it is important to reduce flight trips, since is one of the most effective ways to contribute in reducing emissions. However, several of the informants in sample 1 who score low or middle on biospheric values want to travel more, where their economy has stopped them earlier. Person identities play an influencing role where their actions and attitudes are closely interlinked. They choose the option that has the largest benefits for themselves (I-rationality) than thinking about future impacts (They-rationality). Based on a social constructivist perspective, people are an outcome of social processes which relates to their social identities. One example is that the informants who hold strong biospheric values are more influenced by feeling discomfort when flying due to social influence.

### 6.2.3 Food patterns

In a national context, rural people eat more dinners with red meat, while urban people are more positive to increased food prices and vegetarian food. Ål is a typical agricultural village, where people are concerned about traditions and hold a strong social identity that affects their food habits and preferences. Based on a social constructivist view, societies create own values, beliefs and institutions that the inhabitants internalize during their childhood, such as meat being an important part of the food culture and social culture in Ål. Hence, a large proportion eat meat 3-5 times a week and do not consciously choose plantbased products. Only two are pescatarians but several who score high on biospheric values try to eat more plantbased products. This is connected to their person, social and role identities. As group members of a rural community, the majority are concerned about protecting the rural communities where buying local food and eating meat are important ways to express, maintain and protect their social identity. Their way of thinking is based on “we-rationality”, where they act in favor to the group they belong to. The group share common values, perceptions, norms and attitudes that is compared to another group (“byfolk”) whom they perceive as different. These groups evaluate each other negatively, resulting in a polarized debate with strong emotions. Several also have roles in the society, either as farmers or pescatarians, where they act in order to fulfill

the meanings and expectations of the role. Hence, the role identity “farmer” is high in salience, where many expressed that they could never be vegan because it contradicts with who they are.

# 7. Conclusion

In this thesis, I investigated rural people's attitudinal and behavioral responses to climate change. A case study was carried out in a rural community in Norway to examine people's perceptions, attitudes, values and behaviors considering climate change. There are indicators that rural people may be less concerned about climate change and less willing to reduce their emissions than urban people. Hence, I have explored this by analyzing statistical data from CICERO's climate survey and by interviewing thirty people who live in the municipality of Ål.

The first RQ was used to provide an insight of the differences between urban and rural communities in Norway. The findings show that rural people (zone 4) are less worried about climate change, have not as a strong feeling of responsibility and are more skeptical to anthropogenic climate change compared to people in zone 1. Rural people are also more dependent on the car and usually own more cars than urban people. The latter has better access to public transportation and are more concerned about that their transport mode generates low emissions. However, there is a tendency that urban people travel more to destinations in and outside of Europe by plane compared to rural people. Furthermore, rural people have more dinners with red meat per week, while a greater percentage in zone 1 do not eat such meat, are more positive to vegetarian food and increased food prices than rural people.

The second RQ aimed to produce a better understanding of how the locals perceive and act regarding climate change. Ål is a typical rural example in several ways. The majority believe in anthropogenically driven changes, feel a responsibility for reducing their emissions and talk about climate-related topics in their social circle. Several are worried about climate change, but the majority do not worry. While CICERO's findings show that youth between 18-29 years old are more concerned about climate change compared to people between 45-59 years, my data demonstrates the opposite. There are differences within this age group with two contrasting groups: 1. Climate sceptics who are not particularly interested in the topic. 2. Engaged youth who hold climate-positive attitudes and support pro-environmental behavior. Moreover, there are several between 45-59 years who stand out, a few as so-called "climate-realists" and many climate-positive people who hold climate-positive attitudes and are concerned about being environmentally friendly. When it comes to climate-related actions, there is a tendency that the majority drive when going somewhere. As described in RQ1, there is less access to public transport in rural communities, which is also the case in Ål. The majority describe public

transportation in Hallingdal as “extremely bad” or “absent, which make them completely dependent on the car. There are long distances within the municipality that makes it hard to walk or take the bike everywhere. Furthermore, holiday trips have a large importance for most of the informants, but several have decided to not fly or want to reduce flight trips as much as possible. However, there are also several who want to travel more or in the same extent. Regarding food patterns, the majority eat meat while two are pescatarians. Hence, meat is an important and integral part of the village’s food culture and social culture. Even if several are positive to include more plantbased products, the majority would never be vegan or vegetarian.

The last RQ examined which role people’s identities have for the informants’ climate-related perceptions and actions. As emphasized in Chapter 3, understanding human action and how a person think is closely linked to one’s identity, for example, how it creates one’s self-concept or influences their motivations. Moreover, the informants’ identities seem to play an influencing in several ways, such as how person identity influences what decisions they make regarding electric car purchases or flight trips, or how social and role identities affect how they perceive meat production and plantbased products. Many of them buy local food and eat meat to support the social group they belong to (“Åling) and/or in order to fulfill the expectations of a role identity (“farmer”). Hence, our values and attitudes are the basis for our person and social identities. Moreover, the findings show that the informants who score high on biospheric values support more pro-environmental behavior and endorse climate-positive attitudes. Being environmentally friendly is important for them, where actions such as reducing flight trips are made in order to express, maintain and protect that identity. By contrast, the informants who score low on biospheric values endorse more climate-negative attitudes and do not perform a behavior due to environmental considerations but because of other factors (e.g. financial benefits). Moreover, there are also other factors that influence what people do, such as the physical conditions in the village make the locals dependent on the car, where factors like time and logistics aspects play a role, as well as a poor public transportation system.

In conclusion, further research on this topic in both urban and rural communities in Norway are essential to receive a more thorough understanding on how individuals perceive and act considering climate change. Increased knowledge is crucial for the national authorities to develop policies that is supported by the people and which can contribute to cut in the emissions. Raising awareness among the population is a responsibility of the politicians and local authorities, so people are better informed and equipped to support pro-environmental behavior.

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# Appendices

## Appendix I: The Interview Guide

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**Intervjuguide (norsk versjon)**

**Personlige opplysninger**

Før vi begynner intervjuet ønsker jeg gjerne å bli litt bedre kjent med deg, så derfor skal jeg først stille deg noen spørsmål relatert til personlige opplysninger:

- Hvor gammel er du?
- Hva er din sivilstatus? Har du barn?
- Er du født eller oppvokst i bygda? Hvis ikke, når kom du hit?
- Hvilken type utdanning har du? Evt. har du yrkesutdanning?
- Hva jobber du med i dag?
- Er du medlem i (noen) organisasjon(er)? Hvis ja, hva er din rolle?
- Hva er din årlige inntekt? (cirka)

**Åpningsspørsmål**

1. Hva tror du at folk her i bygda er mest opptatt av?
    a. Hva liker folk å snakke om for eksempel?
    b. Er du opptatt av de samme tingene?
2. Er det noe du synes er spesielt viktig i livet ditt? Er det noen andre verdier som er viktig for deg?
3. Hvordan vil du beskrive Ål som en bygd?
    a. Hvordan vil du beskrive den sosiale kulturen som finnes her?
    b. Hva synes du er spesielt bra med Ål? Hva vil du trekke frem som mindre bra? Og hvorfor?

**Liten pause fra intervjuet - skjema med påstander (varighet ca. 5 min)**

**Syn på klimaendringer**

1. Hva er dine første tanker er når jeg sier ordet «*klimaendringer*»? Kan du utdype mer hva du tenker om dette temaet?
    a. Tror du at klimaendringene er menneskeskapte? Hvorfor/hvorfor ikke?

b. Føler du at klimaet her i dalen har forandret seg noe siden du var barn? I så fall, kan du beskrive på hvilken måte?

2. Jeg lurer på om dette [klimaendringer] er noe som du tenker på i hverdagen?
    a. Er dette et tema som gjør at du føler deg bekymret eller usikker angående fremtiden? Hvorfor/hvorfor ikke?

3. Er dette temaet noe som dukker opp som et samtaleemne i din omgangskrets (blant for eksempel dine venner, familie, kollegaer osv).?
    a. Hvis ja, hva pleier dere å snakke om? Hvor ofte snakker dere om dette temaet?
    b. Hvis nei, hvorfor tror du at dette ikke blir snakket om i din omgangskrets?
    c. Hva tror du at andre i omgangskretsen din mener angående dette temaet?
    d. Har det vært viktig for deg hva andre tenker om dette temaet? Hvorfor/hvorfor ikke? Har du lært noe av andre?

4. Hva er dine tanker om påstanden «*Norge bør redusere sine klimagassutslipp*?» Kan du utdype mer hva du mener?
    a. Hva mener du gir de største klimagassutslippene?
    b. Hvem mener du har et ansvar for å redusere klimagassutslipp i Norge?
    c. Synes du det blir gjort nok for å redusere klimagassutslipp i Norge (på globalt plan)? Hvorfor/hvorfor ikke?
    d. Føler du selv på et ansvar for å redusere egne klimagassutslipp?
    e. Hva synes du om politiske virkemidler som blir tatt i bruk for å redusere klimagassutslipp i Norge? Dette kan være for eksempel økt pris bensin/diesel, økt pris på kjøttprodukter, eller fase ut oljeindustrien.

**Klima-relatert atferd**

*Transport*

1. Hva er dine reisevaner på daglig basis? Hvordan kommer du deg til jobb eller skolen for eksempel?
    a. Hvorfor pleier du å velge dette transportmidlet?
    b. Er det noe forskjell på vinter og sommer-sesongen?
    c. Vet du hva andre i bygda eller i din omgangskrets pleier å gjøre?

2. Reflekterer du noe over hvilket transportmiddel du bruker (i hverdagen)? Hvorfor eller hvorfor ikke?
    a. Om bruker bil: Hva skal til for at du skal bruke andre alternativer (for eksempel gå, sykle eller bruke kollektivt) enn bilen?
    b. Om bruke andre framkomstmidler: Hva er grunnene for at du velger å sykle, gå eller reise kollektivt? Hvorfor bruker du ikke bil?

3. Hva tenker du om kollektivtransporten i Hallingdal?

    a. Hvis de svarer at det er dårlig: Om kollektivtransporten i dalen hadde vært bedre, ville du ha benyttet deg mer av dette tilbudet?
4. Hva vil du beskrive som de største forskjellene mellom by og bygd på dette området?

*Feriereiser*

1. Hvor mange ganger det siste året har du eller dere vært på feriereiser?
2. Hvilken betydning har feriereiser for deg?
    a. Vet du om feriereiser er viktig for folk i din omgangskrets?
3. Hvilket transportmiddel bruker du vanligvis for å komme deg på slike turer? (Det kan være for eksempel, fly, fossilbil, el-bil, buss, tog, osv. Avhengig av reisemål)
    a. Hvorfor velger du dette transportmiddelet?
4. Hvordan tenker du framover: Reise mer, mindre eller på samme nivå? Hvorfor ønsker du dette?
5. Kunne du tenke deg å trappe ned på feriereiser for å redusere eget klimagassutslipp? Eventuelt forandre måten du reiser på? I så fall, hvorfor/hvorfor ikke?

