UNIVERZA V LJUBLJANI
BIOTEHNIŠKA FAKULTETA

Lidija ŽIVČIĆ

RAISING AWARENESS ON CLIMATE CHANGE IN SLOVENIA WITH AN EMPHASIS ON AGRICULTURE

DOCTORAL DISSERTATION

OZAVEŠČANJE PREBIVALSTVA O SPREMINJANJU PODNEBJA V SLOVENIJI S POUDARKOM NA KMETIJSTVU

DOKTORSKA DISERTACIJA

Ljubljana, 2012

Based on the Statute of the University of Ljubljana and by decision of the Senate of the Biotechnical Faculty and decision of the University Senate of 24 April 2007, it was confirmed that the candidate qualifies for a PhD postgraduate study of biological and biotechnical sciences and the pursuit of a doctorate degree in the field of agronomy. Prof. Dr. Lučka Kajfež Bogataj was appointed as the mentor.

Commission for evaluation and defence:

Chair person:	Prof. Dr. Majda Černič Istenič
Member and mentor:	Prof. Dr. Lučka Kajfež Bogataj
Member:	Prof. Dr. Josef Eitzinger

Date of defence: 17 September 2012

This dissertation is a result of own research.

Lidija Živčić

Na podlagi Statuta Univerze v Ljubljani ter po sklepu Senata Biotehniške fakultete in sklepa Senata Univerze z dne 24. aprila 2007 je bilo potrjeno, da kandidatka izpolnjuje pogoje za doktorski Podiplomski študij bioloških in biotehniških znanosti ter opravljanje doktorata znanosti s področja agronomije. Za mentorja je bila imenovana prof. dr. Lučka Kajfež Bogataj.

Komisija za oceno in zagovor:

Predsednica:	prof. dr. Majda Černič Istenič
Članica in mentorica:	prof. dr. Lučka Kajfež Bogataj
Član:	prof. dr. Josef Eitzinger

Datum zagovora: 17. september 2012

Naloga je rezultat lastnega raziskovalnega dela.

Lidija Živčić

KEY WORDS DOCUMENTATION

DN Dd
DC UDC 551.583: 159.922.2 (043.3)
CX climate change / awareness / communication / psychology / behaviour / climate action / production / consumption / political systems / complexity / values
CC AGRIS P40
AU ŽIVČIĆ, Lidija
AA KAJFEŽ BOGATAJ, Lučka (supervisor)
PP SI – 1000 Ljubljana, Jamnikarjeva 101
PB University of Ljubljana, Biotechnical Faculty, Postgraduate Study of Biological and Biotechnical Sciences, Field: Agronomy
PY 2012
TI RAISING AWARENESS ON CLIMATE CHANGE IN SLOVENIA WITH AN EMPHASIS ON AGRICULTURE
DT Doctoral Dissertation
NO XVI, 149 p., 10 tab., 25 fig., 5 ann., 114 ref.
LA en
AL en/sl

AB The research identifies the drivers and barriers that (de)motivate people to take personal action to fight climate change, so that raising climate awareness could be improved. Building a multidisciplinary framework of research for the problem of climate change and its solutions helped to highlight all possible aspects of the climate challenge. The first step was desk research of existing opinion polls, which shaped the areas to cover for in-depth interviews. Those were used as the core of analysis, but were upgraded with focus groups to gain an insight into aspects that are more socially conditioned. Three specific aspects were focused on in the research: (1) connection between climate action and personal reward/punishment system of people, (2) connection between climate action and being personally affected by the consequences of climate change or understanding the climate change problem, and (3) connection between climate action of people and factors such as price, availability and quality of the products or services. The key findings are that general awareness of the climate problem among the population in Slovenia is high, but in-depth understanding is low. People do not see the connections between their actions and climate change consequences. They also do not feel the effects of climate change yet. This leads to a situation where people believe that they cannot contribute neither to the creation nor the solution of the problem. In principle taking action to protect climate is welcome, but in practice it is welcome only if people's wellbeing or comfort is not significantly affected. Bearing these findings in mind, it is estimated that climate communication should be included in the discussion about a meticulous change of the global economic and political system. Without the debate about changing the economic system, it will be hard to achieve the changes needed to reduce human impact on the climate.

KLJUČNA DOKUMENTACIJSKA INFORMACIJA

ŠD Dd
DK UDK 551.583: 159.922.2 (043.3)
KG podnebne spremembe / ozaveščanje / komuniciranje / psihologija / obnašanje / podnebno ukrepanje / proizvodnja / potrošnja / politični sistemi / kompleksnost / vrednote
KK AGRIS P40
AV ŽIVČIČ, Lidija, univ. dipl. oec., mag. znanosti
SA KAJFEŽ BOGATAJ, Lučka (mentor)
KZ SI – 1000 Ljubljana, Jamnikarjeva 101
ZA Univerza v Ljubljani, Biotehniška fakulteta, Podiplomski študij bioloških in biotehniških znanosti, področje agronomije
LI 2012
IN OZAVEŠČANJE PREBIVALSTVA O SPREMINJANJU PODNEBJA V SLOVENIJI S POUDARKOM NA KMETIJSTVU
TD Doktorska disertacija
OP XVI, 149 str., 10 pregl., 25 sl., 5 pril., 114 vir.
IJ en
JI en/sl

AI Raziskava ugotavlja, katere so spodbude in ovire, ki osebno (de)motivirajo ljudi v boju proti podnebnim spremembam. S tem želi prispevati k boljši osveščenosti ljudi o pomenu podnebnih sprememb. Z oblikovanjem interdisciplinarnega okvira za preučevanje problema podnebnih sprememb raziskava pojasnjuje različne vsebinske vidike obravnavanega pojava. Pregled obstoječih javnomnenjskih raziskav je bil prvi korak raziskave, ki je predstavljal podlago za oblikovanje tem za poglobljene intervjuje. Slednji so predstavljali jedro analize in bili nadalje nadgrajeni s fokusnimi skupinami, kar je omogočilo vpogled v družbeno pogojenost odgovorov. Središče raziskave so trije ključni vidiki: povezava ukrepanja na področju podnebnih sprememb, z osebnim sistemom nagrajevanja/kaznovanja; povezava med ukrepanjem in osebno prizadetostjo zaradi posledic podnebnih sprememb ali osveščenostjo o problemu; ter povezava ukrepanja z dejavniki, kot so cena, razpoložljivost in kakovost izdelka ali storitve. Rezultati preučevanja kažejo, da je splošno zavedanje o podnebnih spremembah med ljudmi visoko, vendar pa je njihovo razumevanje tematike precej površinsko. Ljudje ne povezujejo svojih dejanj s posledicami podnebnih sprememb, slednjih niti še ne čutijo močno. Posledično verjamejo, da sami kaj dosti ne prispevajo k pojavu podnebnih sprememb. Zato tudi ne zaznavajo, da bi lahko prispevali k reševanju problema. Ukrepanje za zaščito podnebja načeloma podpirajo, vendar le, če njihovo počutje ali udobje s tem nista bistveno prizadeta. Z vidika takšnih izsledkov je komunikacijo o podnebni problematiki potrebno umestiti v razpravo o širši spremembi ekonomsko-političnega sistema. Brez tovrstne komunikacije bo le težko doseči spremembe, ki so potrebne, da bi se zmanjšal človekov vpliv na podnebje.

TABLE OF CONTENTS

INDEX OF TABLES

INDEX OF FIGURES

INDEX OF ANNEXES

ABBREVIATIONS AND SYMBOLS

CFC	chlorofluorocarbons
CO_2	carbon dioxide
EU	European Union
GDP	Gross Domestic Product
GHG	greenhouse gases
INC	Intergovernmental Committee for the Framework Convention on Climate Change
IPCC	Intergovernmental Panel on Climate Change
NGO	Non-Governmental Organisation
PPM	parts per million
PV	photovoltaic
TV	television
UK	United Kingdom
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNCED	United Nations Conference on Environment and Development
USD	United States Dollar
WTO	World Trade Organisation

GLOSSARY

awareness	Generally describes the state or ability to perceive, feel or be conscious, but in the framework of this dissertation it refers to awareness about environmental problems- their causes, consequences and solutions- more specifically climate change.
behavioural economics	Study of the role of social, cognitive and emotional factors in explaining the economic decisions, mainly focused on the (ir)rationality of economic actors.
climate change	Normally defined as a significant change in characteristics of the climate system over periods of time from decades to millions of years, regardless of the cause, but in this dissertation used to refer to climate change caused by activity of humans.
climate communication	In this dissertation, the term is used to indicate communication about the climate change problem. It encompasses a variety of means, which are used to communicate about the climate change problem to the wider public.
cognitive dissonance	A state where a person faces a contradiction in cognitions. The theory of cognitive dissonance explains that if individuals act in ways that contradict their beliefs, then they typically will change their beliefs to align with their actions (or vice versa).
Copenhagen climate talks	The United Nations Climate Change Conference that was held in December 2009 in Copenhagen and encompassed the 15^{th} Conference of the Parties to the UNFCCC and 5^{th} Meeting of the Parties to the Kyoto Protocol.
decision-makers	A set of people who are in position to make decisions about policies or measures at different levels. The group includes elected representatives, politicians or high-ranking officials.
denial mechanism	A mechanism that defends people from facing a fact that is too hard to accept by rejecting it, even if the results of ignoring the fact could be devastating.
greenhouse gas emissions	Emissions of gases that absorb and emit infrared radiation, causing the so-called greenhouse effect.

herding	Generally used for bringing animals into a herd, in this dissertation, the term is used to describe humans' tendency to form groups.
Kyoto protocol	An international treaty arising from the UNFCCC and setting obligatory targets for industrialized countries to reduce GHG emissions.
neoliberalism	Approach to economic policy that puts stress on the importance of private enterprise, liberalisation and free markets and hence tries to minimise the role of the state.
phase transition	Generally a transformation of a thermodynamic system from one phase or state of matter to another, but in the case of this dissertation used to describe transformations that happen in human societies.
recency effect	When people make decisions, they put more emphasis on the most recent data they have received. This is called recency effect.
treadmill of production	A theoretical model developed by Allan Schnaiberg that refers to the never ending circle of production-consumption with which the current economic model can satisfy its inherent need for achieving constant growth.

1 INTRODUCTION

Addressing the climate challenge is an issue that keeps thousands of scientists, politicians and activists busy for decades and yet people seem to be further and further from reversing the trends in emissions that cause the problem. The problem of climate change reaches an unprecedented level of complexity already when viewed strictly from an environmental perspective. Viewing it as a side-effect of the functioning of the current economic system significantly adds to the complexity. However, to properly address the problem, its dimensions must be known. One of the key obstacles when dealing with climate change is that it is addressed as an environmental problem, rather than a discrepancy resulting from the current economic system.

This dissertation aims at providing a wider framework for understanding the dimensions of climate change in order to help formulate more effective solutions. After building such a framework, it researches the awareness and habits of people in Slovenia and tries to analyse what the best awareness raising strategies are for triggering a change of habits.

Admittedly this might seem like an incoherent approach to formulating strategies for communicating climate change in Slovenia; but, as it is argued in the dissertation, firstly, people are not strictly rational beings; and, secondly, the key to resolving the climate challenge is people- the human touch. Hence this kind of approach was used to construct the research in this dissertation- in spite of leaping over a few steps that would normally logically follow between building a very wide framework of the climate problem and focussed researching of a very narrow group of answers from a very small group of people.

1.1 POINTS OF DEPARTURE

There is a wide range of starting points for this dissertation, but this section will only name a few to provide understanding of the points of departure, from which it originates.

The first starting point is that climate change is perceived mostly as an environmental issue, and insufficient attention is paid to how it fits into the wider picture. After a decade of being given a high amount of attention, the issue is finally starting to be perceived as an economic or social issue as well. However, the in-depth understanding of how climate change interacts with the current economic system and societies is still limited to the circles of experts. It still remains an unprecedented challenge to communicate the complexity of climate change, which makes it hard to bring the complex issue into the understanding of wider circles of people.

The second starting point is that apart from being just an environmental issue, climate change is also a side-effect of a dysfunctional economic system. Economy used to be one aspect of human life, but with the global spread of capitalism, the economic aspect becomes a goal of people's lives, rather than just a means of survival- one aspect of the many that should constitute the quality of life. Tackling climate change means also tackling the economic (and with it political) system that has gone array. However, this

remains Pandora's box for many people, who deal with climate protection on all levels, as they do not wish to admit that stabilizing the climate system in the current socio-economic system is very challenging, if not an impossible endeavour.