*Mat*

1. Når du drar på butikken, tenker du noe over hvilke produkter du kjøper? (Det kan være om de er økologisk, nasjonal produsert, kommer fra et spesifikt merke, osv.)
2. Er det viktig for deg at maten du spiser produserer lite klimagassutslipp? Hvorfor/hvorfor ikke?
3. Hvor ofte spiser du eller dere (i husholdet) kjøtt? Da tenker jeg på alle former for kjøtt, som storfe, lam/sau, svin og kylling.
    a. Hvor ofte spiser du/dere rødt kjøtt?
    b. Kan du beskrive hvor viktig kjøtt er i ditt/deres kosthold?
    c. Pleier du/dere noen ganger å inkludere vegetarmat eller vegansk mat?
    d. Vet du hva andre i din omgangskrets gjør? Har de noen meninger om hva man bør spise?

*Energiforbruk*

1. Hva er de viktigste oppvarmingskildene som brukes i boligen din/deres i dag?
2. Hvilken temperatur pleier du/dere vanligvis å ha i boligen på vinterstid? Har du/dere gjort noen energieffektiviserende tiltak i boligen din/deres? Isåfall, hvilke tiltak?
    a. Gjør du/dere noen spesifikke tiltak for å redusere energiforbruket ditt/deres?
    b. Vet du om noen i din omgangskrets gjør noen tiltak?

*Annet*
Disse må tilpasses til svar ovenfor:

1. Gjør du/dere noen andre tiltak i hverdagen for å bli mer klimavennlig? I så fall, hvilke tiltak?

2. Kunne du tenke deg å endre på noe for å redusere egne klimagassutslipp?
    a. Hvis ja, hva er de viktigste områdene som du kunne tenke deg å endre på?
    b. Hvis nei, hvorfor ikke?
3. Hva føler du er din største utfordring eller barriere med tanke på å redusere egne klimagassutslipp?
4. (Er det noen i din omgangskrets som sier de skal gjøre endringer?
    a. Kommenteres slike forslag eller ideer av andre?
    b. Synes du det er fine eller litt merkelige forslag?)
5. Til slutt, vil jeg gjerne at du skal forestille deg en situasjon hvor du våkner opp en dag og du har plutselig bestemt deg for å bli veganer - hva tror du at din familie og venner ville sagt?

**Avslutningsvis**

Er det noe annet du ønsker å tilføye, eller noe du ønsker å utdype mer på?

# Appendix II: Form on Values

The form includes thirteen statements that reflects the informants' values. They were asked to fill this out during the interview, where they chose the option that matched their values and beliefs the most. It is in Norwegian because it is the informants' native language.

| | Veldig lik meg | Lik meg | Noe lik meg | Ikke lik meg | Ikke lik meg i det hele tatt |
|---|---|---|---|---|---|
| Du er overbevist om at folk bør verne om miljøet. Det er viktig for deg å sikre bærekraft for fremtidige generasjoner | | | | | |
| Det er veldig viktig for deg å hjelpe menneskene rundt deg. Du ønsker å gjøre noe for at de skal ha det bra | | | | | |
| Det er viktig for deg å være rik. Du vil ha mye penger og kostbare ting | | | | | |
| Det er viktig for deg å være vellykket. Du håper at andre vil anerkjenne det du oppnår | | | | | |
| Det er viktig for deg å tenke ut nye idéer og å være kreativ. Du liker å gjøre ting på din egen måte | | | | | |
| Det er viktig for deg å ha det moro. Du liker å "skjemme deg bort" litt | | | | | |
| Du er på utkikk etter eventyr og liker å ta sjanser. Du vil gjerne ha et spennende liv | | | | | |
| Tradisjoner er viktig for deg. Du prøver å følge tradisjoner i religion eller i familien din | | | | | |
| Det er viktig for deg å alltid oppføre deg ordentlig. Du vil unngå å gjøre noe som folk vil si er galt | | | | | |

| | | | | | |
|---|---|---|---|---|---|
| Det er viktig for deg å bo i trygge omgivelser. Du unngår alt som kan utsette deg for fare | | | | | |
| Du mener sterkt at folk skal respektere jorden. Mennesker skal leve i harmoni med andre arter | | | | | |
| Du synes det er viktig at alle mennesker i verden behandles likt. Du mener at alle bør ha like muligheter i livet | | | | | |
| Å forebygge forurensning er viktig for deg. Du mener sterkt at folk skal beskytte naturressursene | | | | | |

## The informants' responses to the form, divided into two age groups

### Openness to Change

### Sample 1

| | Very like me | | Like me | | Something like me | | Not like me | | Total |
|---|---|---|---|---|---|---|---|---|---|
| It is important for you to come up with new ideas and to be creative. You like to do things your own way | 2 | 13,3 | 8 | 53,3 | 5 | 33,3 | 0 | 0,0 | 15 |
| You are looking for adventure and enjoy taking chances. You want to have an exciting life | 3 | 20,0 | 3 | 20,0 | 7 | 46,67 | 2 | 13,3 | 15 |

### Sample 2

| | Very like me | | Like me | | Something like me | | Not like me | | Total |
|---|---|---|---|---|---|---|---|---|---|
| It is important for you to come up with new ideas and to be creative. You like to do things your own way | 4 | 26,7 | 8 | 53,3 | 3 | 20,0 | 0 | 0,0 | 15 |
| You are looking for adventure and enjoy taking chances. You want to have an exciting life | 1 | 6,7 | 3 | 20,0 | 6 | 40,0 | 5 | 33,3 | 15 |

## Conservation

### Sample 1

| | Very like me | | Like me | | Something like me | | Not like me | | Not like me at all | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| It is important for you to live in a safe environment. You avoid anything that could put you at risk | 0 | 0,0 | 7 | 46,67 | 5 | 33,3 | 3 | 20,0 | 0 | 0,0 | 15 |
| It is important for you to always behave properly. You will avoid doing something that people will say is wrong | 2 | 13,3 | 8 | 53,3 | 2 | 13,3 | 3 | 20,0 | 0 | 0,0 | 15 |
| Traditions are important to you. You try to follow traditions in religion or in your family | 4 | 26,7 | 4 | 26,7 | 5 | 33,3 | 1 | 6,7 | 1 | 6,7 | 15 |

### Sample 2

| | Very like me | | Like me | | Something like me | | Not like me | | Not like me at all | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| It is important for you to live in a safe environment. You avoid anything that could put you at risk | 0 | 0,0 | 8 | 53,3 | 5 | 33,3 | 2 | 13,3 | 0 | 0,0 | 15 |
| It is important for you to always behave properly. You will avoid doing something that people will say is wrong | 3 | 20,0 | 5 | 33,3 | 4 | 26,7 | 3 | 20,0 | 0 | 0,0 | 15 |
| Traditions are important to you. You try to follow traditions in religion or in your family | 4 | 26,7 | 7 | 46,7 | 3 | 20,0 | 1 | 6,7 | 0 | 0,0 | 15 |

## Self-enhancement Values

### Sample 1

| | Very like me | | Like me | | Something like me | | Not like me | | Not like me at all | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| It is important for you to be rich. You want a lot of | 0 | 0,0 | 0 | 0,0 | 8 | 53,3 | 7 | 46,7 | 0 | 0,0 | 15 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| money and expensive stuff. | | | | | | | | | | | |
| It is important for you to be successful. You hope that others will recognize what you achieve | 0 | 0,0 | 7 | 46,7 | 5 | 33,3 | 3 | 10,0 | 0 | 0,0 | 15 |
| It is important for you to have fun. You like to "pamper yourself" a little | 3 | 20,0 | 3 | 20,0 | 8 | 53,3 | 1 | 6,7 | 0 | 0,0 | 15 |

### Sample 2

| | Very like me | | Like me | | Something like me | | Not like me | | Not like me at all | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| It is important for you to be rich. You want a lot of money and expensive stuff. | 0 | 0,0 | 0 | 0,0 | 3 | 10,0 | 11 | 73,3 | 1 | 6,7 | 15 |
| It is important for you to be successful. You hope that others will recognize what you achieve | 0 | 0,0 | 2 | 13,33 | 5 | 33,3 | 8 | 53,3 | 0 | 0,0 | 15 |
| It is important for you to have fun. You like to "pamper yourself" a little | 2 | 13,3 | 3 | 20,0 | 7 | 46,7 | 3 | 20,0 | 0 | 0,0 | 15 |

## Self-transcendence Values

### Sample 1

| | Very like me | | Like me | | Something like me | | Not like me | | Total |
|---|---|---|---|---|---|---|---|---|---|
| It is very important for you to help the people around you. You want to do something to make them feel good | 7 | 46,7 | 8 | 53,3 | 0 | 0,0 | 0 | 0,0 | 15 |
| You think it is important that all people in the world are treated equally. You believe that everyone should have equal opportunities in life | 9 | 60,0 | 6 | 40,0 | 0 | 0,0 | 0 | 0,0 | 15 |

### Sample 2

| | Very like me | | Like me | | Something like me | | Not like me | | Total |
|---|---|---|---|---|---|---|---|---|---|
| It is very important for you to help the people around you. You want to do something to make them feel good | 6 | 40,0 | 8 | 53,3 | 1 | 6,7 | 0 | 0,0 | 15 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| You think it is important that all people in the world are treated equally. You believe that everyone should have equal opportunities in life | 7 | 46,7 | 7 | 46,7 | 1 | 6,7 | 0 | 0,0 | 15 |

## Biospheric Values

### Sample 1

| | Very like me | | Like me | | Something like me | | Not like me | | Total |
|---|---|---|---|---|---|---|---|---|---|
| You are convinced that people should protect the environment. It is important for you to ensure sustainability for future generations | 4 | 26,7 | 4 | 26,7 | 3 | 20,0 | 4 | 26,7 | 15 |
| You strongly believe that people should respect the earth. Human must live in harmony with other species | 3 | 20,0 | 6 | 40,0 | 5 | 33,3 | 1 | 6,7 | 15 |
| Preventing pollution is important to you. You strongly believe that people should protect natural resources. | 6 | 40,0 | 3 | 20,0 | 4 | 26,7 | 2 | 13,3 | 15 |

### Sample 2

| | Very like me | | Like me | | Something like me | | Not like me | | Total |
|---|---|---|---|---|---|---|---|---|---|
| You are convinced that people should protect the environment. It is important for you to ensure sustainability for future generations | 5 | 33,3 | 6 | 40,0 | 4 | 26,7 | 0 | 0,0 | 15 |
| You strongly believe that people should respect the earth. Human must live in harmony with other species | 3 | 20,0 | 4 | 26,7 | 6 | 40,0 | 2 | 13,3 | 15 |
| Preventing pollution is important to you. You strongly believe that people should protect natural resources. | 6 | 40,0 | 6 | 40,0 | 3 | 20,0 | 0 | 0,0 | 15 |

# Appendix III: An Overview of the Sample

The table below shows the total overview of the sample that is categorized by their location in Ål, age group and gender. After that, an individual presentation of the informants is presented, which is divided into different topics, such as their connection to Ål, education, occupation, etc.

| | **Location: Periphery areas** | **Location: Sundre** | **Sample 1 (18-29 years)** | **Sample 2 45-59 years** | **Gender** |
|---|---|---|---|---|---|
| Informant 1 | | x | | x | Male |
| Informant 2 | | x | | x | Female |
| Informant 3 | x | | | x | Male |
| Informant 4 | | x | | x | Female |
| Informant 5 | | x | x | | Female |
| Informant 6 | x | | x | | Male |
| Informant 7 | x | | x | | Female |
| Informant 8 | x | | | x | Female |
| Informant 9 | | x | | x | Male |
| Informant 10 | | x | | x | Male |
| Informant 11 | | x | | x | Female |
| Informant 12 | x | | x | | Male |
| Informant 13 | x | | | x | Female |
| Informant 14 | x | | | x | Female |
| Informant 15 | | x | x | | Female |
| Informant 16 | x | | | x | Male |
| Informant 17 | | x | x | | Female |
| Informant 18 | x | | x | | Female |
| Informant 19 | x | | x | | Male |
| Informant 20 | x | | x | | Male |
| Informant 21 | x | | x | | Male |
| Informant 22 | | x | x | | Female |
| Informant 23 | | x | | x | Male |
| Informant 24 | | x | x | | Male |

| | | | | | |
|---|---|---|---|---|---|
| Informant 25 | | x | x | | Male |
| Informant 26 | | x | x | | Female |
| Informant 27 | x | | | x | Male |
| Informant 28 | | x | | x | Female |
| Informant 29 | x | | | x | Female |
| Informant 30 | x | | x | | Female |

**Informant 1**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>59 years old | The interview took place 10.02.2020 at the informant's house.<br><br>Duration of 42 minutes (voice recorder) | Moved to Ål in 1987, lived there for 33 years | High school diploma<br><br>Bankakademiet in Oslo (BI) Two years<br><br>Customer advisor in Sparebank 1 | Norsk bowlingforbund<br><br>Ål IL<br><br>Norsk caravan club |

**Informant 2**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>55 years old | The interview took place 11.02.2020 at the informant's house.<br><br>Duration of 60 minutes (voice recorder) | Born and raised in Ål.<br><br>Came back to Ål when she was 23 years | High school diploma<br><br>Secretary school in Drammen (one year)<br><br>Department manager | Fagforbundet (accountant)<br><br>Ål IL<br><br>Husflidslaget (cashier) |

**Informant 3**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>52 years old | The interview took place 12.02.2020 at the informant's house.<br><br>Duration of 1 hour and 22 minutes (voice recorder) | Born and raised in Ål | High school diploma (vocational education) Professional letter as a carpenter<br><br>Farmer and carpenter. He also does cabin rental | Bendit Liatoppen and Biathlon festival<br><br>Community house (cashier) and shooting range (cashier) |

**Informant 4**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>56 years old | The interview took place 14.02.2020 at the informant's work.<br><br>Duration of 60 minutes (note taking) | Born and raised in Ål | High school diploma<br><br>Bioengineer, with a bachelor's degree. Specification in blood banking<br><br>Works in the blood bank and lab | Member of the Brunstad Christian Church |

**Informant 5**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>25 years old | The interview took place 15.02.2020 at the informant's house.<br><br>Duration of 30 minutes (voice recorder) | Born in Russia but raised in Ål<br><br>Came to Hallingdal when she was 5/6 years old | High school diploma (vocational education)<br><br>Health secretary and pharmacist<br><br>Pharmacy technician | Farmasiforbundet |

**Informant 6**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>24 years old | The interview took place 16.02.2020 at my house.<br><br>Duration of 40 minutes (voice recorder) | Born and raised in Ål | High school diploma (vocational education)<br><br>Carpenter (two years with school and two years as an apprentice) | No |

**Informant 7**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>19 years old | The interview took place 17.02.2020 at my house.<br><br>Duration of 67 minutes (voice recorder) | Born in Bergen but raised in Ål.<br><br>Moved to Ål when she was 8 years | High school diploma<br><br>Work at Jysk and at Prestegardsjordet | No |

**Informant 8**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>49 years old | The interview took place 17.02.2020 at the informant's house.<br><br>Duration of 32 minutes (voice recorder) | Born in Oslo and raised in Ål | High school diploma (vocational education)<br><br>Nursing: bachelor's degree<br><br>Department manager | Bygdekvinnelaget (secretary) |

**Informant 9**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>52 years old | The interview took place 18.02.2020 at the informant's work.<br><br>Duration of 55 minutes (voice recorder) | Born and raised in Ål | High school diploma<br><br>Education from Bankakademiet (BI)<br><br>Vocational education within banking and insurance<br><br>CEO (general manager) | Folkeor (folk music)<br><br>Membership in different sports clubs<br>. |

**Informant 10**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>48 years old | The interview took place 18.02.2020 at the informant's work.<br><br>Duration of 65 minutes (voice recorder) | Born and raised in Ål | High school diploma<br><br>Master's degree from NMBU in Ås (5 years)<br><br>Business advisor in Sparebank 1 | Finansforbundet |

**Informant 11**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>47 years old | The interview took place 19.02.2020 at the informant's work.<br><br>Duration of 1 hour and 15 minutes (voice recorder) | Born and raised in Ål | High school diploma<br><br>Higher education as a teacher/professor (5 years)<br><br>Influential role at Tingstugu | The Labour Party<br><br>Historielaget<br><br>Mållaget<br><br>Leger uten Grenser |

| | | | | |
|---|---|---|---|---|
| | | | | Amnesty International<br><br>Red Cross |

**Informant 12**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>18 years old | The interview took place 19.02.2020 at the informant's work.<br><br>Duration of 30 minutes (voice recorder) | Born and raised in Torpo (Ål)<br><br>Lives on a farm | High school diploma (vocational education)<br><br>Apprentice (office and administration) | 4H |

**Informant 13**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>55 years old | The interview took place 20.02.1020 at the informant's house.<br><br>Duration of 1 hour and 10 minutes (note taking) | Moved to Ål around 1985/1986.<br><br>Her family had a cabin in Hallingdal | High school diploma (vocational education)<br><br>Technical draftsman from the technical vocational school in Nesbyen (two years)<br><br>Work in child welfare services and with technical drawing | Bygdeskiksnembda (vara)<br><br>Plan (sponsor)<br><br>Fosterhjem-Foreningen |

**Informant 14**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>52 years old | The interview took place 20.02.2020 at the informant's house.<br><br>Duration of 60 minutes (voice recorder) | Born and raised in Ål | High school diploma (vocational education - commerce and office)<br><br>Works with accounting | No |

**Informant 15**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>18 years old | The interview took place 23.02.2020 at the informant's work.<br><br>Duration of 45 minutes (voice recorder) | Born and raised in Ål | High school diploma (final year)<br><br>Cashier at Kulturhuset | No |

**Informant 16**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>52 years old | The interview took place 24.02.2020 at the informant's work.<br><br>Duration of 47 minutes (voice recorder) | Moved to Ål in 2003.<br><br>Came to Hallingdal in 2001 | High school diploma<br><br>Higher education from NMBU in Ås Master in Versatile Agriculture<br><br>Department manager, and operates an organic farm | Fjell IL (Skiskytterlaget)<br><br>Liatoppen (board leader)<br><br>Ål Jeger og Fisk<br><br>Hadding<br><br>Nedre Skytterlag |

**Informant 17**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>27 years old | The interview took place 24.02.2020 at a room at Kulturhuset.<br><br>Duration of 60 minutes (voice recorder) | From Jevnaker.<br><br>Moved to Ål one year ago. | High school diploma<br><br>Higher education, a bachelor's degree in physiotherapy<br><br>Physiotherapist | No |

**Informant 18**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>20 years old | The interview took place 25.02.2020 at a room at Kulturhuset.<br><br>Duration of 56 minutes (voice recorder) | Born and raised in Ål<br><br>Lives on a farm | High school diploma (final year)<br><br>Political engaged | Member in the political party – Senterpartiet<br><br>Buskerud Senterungdom<br><br>Hallingdal Senterungdom<br><br>Politician (vara and leader) |

**Informant 19**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>29 years old | The interview took place 25.02.2020 at a room at Kulturhuset.<br><br>Duration of 45 minutes (voice recorder) | Born and raised in Ål | High school diploma<br><br>Bachelor's degree in economy and administration, with a specification | Member in the political party - Høyre (vara) |

| | | | | |
|---|---|---|---|---|
| | | | in applied macroeconomics<br><br>Savings- and investment adviser in Sparebank 1 | |

**Informant 20**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>22 years old | The interview took place 27.02.2020 at a room at Kulturhuset.<br><br>Duration of 1 hour and 30 minutes (voice recorder) | Born and raised in Ål<br><br>Lives on a farm and has the allodial rights ("odelsrett") | High school diploma (vocational education)<br><br>General manager in a firm. Machinery contractor, an excavator driver<br><br>Future farmer | Bondelaget<br><br>Maskinentreprenørenes-forbund |

**Informant 21**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>21 years old | The interview took place 27.02.2020 at a room at Kulturhuset.<br><br>Duration of 42 minutes (voice recorder) | Born and raised in Ål | High school diploma (vocational education)<br><br>Car mechanic | No |

**Informant 22**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>21 years old | The interview took place 02.03.2020 at my house.<br><br>Duration of 42 minutes (voice recorder) | Born and raised in Ål | High school diploma<br><br>Bachelor's degree in Intercultural studies (ongoing)<br><br>Summer job at the elderly center at Ål, with cleaning | Strømmestiftelsen |

**Informant 23**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>56 years old | The interview took place 02.03.2020 at the informant's house.<br><br>Duration of 2 hours | Born and raised in Nesbyen<br><br>Moved to Ål in 2000. | High school diploma (vocational education)<br><br>Carpenter. Earlier, he | No |

| | | | | |
|---|---|---|---|---|
| | and 20 minutes (voice recorder) | Lived in Ål in 1984 when he finished military, but was back and forward between Gol, Nesbyen and Ål | was a farmer, between 1991 until 2004.<br><br>He still has the farm, but no animals. | |