The third point of departure was the question of whether or not the changes of behaviour of individuals can, in light of the previous starting point, make a significant enough change in the impact on the climate system. Many people implement steps to protect the climate, but those steps are marginal in the overall human impact on climate. Hence it is questionable if the small steps can really divert humans' impact from being negative to neutral. However, the key question is how deep the behavioural changes go: if one recycles waste, this might not be enough, while if one tries to exit the consumption craze and organize a self-sustaining lifestyle, which is interlinked into a self-sustaining community, then behavioural change can make a difference when it gains the critical mass. An important behavioural change is also to become an active human being, rather than a passive worker-consumer, and to openly question the underlying logic of the economic and political systems- to demand change through citizen action and to engage in various actions. Individual action is important, because policies and measures must be supported and implemented by people; and also because in a system, driven by interests of capital, it can only be individuals that are able to point at the problems and demand those to be solved.

The fourth important starting point is that in addressing climate change, psychology- both of individuals and of societies, is almost entirely neglected while it plays an important role. Many climate protection actors are not aware of the impact of individual and social psychology on human behaviour. Yet it is important to understand the mechanisms of psychology in order to both understand the climate change problem and to help address it.

The last starting point is that climate change is a very complex problem. Understanding the complexity of the problem is difficult, but even more difficult is explaining this complexity to other people. Actions that contribute to the problem are deeply integrated into people's lives. It is hard to perceive the problem, because consequences can be invisible or too slow to perceive. The sectors that contribute the most to climate change (energy, transport…) are the ones most in control of the current economic set up. Fighting climate change problem sometimes means fighting against people's own wishes. These complexities go further than just accepting the climate problem as an economic and social issue.

1.2 WHY MULTIDISCIPLINARY APPROACH

Although there is still a lot of heated debate among the public about the human impact on climate change (see for example Climate resistance, 2010 or Information is beautiful, 2010), the scientific consensus is that human activity is the cause for the current episode of climate change (Climate change 2007: the physical science basis, 2007). However, although it has been established that the problem is caused by the human interaction with nature, science has only invested a limited amount of attention to studying the effects of 'the human touch' in resolving the climate challenge. By limiting research to one branch of science, in-depth understanding of this branch is created, but one is unable to see the whole picture, which is sometimes relevant for finding proper solutions to the problems.

In spite of major progress in natural science, very little is known of the planet and its inhabitants, claim Suzuki and McConnel (1999). Two key problems can be observed. One is that even fields that are very well developed include gaps in knowledge that are "large enough for the future of the planet to fall through", as Suzuki and McConnel (1999) put it. Climate field is a clear example of where scientific findings cannot explain all possible connections in the climate system or give the precise pace and strength of climate change. This is not to say that science in this field deserves condemnation, but that there are still many knowledge gaps to fill.

The other problem, that Dickens (1996) is discussing, is that in spite of progress in each separate field of science, there was no progress in understanding the overall picture and the connection between sciences. At the core of environmental destruction, according to Dickens, is the problem of specialization of knowledge and labour. Natural sciences have laws, but those do not tell how the society should look like and therefore the connection between humanity and nature is not properly identified; social sciences have also neglected the insights of natural sciences. People are often familiar with only one field of science and there is hardly any link with other sciences. Dickens (1996) also warns that fields of knowledge, which fall outside of the range of knowledge needed for production and mass consumption, are discriminated and ignored, although they represent important view on the situation. Fromm (2009) also points out that today it is believed that by knowing facts people gather knowledge and wisdom; while people are busy gathering the facts, there is rarely any time left for thinking. Thinking without facts and information is futile, but so is having facts without thinking about them.

In tackling climate change, both the individual and society are important. It is needed to observe some characteristics of an individual (psychology of individual) and see how they function in the society (psychology of society). Both are closely interlinked, and it is hard to achieve a structural change without individuals that would demand it and support it. Also Uzzell and Rathzel (2008) believe that if solutions for sustainable life are to be found, it is needed to fully understand how to change the interaction between individuals and their social context. Uzzell and Rathzel (2008) see individuals as "the sum of their social relations" and this is why more attention should be given to the relations of production/consumption and social/political relations that help people form their values, attitudes and behaviours. Hannigan (2006) shares the opinion that approaching environmental challenges without sociological understanding is not going to be enough to deal with the current crisis of the planet.

Ariely (2009) and Schwartz (2004) highlight that main parts of people's understanding of the world build on the premise that actions of people are actions of a rational actor. Only recently studies are starting to reveal that a large part of people's actions is driven by irrationality rather than rationality.

Mullainathan (2009) draws attention to the observation that it is often believed that the problem is solved when there is a technological solution, but the human problem often remains open (and is not even researched). According to him, the majority of the solution is about science- testing, trial, etc., but when the so-called "last mile of the problem" arrives, people always try to guess how to solve it. There is a lack of scientific method for

solving the last-mile problem. The amount of resources, which is put into solving the last-mile problem is low; millions are invested into researching efficient technologies, while close to nothing is invested in behaviour change. Mullainathan (2009) believes that behaviour change is a big field of science research, which will recognize the complexity of the human mind.

Although people like to rely on legislative measures and technology development, they often fail to see that it is people who will have to enact the legislation or handle the technology, Corner (2009) points out. Gram-Hanssen (2010) illustrates this by showing that differences in habits can explain the variation in household energy use by up to 300% or 400%. This means that studying how humans and technology work side by side is very much needed.

All in all, as Gowdy (2008: 637) puts it:

> "Understanding how humans make decisions and respond to incentives is much more than an interesting academic question. It may prove to be the key to the quality of human life in the decades and centuries to come. It is likely that responding to rapid climate change will be the major challenge our civilization faces in the coming decades and centuries."

As explained in the previous subchapter, 'Points of departure', climate change is normally considered to be an environmental problem, but looking at it only from this perspective is not enough. An important way to look at it is as a negative side-effect of a capitalistic system that needs to be thoroughly redefined if climate action is to mean more than just a scratch on the surface or a cosmetic fix. To understand this, it is important to understand how the capitalistic system functions- from creating ever increasing needs to minimizing prices through exploiting environment and people. This is why the functioning of the capitalistic system is briefly analyzed in this dissertation.

In order to change the currently prevailing economical and political system, which is deeply rooted in human societies and ways of life, crucial changes will have to be achieved. To make such important changes, it is necessary to understand the evolutional barriers and drivers, which prevent people from taking action. The psychology of an individual, as well as the psychology of society, is an important item to understand from the angle of climate change. In an economic system driven by interests of capital, only individuals can cause social commotion, point at the problems and demand those to be solved. As policies and measures must be supported and implemented by people, it is necessary to understand how to motivate people to demand changes and introduce changes into their lives. Lastly, climate communication can be counterproductive if it is not based on psychological science- e.g. scaring people with climate consequences can lead directly into denial. This is why the psychology aspect needs to be brought into the picture. A relevant highlight pertaining to the psychology section concerns irrationality. This is because solutions for climate stabilisation are often based on rationality, while people do not behave rationally.

Due to the listed reasons, it was attempted to place the research into a multidisciplinary framework. This dissertation might at first seem like an unorthodox mix of topics and issues, yet this variety of issues is closely linked to the central questions (outlined in section 2.2) and is substantial for creating a comprehensive picture of the climate challenge. As comprehensive as it was attempted to be, it still lacks many vital aspects and leaves many open questions for further research.

1.3 CHAPTER OVERVIEW

The first part of the dissertation explains the objectives of the research. It presents the key research questions and outlines the key contributions to science.

The next chapter tries to build an interdisciplinary framework for discussing climate change. It first outlines the features of the climate change problem that make it challenging to address, such as complexity and interrelatedness with people's lives, and then looks at why a structural change in the economic and political system is needed to properly address the climate challenge. The next step is sketching the impacts of psychology of an individual and of society on the climate problem. The chapter finishes by proposing how psychology can be used to enhance climate communication and action.

The fourth chapter introduces the methodological framework of the research. It explains the phases of the research, from the literature overview to focus groups. It also explains what methodological approach was used to create an emphasis on agriculture, and what the limitations are that the research faced.

The following chapter presents the results of the research, starting with the results of the desk research, going through the results of the in-depth interviews and finishing with the results of the focus groups.

In sixth chapter the results of the research are discussed to give added value to the findings. The chapter discusses the findings from the fifth chapter, but it also focuses specifically on the findings related to agriculture, and outlines the interesting highlights from the findings. It also returns to the research questions and explains the key answers. The chapter finishes with conclusions and recommendations.

The last chapter summarizes the dissertation and in chapter 8 the sources are listed.

2 OBJECTIVES OF THE RESEARCH AND KEY RESEARCH QUESTIONS

2.1 OBJECTIVES OF THE RESEARCH

The overarching objective of this dissertation is to provide guidance for communication about climate change in order to raise awareness of climate change among people, specifically in Slovenia and with an emphasis on the agricultural sector.

In order to do that, the first specific research objective of the dissertation is to paint the fullest picture possible about the climate change problem, whereby knowledge divisions are overcome and links are established not only between scientific fields, but also between global and local or personal and social fields. As explained in section 1.1 Points of departure, in the field of climate change there is not only deep complexity present in the science of climate change, but also in how this problem interrelates with human social and economic systems. Sufficient understanding of the links between climate challenge and the economic and social systems, as well as between climate change and psychology of individual and society, is needed to be able to properly communicate climate change and its solutions. This is why a review is needed of existing literature on how the functioning of the global economic and political system creates conditions for ever stronger impact of humans on the climate system. It is also necessary to build a full understanding of the psychology of individuals and societies in relation to how climate chaos is created and how psychology can help in finding solutions for the problem. Building a multidisciplinary framework for climate change is, however, only a tool to help base the research on all relevant aspects.

The second specific research objective is to identify the drivers and barriers that (de)motivate people to take personal action to fight climate change. Within this objective, exploring three specific aspects is the focus of the research:

- connection between climate action and the personal reward/punishment system,
- connection between climate action and being personally affected by the consequences of climate change or understanding the climate change problem, and
- connection between climate action and factors such as price, availability and quality of the products or services.

The focus of the research is on inhabitants of Slovenia, with an emphasis on the agricultural sector. This focus is needed to keep the research at a realistic level with enough in-depth access to opinions and views of the research participants.

2.2 KEY RESEARCH QUESTIONS

The key research question that this analysis will try to answer is ‘What are the drivers and barriers that (de)motivate people to take personal action to fight climate change?’

In the wider research area of climate change mitigation, the specified research question (or research topic), will try to answer the following specific questions:

- Is taking climate action closely related to a personal reward/punishment system? (Would people take action if they were personally rewarded for it; and the opposite: Would people not take action if they have to sacrifice their comfort?)
- Is a person who is affected by the consequences of climate change, or understands the connection between his/her behaviour and the consequences of climate change, more susceptible for changing habits than a person who is not affected or does not understand this connection?
- Is change of habits to implement climate solutions- and the scale of them- conditioned with factors such as the price, availability and quality of the products or services?

The specific research questions are not outlined here because the list is rather long, but they can be viewed in the interview and focus group guidelines in Annex A and C.

2.3 CONTRIBUTIONS TO SCIENCE

In line with the previously defined objectives, the key contributions to the science that this dissertation aims at are described in this subchapter.

Without having aspirations to cast major new findings in the climate debate, this dissertation simply tries to highlight some reasons for climate (in)action and construct a broader picture to provide a multidisciplinary framework for understanding the depth of climate change problem. Explaining how climate destruction is inherent to the prevailing economic (capitalism) and political (democracy) system is one of the key contributions for climate actors on all levels. Only by understanding this, the climate actors can place climate communication and solutions in the correct framework.

When tackling climate change both the individual approach and the social approach need to be mixed. This is why it is needed to study characteristics of an individual (psychology of individual) and see how they function in the society (psychology of society), as seen from the angle of climate change. Both levels of psychology are closely interlinked and need to be used to achieve structural changes- individuals need to demand structural change and support it.

Researching the leverages from the psychology of individual and society that can assist and support climate communication and action is hence another key contribution for those that act to stabilise the climate system. This dissertation offers an overview of the key strategies for communicating the climate change issue (see section 3.1.4.). Those strategies are based on a massive body of evidence found in psychological and social studies, as well as opinion polls and studies of human attitudes towards climate change. Bringing those communication strategies together represents a backdrop against which the research of how to best raise awareness and communicate climate change in Slovenia was set.