**Informant 24**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>27 years old | The interview took place 03.03.2020 at the informant's work<br><br>Duration of 45 minutes (voice recorder) | Born and raised in Ål | High school diploma (vocational education) – and additional education with general study skills<br><br>Works in the construction industry: calculator, project manager and sales manager | Member in Øyni idrettsforening (BUK - Brunstad Ungdomsklubb)<br><br>Brunstad Christian Church |

**Informant 25**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male, 23 years old | The interview took place 03.03.2020 at the informant's house<br><br>Duration of 53 minutes (voice recorder) | Born and raised in Ål | High school diploma (vocational education)<br><br>Industrial mechanic, works with hydropower - Eco Energy at Gol | LO Forbund<br><br>Ål Jeger og Fisk<br><br>Bø Jeger og Fisk |

**Informant 26**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>26 years old | The interview took place 04.03.2020 at a room in Kulturhuset.<br><br>Duration of 52 minutes (voice recorder) | Moved to Ål for one year ago.<br><br>Originally from Oslo. | High school diploma<br><br>Higher education, professional studies in psychology<br><br>Clinical psychologist | Fagforening<br><br>Naturvernforbundet (Natur og Ungdom)<br><br>Member in the political party: Miljøpartiet de Grønne |

**Informant 27**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Male<br><br>51 years | The interview took place 04.03.2020 at a room in Kulturhuset | Born and raised in Ål | High school diploma<br><br>Higher education at | Bondelaget<br><br>Ål bondelag |

| | | | | |
|---|---|---|---|---|
| old | Duration of 60 minutes (voice recorder) | | NMBU, master's degree in civil engineering and machine<br><br>Farmer and a machinery contractor | Norsk sau og geit<br><br>Ål sau og geit<br><br>Norges Landbruksrådgiving |

**Informant 28**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>50 years old | The interview took place 05.03.2020 at a room at the informant's house<br><br>Duration of 62 minutes (voice recorder) | Born and raised in Ål.<br><br>Moved to Bergen but came back to Ål in 2013. | High school diploma<br><br>Higher education as a teacher.<br><br>Master's degree in pedagogy, and another master's degree in Speech Pathology<br><br>Today, she is a speech therapist | Unionized |

**Informant 29**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>54 years old | The interview took place 11.03.2020 at the informant's house<br><br>Duration of 45 minutes (voice recorder) | Born and raised in Ål | High school diploma (vocational education - commerce and office)<br><br>Full-time farmer | No |

**Informant 30**

| Gender and age | Interview information | Connection to Ål | Education and occupation | Member in an organization? |
|---|---|---|---|---|
| Female<br><br>28 years old | The interview took place 13.03.2020 at Skype (due to the corona situation)<br><br>Duration of 47 minutes (voice recorder) | Born and raised in Ål | High school diploma<br><br>Master's degree in Animal Science at NMBU in Ås (5 years)<br><br>In March 2020, she became a full-time farmer. Earlier, she worked as a sales consultant at Felleskjøpet | Naturviterne |

# Appendix IV: Table Attachments

**Table attachment 1:** "*Climate change is happening*". Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 6 | 0,7 | 12 | 1,3 | 79 | 8,6 | 281 | 30,6 | 518 | 56,4 | 23 | 2,5 | 919 |
| Zone 4 | 6 | 1,0 | 14 | 2,3 | 89 | 14,8 | 252 | 41,9 | 229 | 38,0 | 12 | 2,0 | 602 |
| Total column | 12 | | 26 | | 168 | | 533 | | 747 | | 35 | | 1521 |

**P-value:** 2,23444E-10

**Chi:** 11784,90482

**Table attachment 2:** *"Human activity does not affect the climate".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 492 | 53,5 | 220 | 23,9 | 82 | 8,9 | 56 | 6,1 | 28 | 3,0 | 42 | 4,6 | 920 |
| Zone 4 | 208 | 34,8 | 175 | 29,3 | 105 | 17,6 | 51 | 8,5 | 31 | 5,2 | 28 | 4,7 | 598 |
| Total column | 700 | | 395 | | 187 | | 107 | | 59 | | 70 | | 1518 |

**P-value**: 8,3172E-12

**Chi:** 10657,2948

**Table attachment 3:** *"To what extent do you worry about climate change?"* Frequency to the left in the table, and the percentage on the right side.

| | Not worried at all | | A little worried | | Quite worried | | Very worried | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 108 | 11,8 | 370 | 40,3 | 295 | 32,1 | 131 | 14,3 | 15 | 1,6 | 919 |
| Zone 4 | 133 | 22,1 | 279 | 46,7 | 131 | 21,8 | 47 | 7,8 | 11 | 1,8 | 601 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Total column | 241 | 649 | 426 | 178 | 26 | 1520 |

**P-value**: 3,92891E-11

**Chi:** 6224,127284

**Table attachment 4:** *"My lifestyle does not contribute to climate change".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 63 | 6,9 | 246 | 26,8 | 333 | 36,3 | 154 | 16,8 | 56 | 6,1 | 66 | 7,2 | 918 |
| Zone 4 | 20 | 3,4 | 105 | 18,9 | 249 | 42,1 | 116 | 17,8 | 59 | 8,5 | 48 | 7,1 | 597 |
| Total column | 83 | | 351 | | 582 | | 270 | | 115 | | 114 | | 1515 |

**P-value:** 4,18529E-06

**Chi:** 2378,38857

**Table attachment 5:** *"How often do you talk to friends and others about climate change?"* Frequency to the left in the table, and the percentage on the right side.

| | (Almost) daily | | Weekly | | Monthly | | Rarely | | Never | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 37 | 4,0 | 227 | 24,5 | 285 | 30,7 | 287 | 31,0 | 61 | 6,6 | 30 | 3,2 | 927 |
| Zone 4 | 14 | 2,3 | 116 | 19,2 | 149 | 24,7 | 248 | 41,1 | 51 | 8,4 | 26 | 4,3 | 604 |
| Total column | 51 | | 343 | | 434 | | 535 | | 112 | | 56 | | 1531 |

**P-value:** 9,15247E-05

**Chi:** 3129,488022

**Table attachment 6***: "I have a responsibility to reduce my greenhouse gas emissions".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 25 | 2,7 | 43 | 4,7 | 155 | 16,8 | 396 | 42,8 | 291 | 31,5 | 15 | 1,6 | 925 |
| Zone 4 | 32 | 5,3 | 35 | 5,8 | 145 | 24,0 | 265 | 43,8 | 118 | 19,5 | 10 | 1,7 | 605 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Total column | 57 | 78 | 300 | 661 | 409 | 25 | 1530 |

**P-value:** 6,4637E-07

**Chi:** 3925,29873

**Table attachment 7:** *"Reducing greenhouse gases is a responsibility for all Norwegians"***.** Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 40 | 4,4 | 28 | 3,1 | 136 | 14,9 | 339 | 37,1 | 347 | 38,0 | 24 | 2,6 | 914 |
| Zone 4 | 37 | 6,2 | 26 | 4,4 | 165 | 27,7 | 221 | 37,1 | 127 | 21,3 | 19 | 3,2 | 595 |
| Total column | 77 | | 54 | | 301 | | 560 | | 474 | | 43 | | 1509 |

**P-value:** 6,76571E-13

**Chi:** 10097,83869

**Table attachment 8:** "*Reducing greenhouse gases is the responsibility of politicians".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 19 | 2,1 | 43 | 4,7 | 120 | 13,0 | 280 | 30,4 | 435 | 47,3 | 23 | 2,5 | 920 |
| Zone 4 | 30 | 5,0 | 22 | 3,7 | 125 | 21,0 | 217 | 36,5 | 183 | 30,8 | 18 | 3,0 | 595 |
| Total column | 49 | | 65 | | 245 | | 497 | | 618 | | 41 | | 1515 |

**P-value:** 2,71969E-10

**Chi:** 8361,261587

**Table attachment 9:** "*Reducing greenhouse gases is a responsibility primarily for other countries"***.** Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | Does not match | Matches neither well nor bad | Matches quite well | Matches very well | I do not know | Total row |
|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 260 | 28,2 | 261 | 28,3 | 197 | 21,4 | 101 | 11,0 | 74 | 8,0 | 28 | 3,0 | 921 |
| Zone 4 | 93 | 15,7 | 188 | 31,7 | 165 | 27,8 | 75 | 12,7 | 51 | 8,6 | 21 | 3,5 | 596 |
| Total column | 353 | | 449 | | 362 | | 176 | | 125 | | 49 | | 1517 |

**P-value:** 3,35466E-06

**Chi:** 4048,919964

**Table attachment 10***: "Which travel method did you usually use to get to your place of work or study in 2018 during the winter season?".* Frequency table.

| | Car (gas, diesel) | Car (hybrid) | Electric car | Public transport | Electric bicycle | Motor bike | Bicycle | Walking | Taxi | Other | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 142 | 38 | 41 | 342 | 1 | 12 | 30 | 89 | 2 | 2 | 699 |
| Zone 4 | 233 | 23 | 14 | 27 | 1 | 1 | 11 | 43 | 6 | 1 | 360 |
| Total column | 375 | 61 | 55 | 369 | 2 | 13 | 41 | 132 | 8 | 3 | 1059 |

**P-value:** 1,17768E-52

**Chi:** 40823,64753

**Table attachment 11***: "Which travel method did you usually use to get to your place of work or study in 2018 during the summer season?"* Frequency table.

| | Car (gas, diesel) | Car (hybrid) | Electric car | Public transport | Electric bicycle | Motor bike | Bicycle | Walking | Taxi | Other | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 117 | 37 | 37 | 278 | 16 | 22 | 97 | 81 | 2 | 4 | 691 |
| Zone 4 | 199 | 22 | 13 | 24 | 4 | 7 | 33 | 43 | 1 | 8 | 354 |
| Total column | 316 | 59 | 50 | 302 | 20 | 29 | 130 | 124 | 3 | 12 | 1045 |

**P-value:** 2,13701E-43

**Chi:** 28475,98145

**Table attachment 12***: "How important is it to you that your journey to work or study is cheap?"* Frequency to the left in the table, and the percentage on the right side.

| | Unimportant | Somewhat important | Neither unimportant nor important | Quite important | Very important | I do not know | Total row |
|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 22 | 3,2 | 61 | 8,7 | 112 | 16,0 | 315 | 45,1 | 187 | 26,8 | 2 | 0,3 | 699 |
| Zone 4 | 34 | 9,5 | 32 | 8,9 | 99 | 27,7 | 120 | 33,5 | 68 | 19,0 | 5 | 1,4 | 358 |
| Total column | 56 | | 93 | | 211 | | 435 | | 255 | | 7 | | 1057 |

**P-value:** 5,2548E-10

**Chi:** 3094,504923

**Table attachment 13*:*** *"How important is it to you that your journey to work or study is quick?"* Frequency to the left in the table, and the percentage on the right side.

| | Unimportant | | Somewhat important | | Neither unimportant nor important | | Quite important | | Very important | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 2 | 0,3 | 12 | 1,7 | 27 | 3,9 | 274 | 39,2 | 384 | 54,9 | 0 | 0,0 | 699 |
| Zone 4 | 7 | 2,0 | 10 | 2,8 | 21 | 5,9 | 166 | 46,2 | 151 | 42,1 | 4 | 1,1 | 359 |
| Total column | 9 | | 22 | | 48 | | 440 | | 535 | | 4 | | 1058 |

**P-value:** 9,45084E-18

**Chi:** 17602,10665

**Table attachment 14:** *"How important is it to you that your journey to work or study generates low greenhouse gas emissions?"* Frequency to the left in the table, and the percentage on the right side.

| | Unimportant | | Somewhat important | | Neither unimportant nor important | | Quite important | | Very important | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 56 | 8,0 | 81 | 11,6 | 166 | 23,7 | 264 | 37,7 | 129 | 18,4 | 4 | 0,6 | 700 |
| Zone 4 | 51 | 14,3 | 48 | 13,5 | 127 | 35,6 | 93 | 26,1 | 30 | 8,4 | 8 | 2,2 | 357 |
| Total column | 107 | | 129 | | 293 | | 357 | | 159 | | 12 | | 1057 |

**P-value:** 3,31846E-10

**Chi:** 3672,021183

**Table attachment 15*:*** *"Numbers of cars owned by the household".* Frequency to the left in the table, and the percentage on the right side.

| | 0 | | 1 | | 2 | | 3 | | Total row |
|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 307 | 33,3 | 446 | 48,4 | 140 | 15,2 | 29 | 3,2 | 922 |
| Zone 4 | 40 | 6,6 | 291 | 48,3 | 214 | 35,5 | 58 | 9,6 | 603 |
| Total column | 347 | | 737 | | 354 | | 87 | | 1525 |

**P-value:** 2,81824E-44

**Chi:** 205,438495

**Table attachment 16:** *"Which type of fuel does the car use?"* Frequency to the left in the table, and the percentage on the right side.

| | Gasoline/ Diesel | | Electric | | Hybrid | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 462 | 75,5 | 62 | 10,1 | 87 | 14,2 | 1 | 0,2 | 612 |
| Zone 4 | 492 | 87,9 | 24 | 4,3 | 43 | 7,7 | 1 | 0,2 | 560 |
| Total column | 954 | | 86 | | 130 | | 2 | | 1172 |

**P-value:** 1,14855E-06

**Chi:** 30,3790377

**Table attachment 17:** *"Most people I know travel with fossil car".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 139 | 19,9 | 146 | 21,0 | 154 | 22,1 | 152 | 21,8 | 54 | 7,8 | 52 | 7,5 | 697 |
| Zone 4 | 13 | 3,6 | 14 | 3,9 | 39 | 10,8 | 139 | 38,6 | 135 | 37,5 | 20 | 5,6 | 360 |
| Total column | 152 | | 160 | | 193 | | 291 | | 189 | | 72 | | 1057 |

**P-value:** 7,83331E-52

**Chi:** 19858,09357

**Table attachment 18:** *"People I know think it is completely fine that I travel by fossil car".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 63 | 9,1 | 48 | 6,9 | 123 | 17,7 | 178 | 25,6 | 124 | 17,8 | 160 | 23,0 | 696 |
| Zone 4 | 5 | 1,4 | 1 | 0,3 | 32 | 9,0 | 115 | 32,3 | 155 | 43,5 | 48 | 13,5 | 356 |
| Total column | 68 | | 49 | | 155 | | 293 | | 279 | | 208 | | 1052 |

**P-value:** 4,17613E-26

**Chi:** 9764,971129

**Table attachment 19:** *"Most people I know travel with electric car".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 173 | 24,7 | 226 | 32,3 | 178 | 25,4 | 60 | 8,6 | 13 | 1,9 | 50 | 7,1 | 700 |
| Zone 4 | 146 | 40,7 | 136 | 37,9 | 49 | 13,7 | 9 | 2,5 | 3 | 0,8 | 16 | 4,5 | 359 |
| Total column | 319 | | 362 | | 227 | | 69 | | 16 | | 66 | | 1059 |

**P-value:** 1,09631E-10

**Chi:** 4230,414619

**Table attachment 20:** *"People I know claim that I should travel by electric car".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 183 | 26,2 | 131 | 18,8 | 168 | 24,1 | 79 | 11,32 | 17 | 2,4 | 120 | 17,2 | 698 |
| Zone 4 | 139 | 38,9 | 74 | 20,7 | 81 | 22,7 | 15 | 4,20 | 4 | 1,1 | 44 | 12,3 | 359 |
| Total column | 322 | | 205 | | 249 | | 94 | | 21 | | 164 | | 1057 |

**P-value:** 5,42285E-06

**Chi:** 1631,758021

**Table attachment 21:** *"Most people I know travel with public transportation".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 64 | 9,1 | 55 | 7,9 | 172 | 24,5 | 211 | 30,1 | 170 | 24,3 | 29 | 4,1 | 701 |
| Zone 4 | 205 | 56,9 | 85 | 23,6 | 37 | 10,3 | 15 | 4,2 | 6 | 1,7 | 12 | 3,3 | 360 |
| Total column | 269 | | 140 | | 209 | | 226 | | 176 | | 41 | | 1061 |

**P-value:** 2,97857E-91

**Chi:** 43307,26102

**Table attachment 22:** *"People I know claim that I should travel by public transport".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 129 | 18,4 | 66 | 9,4 | 173 | 24,7 | 142 | 20,3 | 114 | 16,3 | 77 | 11,0 | 701 |
| Zone 4 | 212 | 58,9 | 66 | 18,3 | 39 | 10,8 | 10 | 2,8 | 6 | 1,7 | 27 | 7,5 | 360 |
| Total column | 341 | | 132 | | 212 | | 152 | | 120 | | 104 | | 1061 |

**P-value:** 1,16204E-53

**Chi**: 26559,10055

**Table attachment 23:** *"How many departures per hour is it for the most relevant public transport mode to your workplace/school?"* Frequency to the left in the table, and the percentage on the right side.

| | 6 or more in the hour | | 4-5 in the hour | | 3 in the hour | | 2 in the hour | | 1 in the hour | | Every other hour | | Rarer | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 268 | 39,1 | 223 | 32,5 | 31 | 4,5 | 71 | 10,4 | 31 | 4,5 | 7 | 1,0 | 6 | 0,9 | 49 | 7,1 | 686 |
| Zone 4 | 5 | 2,1 | 6 | 2,5 | 6 | 2,5 | 39 | 16,1 | 52 | 21,5 | 26 | 10,7 | 57 | 23,6 | 51 | 21,1 | 242 |
| Total column | 273 | | 229 | | 37 | | 110 | | 83 | | 33 | | 63 | | 100 | | 928 |

**P-value:** 1,91418E-88

**Chi:** 20827,63899

**Table attachment 24***:* "*How far was it, approximately, from where you lived to the nearest public transport stop to your work/study location?*" Frequency to the left in the table, and the percentage on the right side.

| | 250 m or less | | 251 m – 499 m | | 500 m – 1 km | | 1,1 km – 1,5 km | | 1,6 km – 2,0 | | More than 2 km | | There is no public transport | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 242 | 34,5 | 249 | 35,5 | 118 | 16,8 | 35 | 5,0 | 18 | 2,6 | 13 | 1,9 | 14 | 2,0 | 12 | 1,7 | 701 |
| Zone 4 | 70 | 19,4 | 70 | 19,4 | 46 | 12,6 | 17 | 4,7 | 15 | 4,7 | 19 | 5,3 | 117 | 32,5 | 6 | 1,7 | 360 |
| Total column | 312 | | 319 | | 164 | | 52 | | 33 | | 32 | | 131 | | 18 | | 1061 |

**P-value:** 2,01994E-46

**Chi:** 15311,28712

**Table attachment 25:** *"Approximately how many holiday trips (round-tour) to Europe (outside of Scandinavia) did you do with airplane in 2018?".* Frequency to the left in the table, and the percentage on the right side.

| | 1-3 | | 4-6 | | 7-9 | | 10-15 | | More than 20 | | 0 (None) | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 390 | 73,3 | 91 | 17,1 | 15 | 2,8 | 11 | 2,1 | 2 | 0,4 | 22 | 4,1 | 1 | 0,2 | 532 |
| Zone 4 | 221 | 84,7 | 23 | 8,8 | 1 | 0,4 | 2 | 0,8 | 0 | 0,0 | 13 | 5,0 | 1 | 0,4 | 261 |
| Total column | 611 | | 114 | | 16 | | 13 | | 2 | | 35 | | 2 | | 793 |

**P-value**: 0,00300306

**Chi:** 473,125534

**Table attachment 26***: "Most people I know travel with flight on such travels".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 0 | 0,0 | 6 | 1,1 | 20 | 3,8 | 160 | 30,3 | 334 | 63,1 | 9 | 1,7 | 529 |
| Zone 4 | 2 | 0,8 | 2 | 0,8 | 8 | 3,1 | 85 | 32,8 | 160 | 61,8 | 2 | 0,8 | 259 |
| Total column | 2 | | 8 | | 28 | | 245 | | 494 | | 11 | | 788 |

**P-value**: 9,63295E-59

**Chi:** -724,251275

**Table attachment 27:** *"There are no other ways to go where I want."* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 21 | 4,0 | 81 | 15,3 | 131 | 24,7 | 173 | 32,6 | 104 | 19,6 | 20 | 3,8 | 530 |
| Zone 4 | 16 | 6,2 | 30 | 11,6 | 61 | 23,6 | 62 | 23,9 | 83 | 32,1 | 7 | 2,8 | 259 |
| Total column | 37 | | 111 | | 192 | | 235 | | 187 | | 27 | | 789 |

**P-value**: 0,001277812

**Chi:** 731,6919863

**Table attachment 28:** *"People I know mean that I should travel by train on such trips".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 241 | 45,74 | 103 | 19,43 | 86 | 16,23 | 32 | 6,04 | 7 | 1,32 | 61 | 11,51 | 530 |
| Zone 4 | 145 | 55,98 | 58 | 22,39 | 32 | 12,36 | 3 | 1,16 | 3 | 1,16 | 18 | 6,95 | 259 |
| Total column | 386 | | 161 | | 118 | | 35 | | 10 | | 79 | | 789 |