In spite of the numerous studies and opinion polls that capture the general opinions of Slovenian people about the climate change problem and its solutions, there is no comprehensive in-depth study for Slovenia on people's perception of climate change,

especially not in relation to topics such as structural change. This is why this dissertation provides an in-depth understanding of people's perceptions in Slovenia, which both gives an insight on how to communicate climate change and opens questions that need further research.

In the climate change related opinion polls, normally a high level of awareness is expressed, but action in practice is missing. It can be suspected that the quantitative research methods, such as telephone polling, result in socially desired answers rather than real answers. Therefore a relevant goal of this research was to also try to cast a light on which perceptions of Slovenian people are described with socially desired answers and which are close to reality. Although it would be hard to name this a methodological contribution to qualitative research, it does carry seeds for understanding how in researching people's perceptions of climate change one can avoid, or at least control, the extent of socially conditioned answers that distort results of many studies and polls.

Finally, while good guidance for communicating climate change in general is available (see for example The psychology of climate change communication, 2009; The rules of the game, 2005; New rules: new game. Communications tactics for climate change, 2005; European Commission, 2010b), there exists no set of guidelines that would be adjusted to the specifics of Slovenia. This dissertation provides insight into how people understand the problem, how they perceive the problem, how they perceive the communication-awareness-raising actions etc., while at the same time providing hints and tips for how to better communicate climate issues. It also contributes to better insight of specific groups of people, such as rural population, which establishes a better basis for targeted communication of climate change. It offers some details on why climate scepticism is becoming stronger in Slovenia and how to manage it. It also provides a basic idea of which values are social and which are individual, hence making it possible to base climate communication on different sets of values.

3 CLIMATE CHANGE: BRINGING THE PUZZLES INTO AN INTERDISCIPLINARY FRAMEWORK

The scope of this chapter is to provide a summarised theoretical background of the research topic and its wider context. The first part of the chapter discusses the issue of human induced climate change and its characteristics. The next part looks into the economic system that represents the framework in which climate change is happening. The usual insight of climate change sees the problem as an independent issue next to many that are appearing in the modern world. However, as outlined in the introduction chapter, this is a lapse that leads to deficient understanding of the dimensions of the climate problem. This is why the system is reviewed both from a political perspective and from the perspective of the continuous chase between production and consumption. The subchapter shows that those are closely connected, and discussing climate change must also evolve around the discussion for changing the global economic system.

The chapter continues with another slightly unusual aspect of the climate change problem: the psychology of climate change. As important an ingredient as psychology of climate change is, it is normally not included in the analysis of the climate problem and its solutions. The subchapter presents psychological mechanisms, both on an individual and societal level, that cause the challenges that people are currently faced with when addressing climate change. If understood properly, these same psychological mechanisms can be tapped for solving the climate problem.

The final part concludes the chapter by linking the discussed concepts to an overall framework that defines the practical parts of the research or, in other words, brings the puzzles of the chapter into an interdisciplinary picture that represents the framework into which the research was settled.

3.1 COMPLEXITY OF CLIMATE CHANGE

Numerous studies, researches and articles have looked into almost any angle from which the climate problem can be presented. For this reason the subchapter will strive not to repeat the known aspects, such as the cause or consequences of climate change, but rather look into the issues that represent a context for further research.

3.1.1 Short history of the human induced climate problem

In 1896, Svente Arrhenius warned about potential harmful impacts of climate change (Baer et al., 2007). Although the problem of the GHGs effect was known already in 19th century it became seriously discussed as a problem only in the 1980s. The first to recognise the threats and raise the issue were scientists, diplomats and NGOs (Arts, 1998). No or little attention was paid to the climate change issue until the Brundtland report that helped the climate change issue to be put on the agenda for the Earth Summit. In 1988, the Intergovernmental Panel on Climate Change (IPCC) was created to evaluate the scientific data on climate change from a political perspective. Two years later, in 1990, the UN

General Assembly brought a resolution on establishing an Intergovernmental Committee for a Framework Convention on Climate Change (INC) that was to come up with a Framework Convention on Climate Change by the Rio Conference (Arts, 1998; Walker and King, 2008). A steadily growing amount of research and proofs that humanity can impact the Earth's climate system finally culminated in a global policy response in 1992, when the United Nations Framework Convention on Climate Change (UNFCCC) was formed (Arts, 1998; Walker and King, 2008).The UNFCCC was open for signing at United Nations Conference on Environment and Development (UNCED). The convention entered into force after it had been signed by at least 50 countries in 1994 (Arts, 1998).

In parallel with the man made climate change investigation, solutions for reducing greenhouse gas emission have been developing. Although many of these solutions are now at the reach of our fingerprints and their use does not reduce the quality of people's lives, global emissions of greenhouse gases are still growing (Climate change 2007: the physical science basis, 2007; Stern, 2007).

3.1.2 Challenge of the man made climate change

Greenhouse gases are a part of the Earth's atmosphere, and their function is to capture a fraction of the solar radiation in the atmosphere before it is reflected back to space (Lynas, 2008). By doing this the greenhouse gases maintain a global average temperature that is suitable for life; without the greenhouse effect, the average global temperature would be on average 30°C colder than it is now, making it impossible for the life to exist in its current forms (Lynas, 2008). The problem that is observed by the scientists now is that human activity contributes to an increased concentration of greenhouse gases in the atmosphere. As the amount of greenhouse gases grows, the solar radiation that is captured by them is also growing, leading to the warming of the atmosphere and the so-called enhanced greenhouse effect (Lynas, 2008).

As in many other fields, the scientific research of the climate change issue leaves some degree of uncertainty about the human impact over the climate system (Climate change 2007: the physical science basis, 2007). However, the latest IPCC report highlights that

> "Most of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic GHG concentrations" (Climate change 2007: the physical science basis, 2007: 39).

This shows a high consensus among the scientists that the current episode of global warming is a consequence of human activities, and that the temperature raise in the last decades cannot be fully explained with natural cycles (Climate change 2007: the physical science basis, 2007). The latest observations of the IPCC show that the changes in the climate are happening much faster than previously expected (Climate change 2007: the physical science basis, 2007), which leads to increasing concern about the time that is left to reduce impact of humans on the climate system. The ranges that are valid with 75% probability that humanity does not overshoot certain degrees of global warming (Lynas, 2008) are presented in Table 1.

Table 1: Ranges of temperature increase that are valid with 75% probability if certain CO_2 concentration is not exceeded (Lynas, 2008: 227)
Preglednica 1: Razponi povišanja temperature, ki veljajo pri 75 % verjetnosti, če ne presežemo določene koncentracije CO_2 (Lynas, 2008: 227)

Range of increase in ºC	Necessary measures	Target CO_2 concentration
0,1 – 1	most likely not avoidable any longer	350 ppm*
1,1 – 2	greenhouse gas emissions peak by 2015	400 ppm
2,1 – 3	greenhouse gas emissions peak by 2030	450 ppm
3,1 – 4	greenhouse gas emissions peak by 2050	550 ppm
4,1 – 5	concentrations keep rising	650 ppm
5,1 – 5,8	constantly high emissions	800 ppm

* Current concentration is over 380 ppm.

The most striking feature of the man made climate change is its complexity. The complexity of the climate system is topped with the complexity of its interactions with the social, economic and political system. The key challenge in the complexity of the climate system is to understand the connections between the processes of the climate system and other natural systems. In spite of research, little is known about many of the climate system loops, such as how much methane could be released from the melting of the permafrost (Lynas, 2008). Also the degree of sensitivity, vulnerability and adaptability of many components of the natural system are not fully explored (Lynas, 2008).

Gough and Shackley (2001) offer some further aspects of the complexity:

- the culprits for climate change are scattered in the society (especially in the North) and that makes it hard to identify a small number of ultimate culprits, which ultimately results in an unpopular message 'We are all to blame';
- climate change is a complex issue, involving political struggles as well as scientific ones;
- the predicted effects of climate change are hard to illustrate and make more concrete, which causes a certain degree of abstraction and hence distance from the perception of the realness of the problem;
- there are many ways to solve the climate change problem, and this variety of solutions closes the possibility to strongly promote only one solution.

The climate challenge has some further specifics or complexities, as concluded from the literature overview, provided in the following subchapters. One is that it is hard to perceive the problem because it is invisible and long-lasting while humans are wired not to be observant of such problems. For example, in the field of biodiversity, one notices disappearance of the species easily, because it happens relatively fast and mostly in one's own environment. In the field of climate change, the changes are slower and much less visible. Another complexity is that the sectors that most contribute to climate change (energy, transport, etc.) are under the control of the strongest lobbies, which are an important part of the production treadmill. Because of that, the climate problem is the environmental problem that most demands the dismantling of the current economic system. Another aspect of the complexity is that fighting climate change often means fighting against ourselves (e.g. a struggle between going for exotic holidays and polluting with the flight or a struggle between having more material goods and using energy for the production of those).

Climate change has a high interrelation with people's lives. About half of the greenhouse gases stems directly from their activities, such as driving cars, using electric appliances or heating homes, while the other half is not emitted directly, but still for their activities (Goodall, 2007). Almost any activity of humans in the modern world results in greenhouse gas emissions, either directly or indirectly. By being so closely involved with all fibres of people's lives, reducing greenhouse gas emissions is a very complex challenge.

In the case of Montreal Protocol on Substances that Deplete the Ozone Layer, where the emissions for chlorofluorocarbons (CFCs) are tackled, the story is by far simpler than in the case of addressing man made climate change (Zivcic, 2001). While CFCs arise from production of a small range of products, GHG arise from almost any human activity- hence the Montreal Protocol was easier to negotiate and put into practice than Kyoto protocol (Princen and Finger, 1994). The climate change process involves many interested parties and represents significant threats for some of them (e.g. for oil companies). The presence of powerful actors and the political relevance of the issue limits the possibilities of successfully addressing the issue at a global level (Zivcic, 2001).

3.2 CLIMATE CHANGE AS PART OF THE WIDER SYSTEM

Sometime in the 18th century economic wellbeing became an objective, rather than means of achieving true wellbeing. People disconnected from the natural ways, changed their values and started to feast on natural resources (Suzuki and McConnel, 2005; Monbiot, 2010). The production world had a lot to do with it as it needed to shape consumers in order to be able to keep on producing. Consumption is stimulated by an artificially created divide between people's desires and satisfaction of them. This divide is based on the psychology of an individual, but is mostly driven by the socially constructed mechanisms (Baudrillard, 1998; Featherstone, 1991).

In order to keep the wheel spinning, companies are now running people's lives according to their needs. They have absorbed the politics, media and education (Fromm, 2004; Rifkin, 2000). Even the political system that is currently defined as the best available-democracy- is a system that fits the treadmill of production. The treadmill is based on the postulate of infinite growth, which means that even when it is clear that the planetary limits are being hit, the production wheels may not stop or slow down. Instead, the treadmill keeps on devastating the natural resources, even to a limit where the possibility for survival on this planet is seriously undermined (Gould et al., 2004; Greer, 2009a).

Civilizations have collapsed before, mainly because of exhausting their ecosystem, so if human kind destroys its basis for survival, this would not be the first time. The striking problem with today's threat of civilization collapse is that it would be global, rather than local, as was the case in the past. This is because not only local, but global natural systems, such as the climate system, are shaken. This is also because the world is so closely interlinked nowadays that it is necessary to deal with problems on a global scale (Diamond, 2005).

This overview represents a context that is perhaps too wide for this research; however, it is important to place the climate issue in this context as it shows the wider (although regrettably not the full) picture in which the problem of destabilized climate is placed. Such an extensive context is necessary to fully understand how the climate problem is created. Subsequently, such a broad understanding is necessary in order to be able to shape better solutions.

3.2.1 The political system

National structures were developed that could be matched with neoliberal economic system, and could therefore reinforce the objectives of such a system (Clark, 1997). This and the changed international conditions (loss of power of national states, strengthening of international structures and corporations) lead to the current globalisation patterns (Clark, 1997). Today both buyers and voters are not 'independent'- their 'votes' are normally well-financed, and advertising shapes both the buyers and the voters (Galbraith, 2004). The same advertisement techniques that persuade consumers to buy, also persuade the voters to vote (Goodman and Cohen, 2004). Opinion of the public is actually more of a pre-designed picture of public opinion that the public is then expected to fill (Baudrillard, 1998; Štefančič, 2010). Consumer practices are believed to show that democratic preference is given to growth rather than to environmental protection (Soper, 2007). The corporate sector also participates in policy-making more and more often, mainly through placing important corporate personalities into governments. These corporate figures shape, among others, also the environmental policies (Galbraith, 2004). The government is increasingly perceived as an obstacle to the unhampered development of the economic system, not as an institution that can act in a corrective manner when needed (Goodman and Cohen, 2004).