**P-value:** 0,00161368

**Chi:** 293,978213

**Table attachment 29:** *"How many holiday trips by plane, to destinations outside Europe, did you make in 2018?*" Frequency to the left in the table, and the percentage on the right side.

| | 0 | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 or more | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 6 | 2,7 | 114 | 50,4 | 46 | 20,4 | 24 | 10,6 | 14 | 6,2 | 5 | 2,2 | 16 | 7,1 | 1 | 0,4 | 226 |
| Zone 4 | 2 | 2,9 | 42 | 60,9 | 15 | 21,7 | 4 | 5,8 | 2 | 2,9 | 2 | 2,9 | 2 | 2,9 | 0 | 0,0 | 69 |
| Total column | 8 | | 156 | | 61 | | 28 | | 16 | | 7 | | 18 | | 1 | | 295 |

**P-value:** 3,48653E-73

**Chi:** -203,922953

**Table attachment 30***: "How important or unimportant to you is that the food you eat causes low GHG emissions?"* Frequency to the left in the table, and the percentage on the right side.

| | Unimportant | | Somewhat important | | Neither unimportant nor important | | Quite important | | Very important | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 40 | 8,6 | 72 | 15,5 | 170 | 36,6 | 137 | 29,5 | 42 | 9,0 | 4 | 0,9 | 465 |
| Zone 4 | 61 | 19,6 | 47 | 15,1 | 127 | 40,7 | 59 | 18,9 | 8 | 2,6 | 10 | 3,2 | 312 |
| Total column | 101 | | 119 | | 297 | | 196 | | 50 | | 14 | | 777 |

**P-value:** 2,14813E-08

**Chi:** 1286,451887

**Table attachment 31***: "Meat prices should be increased - especially for those products that have the highest greenhouse gas emissions".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 85 | 18,5 | 73 | 15,9 | 100 | 21,7 | 122 | 26,5 | 53 | 11,5 | 27 | 5,9 | 460 |
| Zone 4 | 115 | 37,7 | 66 | 21,6 | 49 | 16,1 | 42 | 13,8 | 17 | 5,6 | 16 | 5,3 | 305 |
| Total column | 200 | | 139 | | 149 | | 164 | | 70 | | 43 | | 765 |

**P-value:** 2,71795E-10

**Chi:** 3496,601948

**Table attachment 32:** *"How often do you eat dinners with meat from cattle or sheep/lamb?"* Frequency to the left in the table, and the percentage on the right side.

| | I do not eat such meat | Less than once a week | 1 time a week | 2 times a week | 3 times a week | 4 times a week | 5 or more times a week | I do not know | Total row |
|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 64 | 6,9 | 292 | 31,5 | 194 | 21,0 | 214 | 23,1 | 100 | 10,8 | 30 | 3,2 | 17 | 1,8 | 15 | 1,6 | 926 |
| Zone 4 | 18 | 3,0 | 157 | 26,0 | 123 | 20,3 | 148 | 24,5 | 100 | 16,5 | 37 | 6,1 | 16 | 2,6 | 6 | 1,0 | 605 |
| Total column | 82 | | 449 | | 317 | | 362 | | 200 | | 67 | | 33 | | 21 | | 1531 |

**P-value:** 2,53505E-05

**Chi:** 906,7578996

**Table attachment 33:** *"How often do you eat dinners with meat from pork?"* Frequency to the left in the table, and the percentage on the right side.

| | I do not eat such meat | | Less than once a week | | 1 time a week | | 2 times a week | | 3 times a week | | 4 times a week | | 5 or more times a week | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 89 | 9,7 | 307 | 33,4 | 297 | 32,3 | 145 | 15,8 | 42 | 4,6 | 8 | 0,9 | 10 | 1,1 | 21 | 2,3 | 919 |
| Zone 4 | 23 | 3,8 | 204 | 34,1 | 201 | 33,6 | 115 | 19,2 | 35 | 5,8 | 7 | 1,2 | 3 | 0,5 | 11 | 1,8 | 599 |
| Total column | 112 | | 511 | | 498 | | 260 | | 77 | | 15 | | 13 | | 32 | | 1518 |

**P-value:** 0,001866279

**Chi:** -201,019367

**Table attachment 34:** *"Family and friends appreciate being served vegetarian food".* Frequency to the left in the table, and the percentage on the right side.

| | Does not match at all | | Does not match | | Matches neither well nor bad | | Matches quite well | | Matches very well | | I do not know | | Total row |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone 1 | 95 | 20,5 | 97 | 21,0 | 121 | 26,1 | 77 | 16,6 | 34 | 7,3 | 39 | 8,4 | 463 |
| Zone 4 | 126 | 40,8 | 65 | 21,0 | 68 | 22,0 | 18 | 5,8 | 5 | 1,6 | 27 | 8,7 | 309 |
| Total column | 221 | | 162 | | 189 | | 95 | | 39 | | 66 | | 772 |

**P-value:** 4,01273E-11

**Chi:** 3191,777081

# Appendix V: Declaration of Consent

## Vil du delta i forskningsprosjektet (norsk versjon):

«Attitudinal and Behavioral Responses to Climate Change – A Case Study of a Rural Community in Hallingdal Valley?»

Dette er et spørsmål til deg om å delta i et forskningsprosjekt hvor formålet er å undersøke folks oppfatninger og kunnskaper om klima og klimaendringer i et bygdesamfunn. I dette skrivet gir jeg/vi deg informasjon om målene for prosjektet og hva deltakelse vil innebære for deg.

**Formål**
I forbindelse med masterstudiet mitt: *Internasjonale Miljøstudier* ved Norges Miljø- og Biovitenskapelige universitet (NMBU) ønsker jeg å gjennomføre en feltstudie. I dette feltstudiet ønsker jeg å undersøke folks kunnskaper og oppfatninger om klima og klimaendringer, respondentenes sitt eget ansvar for å redusere klimagassutslipp, samt egne holdninger til politiske virkemidler. Innsamlet data kommer til å benyttes i forhold til en master oppgave som jeg skal skrive våren 2020. Jeg ønsker å undersøke problemstillinger som er relatert til respondentenes egne tanker og oppfatninger om klima og klimaendringer, og hvordan disse påvirker deres handlinger. Mitt fokus vil være på et bygdesamfunn i Norge, og undersøke om det er forskjeller mellom bygd og by.

**Hvem er ansvarlig for forskningsprosjektet?**
Norges Miljø- og Biovitenskapelige universitet (NMBU) er ansvarlig for prosjektet.

**Hvorfor får du spørsmål om å delta?**
Jeg ønsker å komme i kontakt med og intervjue lokalbefolkningen som bor i forskjellige områder i Ål kommune, og som befinner seg i aldersgruppen 18 til 29 år, eller mellom 45 til 59 år. Du befinner deg innenfor disse kriteriene, og jeg ønsker derfor gjerne å høre dine tanker om dette temaet. Du er blant 30 personer som kommer til å få spørsmål om å delta i dette forskingsprosjektet.

**Hva innebærer det for deg å delta?**
Hvis du velger å delta i prosjektet, innebærer det at du deltar på et personlig intervju med undertegnede. Det vil ta deg ca. 45 til 60 min. Det vil være spørsmål om, for eksempel dine tanker om klima og klimaendringer, om du føler et personlig ansvar for å redusere egne klimagassutslipp, om dine klima-relaterte handlinger i hverdagen (til for eksempel transport, feriereiser, kjøttkonsum), osv.

Jeg ønsker å ta lydopptak av intervjuet (om du samtykker til dette), og/eller egne notater. Dette vil bli lagret elektronisk og transkribert etter intervjuet, som du kan få tilgang til om du måtte ønske.

**Det er frivillig å delta**
Det er frivillig å delta i prosjektet. Hvis du velger å delta, kan du når som helst trekke samtykke tilbake uten å oppgi noen grunn. Alle opplysninger om deg vil da bli anonymisert. Det vil ikke ha noen negative konsekvenser for deg hvis du ikke vil delta eller senere velger å trekke deg.

**Ditt personvern – hvordan vi oppbevarer og bruker dine opplysninger**
Vi vil bare bruke opplysningene om deg til formålene vi har fortalt om i dette skrivet. Vi behandler opplysningene konfidensielt og i samsvar med personvernregelverket.

- Masterstudenten (undertegnende) og studentens veileder er de aktørene som kommer til å ha tilgang til datamateriale og personlige opplysninger ved NMBU.
- Ditt navn og kontaktopplysninger vil bli erstattet med en kode som lagres på egen navneliste adskilt fra øvrige data (som kommer til å bli slettet). Datamaterialet kommer til å bli lagret på egen server som er passord beskyttet, der *kun* student og veileder kommer til å ha tilgang.
- Du kommer til å bli anonymisert i oppgaven og dine svar og personlige opplysninger vil ikke kunne bli gjenkjent i master oppgaven.

**Hva skjer med opplysningene dine når vi avslutter forskningsprosjektet?**
Forskningsprosjektet skal etter planen avsluttes *15. mai 2020 [OBS: denne fristen ble utsatt til 30.06.20],* som er fristen for innlevering av master oppgaven. På NMBU er det en forsvaring av master oppgaven som befinner seg innen tre uker etter denne fristen, derfor kommer jeg til å beholde datamaterialet frem til det er ferdig, som vil si, i begynnelsen av juni. Da kommer datamaterialet til å bli slettet, eventuelt også lydopptaket av ditt intervju.

**Dine rettigheter**
Så lenge du kan identifiseres i datamaterialet, har du rett til:
- innsyn i hvilke personopplysninger som er registrert om deg,
- å få rettet personopplysninger om deg,
- få slettet personopplysninger om deg,
- få utlevert en kopi av dine personopplysninger (dataportabilitet), og
- å sende klage til personvernombudet eller Datatilsynet om behandlingen av dine personopplysninger.

**Hva gir oss rett til å behandle personopplysninger om deg?**
Vi behandler opplysninger om deg basert på ditt samtykke.

På oppdrag fra Norges Miljø- og Biovitenskapelige universitet har NSD – Norsk senter for forskningsdata AS vurdert at behandlingen av personopplysninger i dette prosjektet er i samsvar med personvernregelverket.

**Hvor kan jeg finne ut mer?**
Hvis du har spørsmål til studien, eller ønsker å benytte deg av dine rettigheter, ta kontakt med:

- Norges Miljø- og Biovitenskapelige Universitet ved Arild Vatn (veileder), på epost (arild.vatn@nmbu.no) eller telefon: 672 31 303, eller ved Kristin Sørbøen Gåsbakk (masterstudent), på epost (krigasbak@nmbu.no) eller telefon: 993 68 599.
- Vårt personvernombud: Hanne Pernille Gulbrandsen, på epost (personvernombud@nmbu.no) eller telefon: 402 81 558
- NSD – Norsk senter for forskningsdata AS, på epost (personverntjenester@nsd.no) eller telefon: 555 82 117.