Today global politics transcends the state/domestic/territorial issues, and is based on a variety of actors that are not linked to location (Ridderstrale and Nordstrom, 2002; Held and McGrew, 2002). The international structures are too inefficient, and the corporate world does not pay attention to them. The UN, for example was organised in an era when national states were strong and the UN seemed to be a good solution for global issues; now, however, when the corporations run the global game, the supranational institutions must be reorganised to reflect that change and have the possibility to exercise control over the companies (Ridderstrale and Nordstrom, 2002). If there was not a variety of other actors, who are also shaping the global agenda, the international institutions would be a strong basis for global governance based on neoliberalism and corporate rule (Held and McGrew, 2002).

Free-thinking individuals combined with the power of choice make a society where borders and traditional powers are destroyed. However, the planning for this society is still primarily done centrally: to a large extent, a small group of people embodied in multinational corporations decide and plan the lives of people (Ridderstrale and Nordstrom, 2002). Corporations are a powerful actor in the global (in)action (Broswimmer, 2002; Held and McGrew, 2002). Broswimmer (2002) also points out that corporations drive the world to the edge of collapse by undemocratically legitimizing their practices that run against societal wellbeing or the wellbeing of the planet. The power of the companies

also reaches into private lives of people and controls them as consumers (Ritzer, 2001). Held and McGrew (2002) warn that economic globalisation tends to have an adverse effect on the welfare state and social democracy. They also warn that it escapes the state regulation, as well as regulation of international institutions for global governance, and is therefore a mechanism for creating a runaway world.

The commodity and consumption system, together with the cultural system of today, shapes a seduced society, which is easier to dominate and control (Ritzer, 2001). Being informed allows democracy to be possible, yet one cannot be truly informed by media that competes for viewers and readers, who can only digest small bits of information at a time (Bertman, 1998). Media and culture create a hidden authority, which one does not perceive as such, but it is there, and its character of being almost invisible allows it to have a bigger influence than obvious authority (Fromm, 2009). Today, democratic rights are also vested in consumer rights (Rifkin, 2000). People are stimulated to pick pre-packaged decision makers rather than participating in the creation of decision makers, acting more as consumers than engaged citizens (Goodman and Cohen, 2004). It is believed that the possibility to consume brings democracy and social progress, while

> "In actuality, however, by reducing the public to feverish consumers, it paradoxically returns society to its most primitive state, a time when the human animal lived hand-to-mouth and from moment to moment" (Bertman, 1998: 87).

It is commonly believed that democracy frees people from external limitations and allows them to be free thinking individuals; however, the right of free expression is only meaningful if people have their own thoughts, which in modern society not many people have (Fromm, 2009).

Fromm (2004) lists a few elements of the political system that prevent people from acting, despite knowing that action is needed:

- leaders are creating a picture that there are processes running to solve problems, which calms people down and suffocates their conscience and instincts,
- leaders are more after personal success than social responsibility and people are not shocked any longer if they openly pursue their own interests,
- the needed change would mean giving up some items or services and generally people prefer a catastrophe in the future opposed to giving up materials goods or services in the present,
- the public does not have role models that would show that a different approach is possible.

Greer (2009a) applies these to the inaction on climate change: decision makers need to make decisions that are not in line with the desires of their constituencies, as people simply do not wish to reduce emissions because this would impede their lifestyles. Because of the necessity for such deep action, there are hardly any politicians in positions of power that are willing to take serious action. If they do, they are likely to soon be replaced by new decision makers who will be more than willing to keep pursuing limitless abundance in the limited world.

We often believe that the world's problems are due to the wrong institutions or leaders and can be fixed by changing those, yet history has proven that people remain unchanged, in spite of the way they are governed (Greer, 2010). Although the governments should play a more highlighted role in regulation of some of the market activities (Ariely, 2009), according to Dickens (1996), governments are not likely to assault a system on which economic growth depends. Solutions that are to pass through the political set up must be in line with its values, they must be perceived as something valuable for society (Hannigan, 2006). Hence if measures are adopted, they are more likely to be ones with low costs and limited effects on the economy (Dickens, 1996). Broswimmer (2002) argues that changes in the structure are hard to obtain, also because the key mechanisms, such as education or media, are closely intervolved with the existing structure. When facing economic or national security threats, governments mobilize a variety of resources, while the threat of environmental breakdown is not triggering such a response (MacNeill et al., 1991). States play a role both as the protector of environment and the protector of economy, explains Hannigan (2006) and estimates that altering such a system would demand a major political mobilisation, which would most likely be fiercely opposed by the politicians and corporations alike.

In the field of environmental protection there is a high interest in decision making participation, because a wider variety of interests can be brought into the game and help to solve the complex problems (Healy, 2003). However, changes in the economic system will only come when the powerful actors act, while consumers' impact is limited (Gould et al., 2004). Yet some believe that small actors can indeed trigger a change as well. According to the power law, it is not the average behaviour that changes the system, but the marginal changes (Ball, 2005). In practice this means, according to Ball, that individual voters cannot influence other voters, but a group of voters of one mind can.

Understanding of the global nature of some of the environmental problems gave rise to trans-national civil movements, as well as institutions and regimes, but none of those has so far gathered sufficient political power or authority to be able to fully address the problems (Held and McGrew, 2002). Global civil society can influence the political processes, and as such has a significant role in the governance of the world (Wapner, 1997). However, civil society is also active on other levels aside from global. Civil society movements try to create continuity in the world that keeps changing, renew local culture and maintain traditions in culturally mixed environments (Rifkin, 2000).

Although it is hard to capture the phenomenon of environmental NGOs, it should be noted that environmental NGOs have transformed into increasingly important actors in the international arena, focusing on local as well as global environmental issues (Finger, 1994; Morphet, 1996). At the moment a new generation of environmental NGOs is appearing-NGOs that link sustainability to modification of governance (Trzyna et al., 1996). Although the environmental NGO community is very complex and often divided, this diversity of environmental NGOs is strength for environmentalism (Conca, 1996).

3.2.2 Treadmill of production[1]

The current economic system has an inbuilt need for achieving constant growth and rising profits. To do this it has to trigger demand for consuming an increasing amount of products, according to Hannigan (2006), who describes the capitalistic system as a system that strengthens itself through a corporate world that influences politicians to adopt policies that stimulate more expansion (and destruction). In capitalism, success and wealth became the goals of people, rather than being their means for survival (Fromm, 2009). Hannigan (2006) warns also that the so-called "treadmill of production" has to keep spinning even when it surpasses the carrying capacity of the ecosystem.

The never ending circle of production and consumption keeps rotating, and the question of usefulness, of why this is necessary, is becoming irrelevant (Szerszynski, 2003). However, Campbell (2001) argues that the rationality of a capitalistic society should be put under a question mark. As the growth is spinning the economic system, a point is reached where the system is draining itself from reproduction, that is, it spins without moving (Baudrillard, 1998; Broswimmer, 2002). The climate and energy crisis is based on the growth dogma, which undermines the carrying capacity of the planet (Hagens, 2009).

Greer (2009b) points out that there is a strong irrationality in the economical system. The production of the natural world is the primary sector of economy, the production of goods is a secondary sector of economy and production of money is a tertiary sector of economy. While classical economic science deals extensively with the matching of the secondary and tertiary economy, it completely fails to acknowledge the primary economy and its pivotal role. The problem now is that the primary economy cannot support the secondary and tertiary economy, but this problem is not getting any attention.

There are further irrationalities in the system. The economic system is based on interactions and actors in the market influencing each other, yet, Ball (2005) believes that interaction or interdependence is not included in the economic models. Collective mania or depression influences booms and recessions, but economic models still fail to integrate this (Ball, 2005). Similarly, Galbraith (2004) points out that the ones that make predictions of economic developments cannot be relied upon as they do not know what will really happen- the economic sector is fully unpredictable.

The free-market capitalism has an inherent self-destructive component: excess competition pushes towards a global monopoly (Ridderstrale and Nordstrom, 2002). According to Dickens (1996), Marx points out another aspect of the self-destruction of capitalism: as companies substitute workers with machines, the profit rates should decline (because the profits come from the use of labour) and the working class should eventually overthrow the system. Dickens (1996) presents a parallel also in the relation of capitalism to nature, whereby capitalism is "digging its own grave" by destroying natural resources. Also Galbraith (2004) believes that capitalism is self-destructive.

[1] The whole subchapter is built on Allan Schnaiberg's 'The environment: from surplus to scarcity' (Schnaiberg, 1980).

In the current economic system everything becomes a commodity and market norms prevail over social norms. While the transition of government services into the business world is happening, people fail to notice that personal life is also swiftly becoming an object of commerce, observes Rifkin (2000). People's values, relationships or beliefs are becoming commodities (Rifkin, 2000; Baudrillard, 1998; Fromm, 2004; Ritzer, 2001). Ritzer (2001) warns that even areas like studying or health become commodities, which means that a commercial approach starts to prevail also in social aspects that were traditionally not commercialized. Also many of the governmental functions have been transferred to the market, notices Rifkin (2000).

Ariely (2009) shows that when market norms are imposed, social norms subdue to them. He explains that when a price is put on pollution (introducing a market norm), the company is allowed to pay for pollution, while before the social norm was that pollution is bad. As the market norm kicks in, the social norms that society imposes on the companies are subdued, and managers do not have to feel guilty about pollution and environment any longer. However, Ariely emphasizes, if pollution is to be tackled, just a social norm will not do the trick; an interaction of norms is needed, such as making information on pollution publicly available (name and shame, information on the packaging, etc.).

Although it is traditionally believed to be the opposite, production drives consumption. Gould et al. (2004) lay emphasis on the importance of production, because even if consumers have the choice of buying different products, it is the producers that dictate the consumption. The consumers can choose not to consume some goods, but in comparison to the power of the production side, their power is very limited, as the apparatus for shaping people's needs and desires is mainly in the hands of production (Gould et al., 2004). This contradicts the main classical and neoclassical economic theories, where the power of a consumer is believed to drive the market (Gould et al., 2004; Edwards, 2000). A similar contradiction is put to light by Ariely (2009), the only difference being that Ariely claims that it is not the willingness to pay that influences market prices, but that the market prices shape the willingness to pay: therefore, the demand is linked closer to the supply than traditionally believed. Also Bertman (1998), Fromm (2004), Rapaille (2006) and Galbraith (2004) highlight that the production side is fully aware that new products cannot be sold without first cultivating a new demand through creating new customer needs.

3.2.3 Treadmill of consumption

The industrial revolution was accompanied also with so-called consumer revolution-appearance of fashion, impulse behaviour and speeding the process of becoming obsolete (Goodman and Cohen, 2004; Campbell, 2001; Ritzer, 2001; Featherstone, 1991). Growing efficiency in production needed an increase in consumption along with manipulative techniques that were introduced to secure it (Goodman and Cohen, 2004; Ritzer, 2001; Campbell, 2001). The industrial revolution was based on knowing and mastering the forces of nature, while consumer revolution was based on mastering fashion and market place (Goodman and Cohen, 2004). To buy material goods it was not only necessary to have purchasing power, but a change of values was needed too. The puritan ethic started capitalism, but needed a switch of values towards romantic ethic, that started consumerism (Campbell, 2001).

Fashion was one of the key elements for development of consumption, as it spread from one class to another (Goodman and Cohen, 2004; Campbell, 2001; Featherstone, 1991). Another key element for consumption development was targeting the middle class, which could cause mass consumption of various items (Goodman and Cohen, 2004; Campbell, 2001). Apart from the development of marketing to promote products, another crucial change was the relation between salesmen and shoppers. It turned from a personal to an impersonal relation, leaving place for establishing a relation with an object, rather than with a person (Goodman and Cohen, 2004).

Baudrillard (1998) emphasises that there are two ways to describe the process of consumption:

- as communication (consumption as a code through which society communicates)
- as a method of social comparison and differentiation

Baudrillard (1998) claims that buying and using objects represents a language or code, through which people talk to each other in today's society. People do not consume only to satisfy their needs, but also because of the symbolism vested into objects (Goodman and Cohen, 2004; Ritzer, 2001). What an object, or symbol of an object, stands for depends on the individual's perception, but it depends even more on the culture (Goodman and Cohen, 2004). Rappaile (2006) wraps this into the concept of a cultural code. A cultural code is the significance that people give to anything around them. The meaning is shaped by the culture, and for that reason people from certain cultures will be aware of and guided by the codes around them. The imprinting of a cultural code happens at a very early age and is closely linked to emotions (the stronger the emotion, the stronger the imprint).