**Med vennlig hilsen,**

Kristin Sørbøen Gåsbakk

Masterstudent v/ Norges Miljø- og Biovitenskapelige Universitet,

Norwegian University of Life Sciences

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**Samtykkeerklæring**

Jeg har mottatt og forstått informasjon om prosjektet «*Attitudinal and Behavioral Responses to Climate Change – A Case Study of a Rural Community in Hallingdal Valley*», og har fått anledning til å stille spørsmål. Jeg samtykker til:

- ☐ å delta i et personlig intervju
- ☐ at studenten kan ta lydopptak av intervjuet
- ☐ at studenten kan gi opplysninger om meg til prosjektet
- ☐ at mine personopplysninger lagres etter prosjektslutt, til masteroppgaven er forsvart

Jeg samtykker til at mine opplysninger behandles frem til prosjektet er avsluttet.

---

(Signert av prosjektdeltaker, dato)

# Appendix VI: NSD's Approval for Research

## NSD Personvern

28.01.2020 08:21

Det innsendte meldeskjemaet med referansekode 989582 er nå vurdert av NSD.

Følgende vurdering er gitt:

Det er vår vurdering at behandlingen av personopplysninger i prosjektet vil være i samsvar med personvernlovgivningen så fremt den gjennomføres i tråd med det som er dokumentert i meldeskjemaet 28.01.2020 med vedlegg, samt i meldingsdialogen mellom innmelder og NSD. Behandlingen kan starte.

MELD VESENTLIGE ENDRINGER
Dersom det skjer vesentlige endringer i behandlingen av personopplysninger, kan det være nødvendig å melde dette til NSD ved å oppdatere meldeskjemaet. Før du melder inn en endring, oppfordrer vi deg til å lese om hvilke type endringer det er nødvendig å melde:
nsd.no/personvernombud/meld_prosjekt/meld_endringer.html

Du må vente på svar fra NSD før endringen gjennomføres.

TYPE OPPLYSNINGER OG VARIGHET
Prosjektet vil behandle alminnelige kategorier av personopplysninger frem til 15.05.2020.

LOVLIG GRUNNLAG
Prosjektet vil innhente samtykke fra de registrerte til behandlingen av personopplysninger. Vår vurdering er at prosjektet legger opp til et samtykke i samsvar med kravene i art. 4 og 7, ved at det er en frivillig, spesifikk, informert og utvetydig bekreftelse som kan dokumenteres, og som den registrerte kan trekke tilbake. Lovlig grunnlag for behandlingen vil dermed være den registrertes samtykke, jf. personvernforordningen art. 6 nr. 1 bokstav a.

PERSONVERNPRINSIPPER
NSD vurderer at den planlagte behandlingen av personopplysninger vil følge prinsippene i personvernforordningen om:

- lovlighet, rettferdighet og åpenhet (art. 5.1 a), ved at de registrerte får tilfredsstillende informasjon om og samtykker til behandlingen
- formålsbegrensning (art. 5.1 b), ved at personopplysninger samles inn for spesifikke, uttrykkelig angitte og berettigede formål, og ikke viderebehandles til nye uforenlige formål
- dataminimering (art. 5.1 c), ved at det kun behandles opplysninger som er adekvate, relevante og nødvendige for formålet med prosjektet

- lagringsbegrensning (art. 5.1 e), ved at personopplysningene ikke lagres lengre enn nødvendig for å oppfylle formålet

DE REGISTRERTES RETTIGHETER
Så lenge de registrerte kan identifiseres i datamaterialet vil de ha følgende rettigheter: åpenhet (art. 12), informasjon (art. 13), innsyn (art. 15), retting (art. 16), sletting (art. 17), begrensning (art. 18), underretning (art. 19), dataportabilitet (art. 20).
NSD vurderer at informasjonen som de registrerte vil motta oppfyller lovens krav til form og innhold, jf. art. 12.1 og art. 13.

Vi minner om at hvis en registrert tar kontakt om sine rettigheter, har behandlingsansvarlig institusjon plikt til å svare innen en måned.

FØLG DIN INSTITUSJONS RETNINGSLINJER
NSD legger til grunn at behandlingen oppfyller kravene i personvernforordningen om riktighet (art. 5.1 d), integritet og konfidensialitet (art. 5.1. f) og sikkerhet (art. 32).

For å forsikre dere om at kravene oppfylles, må dere følge interne retningslinjer og eventuelt rådføre dere med behandlingsansvarlig institusjon.

OPPFØLGING AV PROSJEKTET
NSD vil følge opp ved planlagt avslutning for å avklare om behandlingen av personopplysningene er avsluttet.

Lykke til med prosjektet!

Kontaktperson hos NSD: Henrik Netland Svensen
Tlf. Personverntjenester: 55 58 21 17

# Appendix VII: Characteristics of Ål Municipality

In this section, I will provide an insight into relevant characteristics of Ål as a community. It emphasizes important aspects of the society and the people in Ål. The descriptions are based on the informants' own reflections and beliefs. However, they describe that the descriptions are not unique just for Ål, but it could be applicable for other rural communities in Norway.

## A Small Community where "Everybody Knows Each Other"

At the beginning of every interview, I asked the informants how they would describe Ål. Most of them characterize Ål as a small, cozy, safe, calm, and transparent agricultural community. It is a small community where everybody knows each other, which is explained by informant 3, "*A small and familiar environment, everyone knows everyone and if you do not know everyone then you pretty much know who everyone is, for better or for worse. For us who are born and raised in this place, it is fine. I enjoy it, but there are probably many who think it is very small. For those who are born and raised here, they do not really think about it. It is what you are used to. Are you born in a city, some people think it is absolutely fantastic to come here, because they think it is bad in the city where it is a constant rush, while some love to be in the city, so people are different.*" Furthermore, most of the informants have a deep bond to their village and thrive in a calm environment where there is not much crime or natural disasters. Many feel lucky to live in a village where they are surrounded by the mountains and the beautiful nature that are frequently in use for outdoors activities, such as hiking, bicycling, or cross-country skiing. Some describe that they have got the best from the nature side where Ål has a midland climate with little rainfall and mostly good winters. According to informant 10, Ål is also an interesting village with a diverse group of people, "*There are everything from those who are interested in culture where we have a good foundation in Kulturhuset with many activities and offers, you also have the musical life, folk music, Sundreball and Ferieparken. It is a lot of culture related opportunities, that is important. You also have the traditional agricultural village Ål with many farmers and craftsmen. It is a big specter, from those who have gone directly from school and high school to the work life, but also those who have taken higher education and might have some other values, but that is what makes it so interesting".*

Even if Ål is a small mountain village, it has a wide specter of leisure activities, events, and social happenings to offer both youth and adults. Many of the informants expressed that they are proud of the cultural life that have flourished in Ål that is strongly categorized by skilled

people who are engaged in their local community, which is explained by informant 3, *"There is a great volunteering spirit in a small community, where people fold up their arms and help to create associations and other things".* There are many examples of this volunteering spirit. One of them is someone who has started a second-hand store called Deaf Aid, where the money goes to deaf children in Kenya. Elvelangs is another example, where volunteers have built a tour path and different activities along Hallingdalselva. In addition, one of the world's largest biathlon races, Liatoppsprinten, is made by engaged volunteers. Due to the variety of events, sports cups, and ski festivals that are happening in Ål, it is often among the locals called "the event village" or as "the cultural municipality in Hallingdal". According to informant 11, *"Culturally, I feel that it is possible to have a good and meaningful upbringing here, whether you want to join the teams and organizations that there are tons of, or if you want to have unorganized leisure time. For youth and young adults, if you think from 16-25 years, we have a way to go. Because I think we could, and we are working on it, have more meaningful meeting places, and that is what they really want. Otherwise I feel for the elderly that it is great. We are talking about becoming an "older mecca".*

There are also other perceptions about the village. Some of the informants between 18-29 years describe Ål in a more negatively tone than those between 45-59 years. The following informants are in sample 1. According to informant 6 and 7, Ål is seen as a boring place with not much happening. There are not a lot of cafes, restaurants or pubs in Ål, where several places have been closed or gone bankrupt. Informant 7 explained that many people leave the village when they finish high school and move to the cities for studying or they want to do something else for one year. Those who are left in Ål might be bored since there are not many left at their age nor many social meeting places. Informant 20 describes Ål as a good village to live in, but he that there are not much young people, "*It is natural because many moves away to study, which make it quite calm. There are no students here, there are only those who study at the high school, but they also leave when they are finished".* According to informant 15 and 22, the environment in Ål is a little conservative, which is characterized with an older population that are concerned about traditions and do not want to have bigger changes. Both sample 1 and 2 emphasized certain negative trends, such as the negative development of the trading center. Informant 23 describes Ål as a village that has undergone major changes in recent years. Many of the informants explained that "everyone" went to Sundre on the Saturdays before and sat down at a café or went to the hotel to have a beer etc. Today, most people are at home and travel to Geilo or Gol to buy something. The informants wish to have a trading center that functions

properly and more meeting places. Informant 9 said that there are several people who have tried to start new places at Ål, but *"It is in the mentality that it is hard for people to go out and have time for such meeting places. It is a bit boring, but it is not unique for Ål, you can also see that other places in Hallingdal".* On the other hand, two of the informants (11 and 19) state that people need more optimism where negatively talk such as "everything is going bad" or "nothing is happening" is an influencing factor among Ålingene. According to informant 11, "*People are more concerned about things that are not good that they do not see everything that is good. I think that is bad, because it is so contagious*". The informant is, however, worried about the social culture of alcohol, drugs, and motorized vehicles among the youth, where she informed that spinal cord injury is six times over the national average. Informant 20 also expressed that he is worried about the negative development of this culture. His siblings told him that it is a tough environment at the high school in Gol, with a lot of drinking and drugs in a young age.