Consumption is also used as a code in green circles. Green culture codes are embodied in green consumption and lifestyles (Horton, 2003). Environmentalism or green lifestyle is a social group and is as such attractive for people that identify themselves with it, whereby the group lives according to scripts and codes, just as any other group (Horton, 2003).

Although consumers are perceived to be autonomous and follow private desires (Soper, 2007), they are also perceived to be mindful agents that employ the consumption system as a tool for comparison and differentiation a tool for climbing the social ladder (Ritzer, 2001; Goodman and Cohen, 2004; Edwards, 2000). Materialism helps the social classes to be visible, while at the same time it opens a platform (market) where people can ascend their social class (Bertman, 1998). People are very concerned about their relative position in society, and this concern for social differentiation is the main drive for consumption patterns as seen today (Gowdy, 2008; Baudrillard, 1998). Needs, wants and desires are socially constructed, through social differentiation processes (Baudrillard, 1998). However, as stated above, today the needs and desires are not only a social construct, but are also directed by producers (Gould et al., 2004). Consumer culture does not only satisfy people's needs, but also redefines them (Goodman and Cohen, 2004).

Needs and wishes move from one class or group to another (Baudrillard, 1998; Ritzer, 2001). Upper classes, or known people, give direction at to what is socially desirable and worth consuming. Because those 'trendsetters' always try to be distinct from other people,

they keep coming up with new trends to be continually distinctive from the masses (Ritzer, 2001; Baudrillard, 1998).

A commonly perceived assumption is that consumption gives people a feeling of freedom of choice, not of being forced into a social system. However, Baudrillard (1998) seriously challenges this perception. He believes that since people always look for their place in the system, they are forced to choose and separate themselves into groups, and as a result are not free. Choices that are made are conformist choices- current needs are not necessarily needs as such, but needs that people are raised with. Hence when people make a choice, it is a choice that conforms with the way of life that society imprinted on them. Goodman and Cohen (2004) and Edwards (2000) also point out that people tend to accept their needs as something natural and inevitable, which makes consumption seem like natural and inevitable too, although it is a social construct.

Consumption and production are linked to a continuously spinning circle (Edwards, 2000; Ritzer, 2001). A similar circle is spinning also in consumption alone: goods and needs are both created at the same time, but not with the same tempo. Goods depend on the economic productivity, while needs depend on the social productivity (Baudrillard, 1998). If the needs would be created slower than the goods, there would be no drive for consumption (Baudrillard, 1998). People always need to be seduced with more spectacle, otherwise they get saturated with it (Ritzer, 2001). In such a way hunger for new items is created through constant creation of new needs. The gap between want and have may never be bridged (Campbell, 2001). The fascinating aspect of consumption is that it never delivers what it promises to deliver, yet the continuous chase for consumption is based on this very failure explains Goodman and Cohen (2004). They point out that even though people enjoy consuming, they are not at ease with that feeling. This contradiction of feelings comes from the contradictions of the consumer culture, which, according to Edwards (2000), can arise because consumption has a personal component and a social component, which can contradict each other. This could be the reason for the dichotomy that Soper (2007) illustrates: as consumers people are a cause to the environmental problems that as citizens they are trying to solve.

Due to almost friction free markets, the consumer is now the king, which basically means that the control and the power is given to the billions of people that now form the global market (Ridderstrale and Nordstrom, 2002). Yet, while in theory the consumers have the power to stop specific products, in reality they are a weak opponent to the corporate world and hence rarely able to affect production (Gould et al., 2004). Similarly, Monbiot (2010) shows that consumers alone are not capable of changing their patterns: consumerism permeates every aspect of people's lives, and even their dissent from the system is packaged up and sold to them in the form of anti-consumption consumption.

However, the consumer is not always a victim, and consumers often know as to what they are a prey (Edwards, 2000). According to Ritzer (2001), the latest theories gauge the consumer between an empowered agent and a victim. A consumer might be exploited through advertisements that trigger him to buy something he does not need, but he still has a possibility to trigger or participate in a collective action. Nevertheless, consumption has

an inbuilt mechanism to prevent collective action: it is intrinsically individualising and hence not likely to cause revolutionary collective action.

As Broswimmer (2002) establishes, not all consumption is bad, as people need to consume in order to survive; it is the character and extent of consumption that need to change. Firstly, people need to respond to scarcity of resources by plummeting consumption and taking up a more humble lifestyle (Hannigan, 2006). Secondly, people need to switch to a more responsible consumption (Soper, 2007; Fromm, 2004). This includes a shift in thinking about what is a good life (Soper, 2007). It also includes seeking ways to live a meaningful life with healthier consumption in a consumer society (Ritzer, 2001; Fromm, 2004). States can give guidelines as to which direction to change, but change is only possible if there are limited rights of stakeholders and corporations to decide on the production based solely on profits, explains Fromm (2004). For such an action, he points out that a society is needed, where participation in the economic and political decisions is strong, where people take part in decision-making.

3.2.4 A crowded world

Bertman (1998: 180) explains population growth in the following manner:

> "…within a self-regulating organic system, the population of any one species tends to be corrected to maintain balance in nature. Given the multiplier effect of a powerful technology, however, even a relatively small group can have an immense impact, even to the extent of overriding those natural mechanisms that tend to promote equilibrium."

Population growth today is unprecedented and the rates of population growth are main obstacles of solving humanity problems (Fromm, 2004; Diamond, 2005; Psychology and global climate change, 2009; Bertman, 1998; Earls, 2007; Broswimmer, 2002; Naish, 2009). Globalisation now makes it possible for the lifestyle of the rich world to be an ambition of the whole world (Ridderstrale and Nordstrom, 2002). With a high per capita impact, the population growth cannot be sustained by the planet (Diamond, 2005). Also the social aspect is intriguing: because of the population growth, the world might become an overcrowded place, where poverty could lead to social unrest (Ball, 2005). Population stabilization is hence a fundamental issue for stabilizing both environmental and social crisis (Broswimmer, 2002), yet people seem to be unable to tackle the problem. This is largely due to the strong religious beliefs or other prejudices that prevail in the debate arena (Broswimmer, 2002). Population control also demands simultaneous investment in education, health, empowerment of women and contraception, which draws funds from other fields that are traditionally perceived as more important (Broswimmer, 2002).

Normally the population debate runs separately from the environmental impact debate, which is, according to Diamond (2005), not suitable for addressing those two closely linked problems. If from now on all the women had only 1 child, the overall population would be reduced by roughly one billion by the middle of the century, and about 1.6 billion of people would be left by the end of the century (Weisman, 2009). With such population

it would be easier to use all possible inventions and lead a comfortable life (Weisman, 2009). Suzuki and McConnel (1999) also point out that if people reduce energy consumption, about 1-2 billion people could live in prosperity.

3.2.5 Technology: a solution or a problem?

Technical advancement is accompanied by dangers for the environment and societies (Fromm, 2004). There is a myth that technology is unavoidable (Baudrillard, 1998). Often people tend to rely on the fact that the technology and technological progress will bring a solution to the climate problem, but in reality, this is not the case all the time. Technology also creates many problems (Diamond, 2005). Bertman (1998: 17) sketches out the problem of technology in the following way:

> "Each technology we acquire endows us with an artificial power that expands the capabilities we would otherwise posses through nature alone. But even as it grants us this power, it obscures the invisible limitations that may prove to be our undoing, for it entrusts us with instrumentalities whose wise use demands a level of self-control we may not- or may not ever- posses. It is our internal limitations, rather than some external, impersonal foe named technology, that are our truest and most natural enemies."

According to Bertman (1998), population growth and technological development are reinforcing each other: while technology helps to feed and heal people, they expand the demand for technology; however, technology seems to be the stronger of the two forces (technology and population) to have an impact on environmental destruction.

The progress is also not as fast as it should be to represent a solution for the climate challenge- some technologies are successful, some not. The successful ones take a long time before they are fully developed and enter massive usage (Diamond, 2005), which is mainly due to the actors who build fortresses around the current technologies.

3.2.6 The system not delivering on its promises

It is becoming an issue of everyday media stories that people are utterly unhappy in the world, where chasing happiness is a must (see for example Godina, 2009 or Monbiot, 2010). Although people seek happiness in consumption, more and more people realise that owning objects does not bring them satisfaction or progress (Godina, 2009; Suzuki and McConnel, 1999; Naish, 2009).

Fromm (2004) draws attention to the fact that development in the past decades has been lead by the question ‘what is good for the economy’ rather than by ‘what is good for us’, which is based on the premise that what is good for the economy is also good for the people. Another false premise has been valid over the past decades is that self-interest, selfishness and greed are inherent to human nature, and that development based on these characteristics is good. Fromm claims that these characteristics are a product of the social

system, not people's inherent values. The belief that growth means an increase in wellbeing has been a prevailing postulate for the past few decades. Although it is known that there is difference between growth and wellbeing, the concepts are used interchangeably (Monbiot, 2010). However, growth does not bring people wellbeing, because there is a social construct that prevents it to do so (Baudrillard, 1998).

Kahneman (2010) presents results of a study that shows that money cannot buy happiness: with income below 60.000 USD per year, people are unhappy, while above this income level, the happiness line is flat. Yet, nowadays wellbeing and progress are measured with GDP, an indicator that counts negative effects- such as the destruction of natural resources- as a plus for wellbeing (Monbiot, 2010). As long as GDP grows, this is accepted as a sign of progress, no matter if accidents, loss of natural resources or social harm are counted as progress in this equation (Monbiot, 2010; Galbraith, 2004). Such a measure of success is tailored to the needs of the corporate world (Galbraith, 2004)- not people.

Despite feeling they are in the wrong, people keep doing wrong. Many people know that they are not happy in spite of growth, but they live as if nothing is wrong (Monbiot, 2010). People also know that their basis for survival is being destroyed, yet live as if this is no concern for them (Suzuki and McConnel, 1999). It is known that a clean and safe working environment or more quality time is needed, yet people do not stand up for it (Gould et al., 2004). Nowadays "humanity lives in two realities": one of them is the natural world and the other is the cultural world that humans have developed (Caldwell, 1990). Humans are a part of both realities, but many people of today's world are not aware of that. Their link with the natural world is lost. They do not see the environmental problems and even if they see them, they do not understand the link between their way of life and the problems.

When people see environmental destruction they know it is wrong. People simply feel it is wrong, but very often they are told this is fine. People are told that there are ways to heal the problem, which calms them down (Suzuki and McConnel, 1999). Even if people express concern, they are marked as eco-terrorists or tree huggers (Suzuki and McConnel, 1999).

People believe themselves to be above nature, and this results in taking many wrong turns, which will eventually lead into a potentially suicidal situation (Suzuki and McConnel, 1999; Dickens, 1996; Earls, 2007). Civilisation was developed on the account of humans divorcing from nature (Bertman, 1998; Dickens, 1996). Many belief systems narrate stories of humans breaking apart from nature and separating themselves, by which the link with nature is broken (Suzuki and McConnel, 1999).

Modern society has not only parted from nature, but also the traditions. Modern society is becoming fragmented as bonds that were holding the society together- traditions, religion, family- are disappearing and leaving people disoriented (Earls, 2007; Ridderstrale and Nordstrom, 2002). Freedom from the bonds of past traditions in the society makes people feel alone, because they lose their place in the system (Fromm, 2009). Also the knowledge that humanity has developed and passed on through generations made it possible for people to survive and learn how everything is connected to everything else. This knowledge is broken into particles today and people fail to see a unified picture of the

world as a whole (Suzuki and McConnel, 1999). Old is not respected any longer and novelties eat into the worth of traditions- traditional knowledge and wisdom that was handed down from past civilisations (Suzuki and McConnel, 1999).

Disconnecting from nature and traditions also resulted in the feelings of loss, emptiness and even ache, which people now try to fill in with consumption (Suzuki and McConnel, 1999; Earls, 2007). At first people were fixed on survival, then they tried to assure affluence for their communities and now they search for individual happiness (Bertman, 1998). To fill in the void people chase happiness, which they are raised to achieve by constantly needing to consume more and more (Suzuki and McConnel, 1999; Campbell, 2001). This emptiness also makes people vulnerable to manipulation. Even the freedom of speech is not enabling people to be original, because the fact is that most of the people today think the same as everyone else (Fromm, 2009). People today are not visibly or notably controlled by any authorities, but they fail to perceive that unnamed authorities of public opinion or common sense are leading them (Fromm, 2009). Those authorities are dominant, because people do not perceive them as such, and they are eager to conform to the standards of society (Fromm, 2009).

Expansion and extinction of populations have been observed numerous times in the past (Suzuki and McConnel, 1999; Greer, 2009a; Diamond, 2005; Brosswimmer, 2002). There are many reasons for the rise and fall of civilisations, but one reason that keeps reappearing is the surpassing of the carrying capacity of ecological systems that were the basis for survival of the civilisations (Greer, 2009a; Diamond, 2005; Lynas, 2008; Broswimmer, 2002). Overshooting the capacity of ecosystems to support civilisation happened in many forms, from deforestation to overpopulation, explains Diamond (2005). He adds four new possible reasons for the fall of society to the long list of past reasons: climate change, accumulation of toxic chemicals, energy shortages, and full exploitation of photosynthetic capacity of the Earth. He goes on to point out that collapse depends largely on society's choices. Even sophisticated and developed societies have, according to Diamond, made wrong choices in managing environmental resources. Bad societal decisions are based on the same causes as the bad individual decisions, but there are additional factors to it, such as conflicts of interest among members of the group and group dynamics. Diamond proposes four key factors that contribute to wrong decisions in the society:

- failing to anticipate a problem before the problem actually arrives,
- failing to perceive the problem when the problem is there, whereby three specific situations can be the reason: the origins of some problems are literally imperceptible (e.g. chemicals in the soil), people act as distant managers (e.g. not inspecting what is going on in practice) and the problem takes a form of a slow trend concealed by wide up-down variations,
- failing in even trying to solve the problem (not even starting to address the problem),
- failing to succeed in solving the problem (unsuccessful solution).

Diamond (2005) and Greer (2009a) show another explanation of why people tend to delay action or even ignore the need for it. They claim that society often fails to address a problem simply because the maintenance of the problem is good for some people in the society. Public can strongly dislike the ones that first warn about the problem and propose

solutions to it. Decision makers defend options that their constituencies desire, and this is how the democratically elected decision-makers should act. This, however, turns out to be a strong obstacle to making decisions that are not in line with the wishes of people. And- in spite of the strong rhetoric at the bottom and top levels alike- making sufficient reductions in greenhouse gas emissions is not what people want, because they would have to give up the comforts of the current lifestyles. Because of the necessity for such in-depth action, there are hardly any politicians in positions of power that are willing to take serious action. If they do so, they are likely to soon be replaced by new decision makers, who will be more than willing to keep on pursuing limitless abundance in the limited world.

A lesson that can be, according to Diamond (2005) learnt from the past declines of populations is that the decline can start as early as a decade or two after the population reaches its peak- in number, influence and wealth. Another important point that Diamond illustrates is that the environmental hotspots seem to closely coincide with the hotspots of warfare, political disorder and similar agendas. The last, but very important point that Diamond highlights in his analysis of the rise and fall of civilisations is that, because the civilisation is so interconnected on a global level today, and the environmental crisis is also on a global scale, the fall of civilisation might- this time- also be on a global scale, not only local.

3.3 PSYCHOLOGY OF CLIMATE CHANGE

The purpose of this subchapter is to present psychological mechanisms, both on individual and the societal level, that cause the challenges in addressing climate change, but can also be employed for solving the climate problem. In the first step, the chapter briefly outlines the psychology of an individual. In the second step, the psychology of society is reviewed. Both frameworks are linked by the third step, which shows how individuals influence society and vice versa. In short, the chapter outlines the key psychological barriers and drivers for (in)action on climate change.

Solving the climate problem will have to be built on the change of people's behaviour, and questions on what motivates people's behaviour will be central in seeking answers to how to address the climate challenge. Psychology is the important ingredient, which is currently missing in many analyses of the climate change problem and its solutions (Corner, 2009; Psychology and global climate change, 2009).

Humans are subjects to the functioning of a few cognitive and social biases, which contribute to the complexity of addressing the climate challenge, but can also represent a basis for the solution (Hagens, 2009). There are a number of mechanisms in an individual's psychology that prevent or stimulate understanding of the problem, as well as enacting solutions. Those are topped with some social mechanisms (Ariely, 2009; Schwartz, 2004) and understanding of how individuals bond with society and institutions, which is important for understanding the environmental problems (Gould et al., 2004). Linkage between an individual and the outer world works in both directions, but must be treated as one phenomenon (Uzzell and Rathzel, 2008). In order to set up a proper action plan, it is

necessary to fully understand the scope and functioning of those mechanisms, which is the purpose of this section.

3.3.1 Psychology of an individual

Although a millennium of psychological research has established a principal understanding of the psychology of a human being, recent findings in sciences, such as behavioural economics, show that some of the aspects of the human psyche can be put under a question mark. This section highlights some of the psychological 'quirks' that make it complicated to address the climate challenge, but at the same time can be harnessed to bring about the change that is needed.

Traditional science of psychology teaches that people's behaviour is mainly influenced by the following factors (Smith, 1993):

- biological: influence of physical and genetic factors on behaviour,
- psychodynamic: influence of unresolved inner conflicts and unconscious motives on behaviour,
- cognitive: influence of thought, planning, perception and memory on behaviour
- behavioural: influence of learning and environment on behaviour,
- humanistic: influence of will, choice and self-actualisation drive on behaviour.

According to Hagens (2009) 'belief' can be defined as a feeling that something exists or is true, especially one without proof: a firmly held opinion, trust or confidence in something or religious faith. There are a few ways in which people generate beliefs (Changing minds, 2009): self-generated belief, experience, reflection and externally generated belief. Eagly and Chaiken (1993) list the following factors that influence attitude: past behavioural experience, prior knowledge and accessibility.

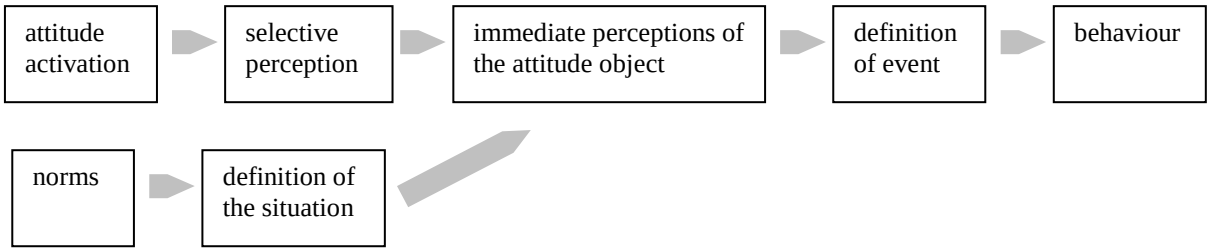


Figure 1: Model of the effect of attitudes on behaviour (Smith, 1993)
Slika 1: Model vpliva odnosov na vedenje (Smith, 1993)

The Psychology and global climate change (2009) study outlines several psychological barriers to climate action:

- ignorance: people are either not aware of the problem or they do not recognize climate change as a relevant issue; another aspect is that people do not know what they can do to solve the problem,
- uncertainty: because of uncertainty people underestimate the risk and do not act or postpone action,
- mistrust and reactance: people do not trust the messages or act against the messages

- denial: active denial of the problem and its consequences,
- judgmental discounting: people underestimate the future or distant risks,
- place attachment: people are likely to be more emotional about a place they know,
- habit: habits are hard to change and this is one of the major obstacles in steering behaviour towards more climate-friendly behaviour,
- perceived behavioural control: people have a feeling that there is nothing they can do to help about the global climate problem,
- perceived risks from behavioural change: people fear the risks that come with changes,
- tokenism and rebound effect: even when people act, they like seeing the small changes rather than simply believing they are contributing to reversing the more serious problems; another barrier is that people use e.g. a more efficient car, but because they drive more often, the absolute effect is negative for the climate,
- conflicting goals and aspirations: sometimes objectives that are less climate friendly tend to prevail over the climate-friendlier ones (e.g. flying to eco-holidays),
- belief in solutions outside of human control: some people believe that gods or nature will resolve the climate related problems, and therefore the people tend not to act.

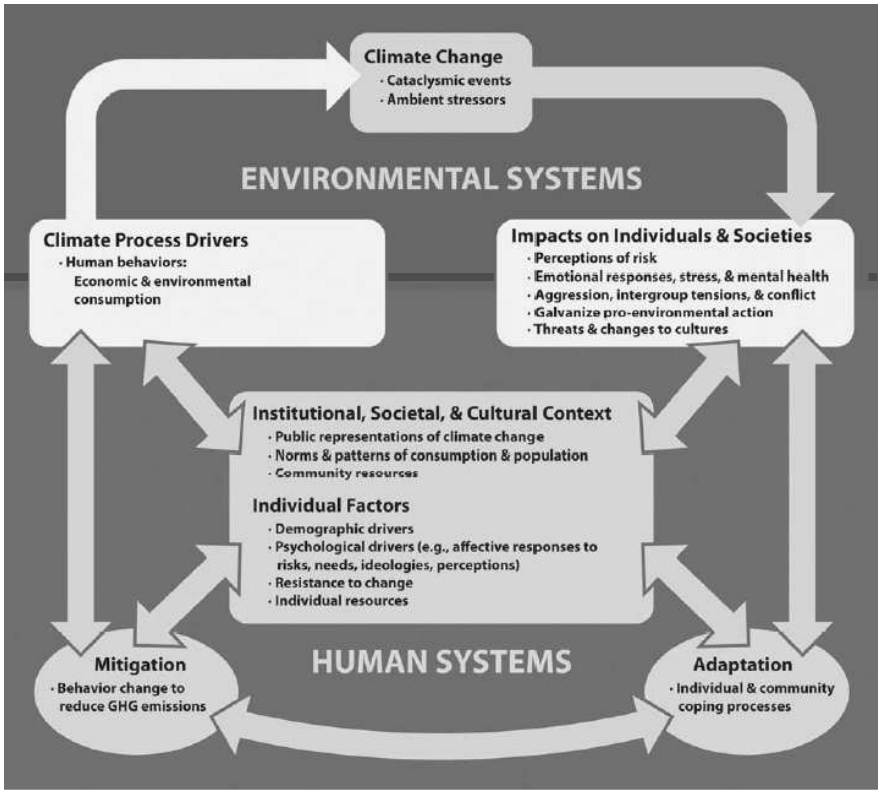


Figure 2: Psychological perspectives on anthropogenic climate change drivers, impacts and responses (Psychology and global climate change, 2009: 18)
Slika 2: Psihološki pogled na gonilnike, vplive in odgovore na s strani človeka povzročene podnebne spremembe (Psychology and global climate change, 2009: 18)

Cognitive dissonance is an important barrier. Smith (1993) describes cognitive dissonance as a state when a person faces contradiction in cognitions. When people's knowledge, thoughts, feelings or actions are not aligned, they experience tension and discomfort. Theory of cognitive dissonance explains that if individuals act in ways that contradict their beliefs, then they typically will change their beliefs to align with their actions (or the opposite). For example: daily smokers justify their behaviours through rationalizations or denial, just as most people do when faced with cognitive dissonance.

Denial is, according to Hagens (2009) and Diamond (2005) a mechanism that defends people from facing a fact that is too painful to accept by rejecting it, even if the results of ignoring the fact could be devastating. Grohol (2010) also explains that people create 'confirmation bias' to fight cognitive dissonance by limiting new information or ways of thinking that do not fit with their pre-existing beliefs. In outlining how the conflicts can be resolved, the psychoanalytic theory brings out the following possible escape routes (Marshall, 2001; Psychology and global climate change, 2009):

- angrily denying the problem outright (psychotic denial),
- seeking scapegoats (acting out),
- indulging in deliberately wasteful behaviour (reaction formation),
- projecting their anxiety onto some unrelated but containable problem (displacement),
- trying to shut out all information (suppression).

Dunning (2004), highlights that when people find inconsistency, they try to find argumentation for resolving it or they trivialize it. Both Marshall (2001) and Dunning (2004) conclude that resolving the dissonance by changing attitudes is normally the escape route that is acceptable for people.