### The Social Culture

I asked the informants how they will describe people from Ål. Informant 2 explained that there are three groups of people: those who always have lived in Ål, the newcomers who have moved from other places in Norway or work immigrants from other countries, and those who were raised in Ål and moved back after, for example, their studies. According to informant 30, it is not completely right to say that everyone knows each other, but it is still easy to get in contact with people because most are gentle and open. The informants perceive Ålinger as gentle, easy-going and down to Earth, but also as reserved, quiet, and a little closed-minded. According to informant 27, it often takes time for Ålinger to open up to people or before they talk, but the volunteering spirit in the village creates a feeling of community. Informant 14 describes Ålinger as, *"I feel they are loyal to the village, that they are open, that is how people are here. Open, but it may not be as easy to get in as a resident here. You know everyone in the village, so everyone is a kind of an entity. I think you would miss that if you had lived in a big city".*

They were asked to describe the social culture at Ål, where there are different opinions among the informants. Many describe the culture as good, including, and social for both young and old, especially if you are born and raised in Ål. According to informant 11, *"I am experiencing that it is getting better, can I say that? I feel that the great societal differences between people have become less. Kafe Tid is a great example regarding the integration of settling refugees, of those who have struggled with intoxication, of people who have been out of work and are on their way back. It meets all the layers of the people at once. We also have a lot of festivals and*

*cultural events that I experience are very unifying".* Informant 19 thinks the social culture is good with something for everyone where there are many things happening, everything from art exhibitions to barn parties and redneck parties at Hilbilly Huckfest. On the order side, informant 6 does not think that the social culture is good and does not feel that people are very including, even how good friends you are. Informant 24 explained that people are mostly at home but when something is happening, such as Sundreball, then it is very social. Informant 20 said it is divided, between people who are "always" out partying and do not have families, to the families that have their meeting places through sports and activities for the children, and people who you do not see out often, those who do not have children, are a bit older, and have lived in Ål their entire life. There are also bigger events, such as Hellbillies, that attract all kinds of people.

A general tendency is that the informants think it is difficult for "newcomers" to be fully integrated in the community. The clicks are already formed where people got their social networks during their childhood, through work, volunteering and engagement, or through the activities the children are attending. A common perception among the informants is explained by informant 10, "*I am lucky who was born and raised in Ål, the social aspect has been up to myself. There are many who have moved back in the same age group, with the same interests and therefore it has been easy to socialize. But I know people who have moved here and who does not have the same social network, who struggle to get integrated in the society. It is not a unique characteristic of Ål, there are many villages I hear about that are the same".* When I asked the informants why they think it is hard to get integrated, there were different replies. In some ways, Ål is not a very open village where new people need a way in. Informant 28 said it can be a challenge to get to know people if you do not have children, are not interested in outdoor life nor interested in culture. Since people can be a bit reserved, they do not open their homes to people they do not know. Informant 8 said that Ålinger must study who the person is before taking the next step, *"It is just how "Hallinger" are".* Several of the informants said it has been done research about this topic, where five people are currently working on two projects, called "Bolyst" and "Blilyst. These projects are about matching people who live in Ål and the "newcomers", as well as creating social meeting places. Some things that have been said is that Ålinger have sometimes enough with themselves: they are good at greeting people at the store or when they are outside, but when inviting people at their home, they are more likely to invite those they have always invited. It is about becoming more generous, and as informant 11 said, "*To open up the homes and open up the hearts a little bit more than just saying "hi" at the store"*. According to informant 28, who is from Ål but lived a long time in

Bergen, there was a friend who told her that moving home was like "everything is as before, and nothing is as before". With that phrase, she meant that when you move back, people know who you are and you know the same people, you are back in some kind of role, but at the same time things have changed and you are back in a "new" village with new people. She said further, "*We moved from a place where most people were Norwegians or Ålinger, and came back to a very multicultural society, that was perhaps the biggest difference. But it is great!".*

I asked informant 17 and 26 (sample 1) who moved to Ål for about one year ago about their experience coming to the village. Informant 26 said, *"I was positively surprised. I had expected that it would be fewer meeting places, which it is. You must work to be integrated and to get to know people. But I am positively surprised on how many offers there are, how much focus is it on that. There are many things happening"*. She has heard about people who struggle to find a social network, which is often young people without children. According to informant 17, it was tough getting to know people where she describes people as nice and gentle, but it is a superficial relation. If you go to the store, people recognize you, they know who you are, where you are from and what your job is, but there it stops. She thinks that people have their clicks that are safe and comfortable and do not open for new friendships. The difference between them is that informant 17 came alone, while informant 26 moved with her husband. According to informant 9, there are examples of people who have got engaged and involved in the society, and in this way been integrated. According to informant 23, who is from one of the neighbor municipalities, it is not a problem if you already know people from Ål, but it is hard for people who come alone without knowing the village or the people. It is easier if you have children who attend activities, where the parents meet others from these activities or through volunteering. The same view is shared by informant 1 and 16, who are both from Trøndelag and their wives are originally from Ål, they did not have any problem getting integrated in the community.

### Conversation Topics

I would say that Ålinger are like most people, they talk about everything and nothing. The topic depends on who their social relations are and what kind of subjects that interest them. The conversations are based on situational and relational factors. For example, at work you do not have as close relationships as your social circle, but in your social circle you can be more personal and discuss things more in-depth than superficial topics with your acquaintances, such as work or the weather. The weather is however one of the conversation topics that they are most concerned about. It is a topic everyone has an opinion about and is often the first thing

people talk about, such as has it been slippery outside, has it been a lot of snow, or not snow at all? This is emphasized by informant 2, *"If I am thinking about Servicetorget, the first thing we talk about is the weather, especially now when there is a lot of different types of weather. People are concerned about that, and that things have changed. But I think it has always been like that. In Norway, we are very concerned about the weather."* Moreover, Ålinger also talk about common topics like their families, children and grandchildren, particular things that are happening in their lives, about engaging news in the media, local conditions and international politics, environmental issues and the Norwegian agriculture, but also outdoors activities, their cabins, vacation and travel plans, as well as motorsports, sports and cars. Informant 13 claims that there are multiple opinions and interests around the village based on what is relevant for them, whether you talk about Ål as a rural community or about different areas in Ål. She emphasized, *"Regarding Ål as a rural community, we in the village are concerned with what is happening in both politically and socially related aspects, and not least what is happening at the cultural part. People are also concerned that there are services and leisure activities for children and youth, health and school, and that the village should be holistic for everyone".*

There is a wide range of topics that Ålinger are concerned about, but there is no doubt that a large majority are concerned about the development of rural communities in Norway. Informant 3 explained that it has become harder to keep people in rural communities, which is a topic that especially engage the older generation. He thinks that the government should make it more attractive to live in the districts, and not only in the cities. The informant explained that many environmentalists that live in the cities favor the conditions that are there, but they do not know how the daily life is in rural communities. In addition, the locals are concerned about the local community, which could be events at Hallingdal Feriepark and Kulturhuset, or what kind of work conditions, health services, and kindergartens there are in the village. According to informant 23, there are especially three happenings that have been discussed in the society lately, *"I think in recent years, people have been concerned about what is happening at Ålingen, there has also been construction development of Sjukestugu [i.e. a small hospital in Ål] and construction development of Kulturhuset. This is probably the three issues that have been mostly in the wind lately and meant most to people in Ål. And we are lucky that some people dared to invest in a campsite at Ål and who spent over hundred million at Hallingdal Feriepark, it was not there before. What is built up there is great for the municipality of Ål, but it is a pity that we do not have a proper trading center to offer those who are there".*

### Core Values

I asked the informants the question "Is there anything in your life that is particular important for you?". A large majority answered that their families, children and grandchildren are the most important, but also having good, honest, loving and close social relations in their lives. Informant 9 emphasized, "*Then I have to say my children. You are concerned about how the conditions for them will be. I have kids that are fourteen, sixteen and eighteen years old, you are concerned about their education opportunities, how the world will develop and how it will look like for them, and what kind of opportunities they will have. That is what is the most important. I am also concerned about taking care of myself, my own health and my family*". For informant 11, there are many things that are important for her, such as "*The occupation you that have is important, that you have some kind of a mission and that you represent Ålingene. It is clear when you have kids that they are the most important, you want to prepare them for life and be an important care-person. Other things that are important is that people around you are doing well, is it not like that? I think that is universal, if you live here or another place*".

Core values such as love and taking care of other people are other things the informants' value high, but also self-love, having a good physical and mental health and that you thrive in your everyday life with activities that you enjoy. Informant 6 explained that goods friends are something he values high, "*It is important to have someone to talk to, if something has happened or if you are struggling with something. To have someone around you and to receive their support, as well as having good friends that you can do fun things with, and who can give you sunlight in a gray everyday life*". Having freedom to decide over your life and being able to say and think as you wish without being judged are important values, especially for informant 21, 27 and 29. Informant 21 emphasized, "*What is the most important in my life is to have the freedom I have. I am a person that think it is good to decide over myself, I want to hang out with friends and be around a lot of people, it is cozy. But sometimes, I have the need to have the freedom to do something for myself".* Being healthy, that people around you are doing well, having good health and work opportunities in the village, and having a meaningful occupation are among other things that the informants' value. For informant 5, it is particularly important to have good health opportunities, kindergartners and a good environment for the children. Informant 2 thinks it is important to thrive in your job and that you have something that you enjoy doing in your spare time, which gives you energy and joy. According to informant 24, "*Important to me is simply to thrive in the everyday life, to have a meaningful occupation, to have something that I am passionate about. When it comes to the social aspects is having good*

*friends with the right values and to be engaged in voluntary charity, to make sure that especially youth and children have a good and healthy upbringing within a safe and good environment".*

The informants also have a near relation to the nature, through outdoor activities or just enjoying the nature that surrounds them. Informant 11 emphasized, "*Being outside and enjoying the fresh air and the beautiful nature, the mountains, and the company with the people I am together with, I feel it is an amazing gift that I have an intention to use more*". Since Ål is an agricultural village, a large proportion are concerned about agricultural issues and protecting the rural communities. One of those who are particularly passionate about this topic is informant 3. He is a farmer, who also rents out cabins to tourists from countries like Belgium, Netherlands, Germany and Finland. He explained that, "*They are absolutely thrilled being here because it is so silent and calm, and a lot of space. It is also nice to see the green sides of the valleys and the animals walking around, and it seems relaxed compared to what they are used to, especially in Belgium and the Netherlands. For us who lives here, tourism is one of the livelihoods, so it is important to take care of it".* In addition, the environment and climate change were a topic that was mentioned. Being more environmentally conscious is important for informant 22, who tries to take more ethical and good choices in her life. It could be eating more plantbased, reducing the use of plastic, recycle, and buying clothes that are used or ethically produced. Recycling, eating more plantbased and buying more used closed were also important for several of the informants. Moreover, informant 30 took over the family farm in March 2020, who explains that she is concerned about the environment and sustainability in various ways. By having the job that she has, it is important for her to use the resources in a sustainable way. Another (future) farmer who is concerned about the Norwegian agriculture and the climate is informant 20, *"I have never been very interested in animals, so agriculture has not been strong inside me before, since machines are more fun. Recently, it has become a bigger and bigger part of what I think is important and what I most likely discuss with others. The Norwegian agriculture is also more actual now than before. It has become a question with agriculture, and then it is easier to discuss it, people have their opinions about it, and I want to share my point of view".*


**Norges miljø- og biovitenskapelige universitet**
Noregs miljø- og biovitskapelege universitet
Norwegian University of Life Sciences

Postboks 5003
NO-1432 Ås
Norway