In relation to climate change, cognitive dissonance manifests in a few manners, according to Marshall (2001). First step is denial in the face of enormity and nature of the problem, because even if the evidence of climate change can be accepted, people are not equipped with cultural mechanisms for accepting their responsibility for the problem. Second step is distributing the responsibility in line with the so-called "passive bystander effect" (Cohen, 2001; Ariely, 2009): when there are many people present at an accident, they all wait for someone else to act, hence hiding their responsibility behind the collective responsibility.

An important psychological glitch is that people are not equipped to work in abundance. Naish (2009) explains that human brain evolved about 130,000 and 200,000 years ago to make people 'maximizing machines', but did not develop a 'stop mechanism'. This is why, Naish claims, people keep having problems: their obsolete wiring gives them obsolete answers for the problems that they try to resolve in a world of abundance. Rapaille (2006) points out that in their reptilian brain people feel the need to grab as much and as fast as possible, because they do not know if and when they will get it again.

Hagens (2009) writes that according to cognitive load theory, the human brain has a limited working memory, the capacity of which extends to 7 pieces of information. Studies show that when brain's working memory is full, people are unlikely to have place for rational, long-term thinking. In the world of abundance, the short-term working memory is

most of the time taken, leaving no place for long-term thinking and decision-making. Also Bertman (1998) provides a similar finding: when people are flooded with abundance (of information, of possibilities, etc.), it is hard to make a distinction between what is important and what is not. Also when people have too many options to choose from, the complexity of it becomes too big for them (Ariely, 2009; Schwartz, 2004).

Long-term decisions are also not people's speciality. According to Hagens (2009) and Bertman (1998), human neural mechanisms give a strong preference to the present over the past or future. The evolution wired people with a preference for now, as in history of humankind showing rationale in a moment of danger would be a mistake. This is why people's emotions are linked with preference for now, while their rationale works with future. Ariely (2009) explains that for people it is hard to give up consumption today for the good of the distant future. It is more acceptable for people to give up consumption in the future or give up something they do not have yet. This clash between the short-term and long-term motivation to resolve the problem is not only the case for the individuals, but also governments (Diamond, 2005). According to Schwartz (2004) and Psychology and global climate change (2009), people are also not good at predicting what they want- the longer the prediction they have to make, the less likely it is they get it right.

Naish (2009) goes further to explain the brain studies show that people are not good in making long-term decisions about key issues. He defines this as one of the reasons why people cannot cope with changing their ways in order to save the planet. He suggests that the higher brain is targeted with arguments for sustainable behaviour, while also attacking the lower brain where the decisions are made. Climate change is a long-term problem and as such it is not captured by people's 'emotional', reptilian minds. Preference for the future is a matter of neocortex, which means that collective action will be postponed until climate change becomes a problem of now (Hagens, 2009).

We tend to perceive past and future as less important than present (Hagens, 2009). Psychologists establish that when people make decisions, they put bigger relevance on the most recent data received. This might be due to the recent data lingering in the working memory; regardless, this 'recency effect' has important implications for climate change. The first implication is that people tend to assume that the present will be much like the past and the future (same levels of abundance, for example). The second implication is that even if people at some point hear warnings about climate change, when they hear an opposing story (e.g. that climate change is not happening), they will only keep the latest information. Whichever information is heard last, is likely to win over the previously heard information- probably a fact of which the advertising world is well aware. Another explanation of how this psychological quirk works is provided by Ariely (2009), who explains that people base their willingness to pay on their memory of the prices that they used to pay in the past rather than on the preference of the moment. This means, according to Ariely, that in the long run doubling the price of gasoline would not have such an important effect on the demand as one might expect from the short term market reactions (because at first, the people would see that the price is higher than the previous anchor, but in the long run they would adjust to the new anchor and get used to it).

Belief in authority is another key aspect. People have different reactions to authority figures, but in general they tend to believe and follow authority figures (Hagens, 2009). Studies show, furthermore, that people tend to believe more in a confident authority with a poor track record than in a non-confident one, in spite of a better track record. The Milgram experiments with electric shocks applied to human subjects showed that if people follow the instructions of 'authorities', they submit their own thinking to the orders of the authorities; even to the extent that they are capable of administering doses of 450 volt electric shocks to other people, if 'authorities' tell them it is fine to do so (Hagens, 2009; Earls, 2007). People also tend to believe in experts (Changing minds, 2009). People who believe experts more than authorities are pragmatic people, who like to make discoveries on their own. People who believe authorities more than experts tend to be followers that are easily to convinced and have a need for social acceptance. In the field of climate change this means that as long as people hear authority figures telling them that they have to continuously consume to sustain growth, they are likely to believe it.

Risk aversion is the next relevant factor. Humans tend to avert risks and loss, because they are wired to do so (Schwartz, 2004; Gowdy, 2008; Hagens, 2009). People are risk averse when deciding among potential gains and risk seeking when deciding among potential losses. More negative feelings are produced by a loss than positive feelings by a gain. If faced with a choice between certainty, but lower compensation, and uncertainty, but high compensation, people are more likely to avert risk by accepting certainty and lower compensation. Ariely (2009) points out that averting loss can lead people to make bad decisions. Applying this to the energy and climate debate, people are more likely to stick to the certainty of fossil fuel consumption, although it brings undesired side-effects, than to take the risk of following alternative energy paths.

If it ends well, all is well. In his experiments, Kahneman (2010) discovered that there is a further number of cognitive traps, one of the most outstanding being that the end of experience determines future memories, rather than the part of experience that people feel the strongest. If people listen to a good symphony, for example, and there is a scratchy sound in the end, that scratchy sound ruins the experience for them, no matter how good the previous experience of enjoying the symphony was. The memory carries on a story on what is remembered from experiences and this story goes on to live with people. Because of this mechanism, Schwartz (2004) believes, there is discrepancy between logic (what people would logically do) and memory (their memory of the event), which means that in spite of thinking so, people do not always know what it is that they want. People's decisions are, according to Kahneman (2010), made by the memory, not the experience. Implication of this mechanism is, for example, that once people have managed to survive extreme weather events, they will not have such bad memories of them as they should (assuming that they survived them well).

Humans come equipped with another interesting characteristic: they have a fondness for optimism (Hagens, 2009). This makes them naturally discard the pessimistic possibilities and look for all possible signs for positive possibilities. When translated into terms of climate and energy outlooks, this means that people tend to avoid the pessimistic predictions about oil peak or climate related disasters simply because they are wired to be oriented towards more optimistic options.

The first decision is important. Apart from comparing items to each other in order to be able to choose, people also do so-called 'anchoring'- setting their standards to the item they first encounter (Ariely, 2009). This first encounters are anchors for shaping their habits in the long run; similar is valid for people's first decisions (Ariely, 2009): while a first decision usually looks like it is only one decision, the experience can mark the decisions in a certain field for the rest of people's lives.

The power of trust is another factor that should not be underestimated. Trust is crucial for people's coexistence: if there is trust in other people's actions, society as such can end up being better off because trust enables cooperation, which in turn secures good outcomes for society. If there is no trust, full cooperation is not possible (Ariely, 2009). Gowdy (2008) points out that trust is important in developing cooperative institutions or cooperative frameworks. Even if the institutions are imperfect (the Kyoto Protocol, for example), it can be important to participate in them to establish credibility and good will.

Worldview is the next factor that shapes people's view on climate change. Gram-Hanssen (2010) adopts the concept of 'habitus', which represents people's view of the world. A habitus is shaped in the childhood phase and marks an individual's habits. It explains how an individual's subconscious is ingrained in an individual's actions. Social structures are important for the development of habitus. The difference in understanding climate change (from hoax to the biggest challenge of humanity) also depends on the worldview of individuals (Joyce, 2010; Science for environment policy, 2010; Psychology and global climate change, 2009). This is because factual information is less important to people than their beliefs, and they like to adjust the facts to their beliefs or worldview (Joyce, 2010).

The one who delivers a message is important. Joyce (2010) and the European Commission (Science for environment policy, 2010) draw attention to the so-called 'messenger effect': when people were presented scientific information about advantages and disadvantages of a vaccination by a few different types of people, they believed the most to the message from the 'messenger' that was the most like themselves. This means that the public might not wish to listen to messages from people they do not identify themselves with, like uncharismatic scientists or environmentalists.

Pro-social people provide a good basis for taking action. A study of Kramer et al. (1986) showed that pro-social (cooperative) people are less likely to deplete a common resource pool in critical conditions. The pro-self people (individuals) are more likely to overuse the common resources. Another study (Van Vugt et al., 1996) also showed that pro-social people, who commute, have higher willingness to sustain from using their car than the pro-self commuters. The former were more worried about pollution problems, while the latter were more worried about the flexibility of their travel.

Moralising is not a good approach for communicating to people. Creating a feeling of guilt, blame and fear does not seem to work for people, and by doing this environmentalists might actually be creating a big obstacle for people's subconscious, resulting in denying reality and submersion in fantasies (Revkin, 2010; Science for environment policy, 2010; The psychology of climate change communication, 2009). As it was pointed out above,

people tend to start looking for an escape route when faced with seemingly unsolvable problems, so it is better not to overshoot the capacity of people for facing problems.

People's decisions are often run by the reptilian part of brain, but they justify them logically. Rapaille (2006) outlines a simple illustration of how human brain works. The reptilian part of the brains is where the instincts and emotions come from. The cortex is the rational part of the brain. The limbic part deals with emotions. When struggling with rationale and emotion, emotion prevails. The reptilian brain, where instincts- mainly survival and reproduction- are based, prevails over the two parts that developed later. In a battle between logic, emotion and instinct, the instinct wins. This is because the reptilian brains are helping people to survive. Similarly, Hagens (2009) explains that the left hemisphere holds control of what people say (see also Rapaille 2006), which means that even if the perceptive and intuitive right hemisphere shapes a thought, this thought must first deal with the left hemisphere, where previously formulated and held beliefs can actually block people's new perceptions. Because of this people are less likely to change their beliefs and opinions then they would without such wiring.

Although decisions are made primarily by the reptilian brains, people still have to justify the decisions with rationality, explain Rapaille (2006), Fromm (2009) and Ariely (2009). For that reason they invent 'alibi' that provides them with rational reasons of why they do something (e.g. I need to take the car today because it is raining.). Having such an 'alibi' makes people feel better (they can explain their behaviour to themselves), and more socially accepted (they can explain their behaviour in line with their culture).

Irrational behaviour is more of a rule than rational behaviour. As shown above, humans are prone to irrationality and acting according to their animal instincts. The factors that form people are not as controlled and stable as they were thought to be in the past. An interesting finding that Schwartz (2004) and Earls (2007) bring to light is that people's choices are based on rather shaky grounds: they are not good at predicting how they will feel about an experience, and they do not have accurate memories of how they felt during the experience, but it is still the memories and expectations that direct their choices. The behavioural model of a rational economic man has dominated economic theory and policy for 100 years or more, yet people are much less rational than the economic theory wants them to believe (Ariely, 2009; Gram-Hansen, 2010; Mullainathan, 2009; Gowdy, 2008). People's irrational behaviours follow certain patterns, and knowing this can help improve understanding of their behaviour, the methods and tools that they are using (Ariely, 2009: 322):

> "Once we understand when and where we may make erroneous decisions, we can try to be more vigilant, force ourselves to think differently about these decisions, or use technology to overcome our inherent shortcomings. This is also where business and policy makers could revise their thinking and consider how to design their policies and products so as to provide free lunches."

Naish (2009) shows in some examples that people make irrational decisions very often: one case is a study of drivers in London, which shows that in spite of the complaining about the congestion charge, traffic jams and pollution, they intend to keep on driving.

Other case studies show that people often do not have enough time, and they have too many items in their dwellings, yet they keep working harder to have less free time and more material goods.

Shwartz (2004) points to a few ways in which people treat information irrationally. Sometimes people give strong weight to factors that should not influence their decisions, at least not from a rational view. For example, if a car is ranked as safe and reliable by a consumer magazine that ran numerous tests, and one hears from a friend that someone had problems with that certain type of car, it is more likely that one will listen to the anecdote of a friend than the information obtained through testing. People also recall events due to their salience or vividness: people are more likely to remember dramatic causes of death, such as homicide or flood deaths, rather than the less vivid ones, such as stroke or asthma deaths.

If people have more options available, they also make irrational comparisons. Ariely (2009) illustrates this with a few examples, which show that when another option is added that is inferior to the existing options, the existing options are not comparable anymore, but one of them becomes superior. This shows that people do not know their preferences very well and this makes them susceptible to manipulations.

Mullainathan (2004) explains the effects of time on the irrationality of planning. If one plans to do something next week that needs to be done, but is unpleasant, it might seem like a firm resolution to do this activity next week. But once the next week arrives, this resolution to act is not so firm anymore, and one might postpone the action. This causes a gap in planned goals and actual action or outcome. Similar gaps are experienced in climate protection constantly: climate policies with ambitious goals are created, but people often fail to act. A climate objective that has to be reached in e.g. 10 years might look perfectly acceptable now, but as the 10 years pass, people realise it is not easy to achieve this objective. Mullainathan (2004) suggests that this problem can be addressed by adopting policies that have efforts spread equally over time (e.g. paying an education fee in continuous incremental payments, rather than in one huge sum).

3.3.2 Psychology of society

Humans are social, herd animals (Hagens, 2009; Suzuki and McConnel, 1999; Diamond 2005; Ball, 2005; Ariely, 2009; Earls, 2007; Fromm, 2009). People depend on each other and they need other people to shape and define them. People also need other people to develop by copying others (Suzuki and McConnel, 1999; Hagens, 2009; Earls, 2007). People feel good in the herd, and their happiness depends on other people (Suzuki and McConnel, 1999; Hagens, 2009; Earls, 2007). Being in a herd also makes people happier for another reason that Schwartz (2004) points out: individualistic societies put more responsibility for decisions on individuals, who then blame themselves more easily for failing. It seems that belonging to a ‘herd’ reduces such situations and makes people happier. Fromm (2009) emphasises that people are trained from childhood to adapt to the social and economic system, which characterizes them deeply. People adapt from the need of self-preservation, and try as they may, they are not completely able to escape that

adaptation. However, this makes people less alone and powerless, but at the price of sacrificing individuality.

Earls (2007) believes that herding is people's 'core evolutional strategy' and goes on to explain that human behaviour is not driven by non-human factors, for example brands, but through the interaction with other people. It is not ourselves that make decisions, but the influence of other people.

Decisions are made in groups. Hagens (2009) explains that in the tribal phase of human development it was important to reach consensus. This is why group decision-making is inherent to human culture. Earls (2007) and Sennet (2003) highlight that people have something called distributed memory or social knowledge, which means that a group remembers better than an individual and also shares a group image of how the world should be. Also Schwartz (2004) illustrates that predictions, made by a group, turn out to be better than the predictions of single individuals. The outlook on the world or worldview is something that is usually shared by a group (Sennett 2003). Eagly and Chaiken (1993), Fromm (2004) and Gladwell (2004) point out that behaviours in a group are based on the feeling of interdependency of the people and the feeling that the control is shared with others, which creates a basis for people to attain goals in complex social settings. When people need to make group decisions those decisions are different from what the personal decisions would be. People are more under the pressure of the group and the social norms.

Gowdy (2008) shows that so-called threshold effects have been identified in collective decision-making in social animals. For example, spinner dolphins spend most of their time either feeding or sleeping in a protected area. The decision to quit sleeping and leave the protected area to feed is apparently made collectively based on a kind of "consensus threshold". When they begin to wake up, the dolphins use zigzag swimming motions to cast their "votes" for sleeping or feeding. When a threshold is reached, the dolphins as a group, leave the safe area and go to feed. Judging from historical accounts of hunter-gatherers, prior to the agriculture era, important decisions in human groups used to be made through group consensus too (Gowdy, 2008); this is largely not the case anymore.

Everything is relative. Humans compare themselves and their decisions to other humans (Hagens, 2009; Ariely, 2009). This is another side-product of the evolution: the mating competition (comparison) made it possible for humans to survive and advance. Because people do not know how to value items or feelings in absolute, they compare them between each other, which makes it possible to choose (Ariely, 2009). People invariably like to compare things that can easily be compared and not the ones that are hard to compare. If they face a difficult comparison, they will eliminate it just because it is difficult (Ariely, 2009).

Asymmetrical exchange creates relationships. Sennett (2003) observes that in rituals people give each other objects that create an unequal position among them, and hence the exchange is asymmetrical, which creates a bond among people and groups. In today's market the exchange is balanced. Such exchange does not create an emotional bond between us. To create bonds among each other people need to discontinue the concept of equivalent exchange. Charity is a free gift, but it does not create a link between people.

Link is created when there is a mutual gift or exchange, and this is how a good welfare system should be built- on asymmetric exchange, rather than one way help (Sennet, 2003).

Mass behaviour is an important factor to look at. Although people are believed to be very individualistic, their actions are a part of a larger picture. If people 'think locally', that is, if they are concerned with what is going on in their immediate surroundings, they can collectively build a global picture, according to Ball (2005), who clarifies that behaviour of the masses changes in phase transitions. The changes are often abrupt, and one cannot decide or plan how the stable state would look like in the end. Phase transitions are common to many processes, from boiling water to changing mass behaviour. To reach such phases, when sudden changes in people's behaviour appear, it is not necessary to have orchestrated change in an individual's intentions. When systems start to destabilise, even small events can lead into large changes. Similar findings are observed also by Gladwell (2004). He believes that messages and behaviour spread like viruses and that there are three characteristics that lead to the tipping point: (1) the contagiousness of ideas, (2) the large effect of small causes and (3) the dramatic moment of change. Some people are more capable of starting an epidemic than others. It is therefore important to identify those people, and use them for communicating messages.

If change is to be spread, one needs to connect people who will spread the change and for that three types of people are needed: connectors- talented for connecting people, connoisseurs- talented for connecting information and spreading information, and sellers- talented for persuading people (Gladwell, 2004).

3.3.3 The interconnection of individuals and society

Gladwell (2004) points out that people are not as independent and original as they think, but firmly shaped by circumstances, environment and social circles. Normally people are considered to be integral units with certain characteristics, but in reality people can act differently and have different characteristics. People tend to overestimate the impact of character and underestimate the impact of the environment and circumstances. Also Gowdy (2008), Fazio and Olson (2003) and Ball (2005) point out that people's choices and actions are socially and culturally trained.

Fromm (2004) shows the effects of the interconnectedness and social training in the case of modern societies. It is assumed that the desire for 'have' comes from human nature, the same as it is assumed that people cannot be motivated by anything else than profits and are lazy and passive by nature. This dogma determines upbringing and education today so that people can fit into today's societies, while in historical societies this would be considered wrong. According to Fromm (2004) and Earls (2007), the character of individuals and the society are mutually linked and form each other. While people often believe that what they do and how they behave is not directed by the 'outer forces' and it comes from within them, in reality this is formed by the society, which gives them the reference framework.

Society suppresses critical thinking. According to Fromm (2009), it is possible to have thoughts and feelings that one believes to be genuinely his/hers, but are in reality generated

by someone else, e.g. political opinion of someone might be based on what this person read in the paper on the issue, yet the person believes it to be his/her own opinion. It is the same case for willingness- people are sure they follow their own wishes, but often their wishes are created by someone else. People rarely stop to think whether their wish is really something they want or just something that a TV advertisement placed in their mind. To function in such a way, the society suppresses critical thinking, according to Fromm (2009). If people loose a clear picture of how the world is structured, this paralyses their ability to think critically. This is what is happening today. People gather separate facts without a relation to the 'big picture' (news of people dying are normally followed by commercials for a new product). So people tend to stop thinking about how facts are related, and they try not to relate to them. People stop being emotional or critical about this and eventually they become indifferent to it.

Complexity reduces people's ability to act. By making many aspects of their life seem complex and complicated, people do not trust their ability to think and judge different aspects of their lives (Fromm, 2009). People think only experts can decide some issues, while in reality, if they think about them, they are all able to arrive to conclusions. This undermines trust in their thinking and deciding ability. The ultimate result of making everyday issues seem complex and beyond the comprehension of the people is that people either become overly critical and do not believe anything spoken or printed, or they completely uncritically trust anything spoken and printed (Fromm, 2009). People who find themselves in situations that they cannot control seem to become passive and helpless (Schwartz, 2004).

Money is a disincentive for civic sense. Gowdy (2008) and Ariely (2009) show that money can represent a disincentive for social contributions of individuals. Experiments show that not only are people likely to loose their interest in doing something good for society if offered money for it, but they are also likely to work alone and generally individualise themselves. Ariely (2009) illustrates the interrelation of social norms and market norms with the case of thanksgiving dinner: the social and market norms should not be confused for example by paying for thanksgiving dinner, as this would cause social outrage. In social norms there is no need for payment. People do each other favours, because it makes them feel good (Ariely, 2009; Sennet, 2003). As long as the social norms are kept apart from the market norms, all is well, but when they are linked, situation becomes problematic. Ariely (2009) and Levit and Dubner (2005) illustrate this with the introduction of a fee for being late to pick up children in kindergarten- as soon as the otherwise socially unacceptable behaviour (being late to pick up children) was subjected to market norms (fee for being late), it became acceptable behaviour. Experiments show also that people are more likely to work hard for social norms than for money (Ariely, 2009). If social and economic norms crash into each other, the social norm will be subdued by the economical one for a long time (Ariely, 2009).

Environmental economics shows that a price can be put on everything, from natural resources to species extinction. However, many cast doubts that this is the right way for protecting the environment, especially in the light of above outlined response to money being introduced into social norms. As Gowdy (2008) believes, addressing the climate challenge will need to include a collective effort on an unparalleled scale that demands

changes in the core institutions, not only at an individual level. This is why solving the problem through monetary mechanisms might be counterproductive, yet this does not mean that such mechanisms should not play a role on a secondary level.

Values are at the core of people's behaviour. Values have an effect on people's thinking, decisions and actions (Ridderstrale and Nordstrom, 2002). Values that were once there to guide people (e.g. religion) are now just another parameter of choice. Values differ from culture to culture and from person to person, yet values that were once local or related to a certain culture, are today globally mixed and combined (Ridderstrale and Nordstrom, 2002). Today people are influenced by values from other cultures, and these values can cause a major shift in interests in desires (Held and McGrew, 2002).

Although egoistic, altruistic and biospheric value orientations are said to drive people's beliefs (De Groot and Steg, 2008), today's values are mostly related to affluence, happiness and a better life (Baudrillard, 1998; Bertman, 1998). Happiness is put into focus as the key value that the consumer society has to pursue, and it is not enough to have inner happiness- people's happiness needs to be also visible (Baudrillard, 1998). Better life has no universally accepted definition, yet the majority of marketing is based on promoting better life (Bertman, 1998), which means that the core of today's values is not defined. This provides space for interpretation that a variety of actors that strive for increased consumption are using very efficiently. While consumption until the early 1900s had a negative tone, it is now being promoted as the key value and dream for many people (Rifkin, 2000).

Different sets of values make people fragmented and in conflict with themselves. Goodman and Cohen (2004) explain that production culture was structured around values such as hard work and self-control, while the consumer culture sees work as a means for more consumption; there is a contradiction of rational producer versus the irrational consumer. Due to this contradiction people become fragmented. They have one set of values for work and another set of values for consumption. This fragmentation is at the moment the driving force of consumption, because people chase the goods that promise to resolve this fragmentation and bring back wholeness (Goodman and Cohen, 2004).

Disintegrated society is a good basis for the functioning of the current system. Today people are a fragmented, polarised, individualised and lonely society (Bertman 1998; Ritzer, 2001; Baudrillard, 1998; Ridderstrale and Nordstrom, 2002). This is a result of the development path that was followed. The way humanity has developed contributes to the weakening of the links between people that used to hold society together (Suzuki and McConnel, 1999). Alienation is the basis for modern society (Baudrillard, 1998), and the current economic model, which alienates people from social life through objects, spectacles and commodification of social life (Ritzer, 2001).

Ariely (2009) explains that when economic norms start to prevail over the social norms, people become less of a herd and more of an individualized, self-centred homo oeconomicus. As people become detached from other people, except in virtual spaces, more and more interactions with people are made in business relationships. Instead of socialising, people buy the time of other people (Rifkin, 2000; Baudrillard, 1998).

Altruistic behaviour is repressed today, while individualism and competition are promoted (Dickens, 1996). Dickens (1996) believes that an environmental crisis is a crisis of understanding and human alienation.

To build healthy communities it is needed to have a safe and sound environment and favourable social conditions, such as employment (Suzuki and McConnel, 1999). Also face-to-face relations and real contact should be nurtured, in spite of the growing extent of virtual relations between people (Rifkin, 2000). Today economic development is breaking communities instead of serving them (Suzuki and McConnel, 1999). Community takes time and effort, but people are too busy protecting their individualism to take the time and effort (Greer, 2010).

Individualised society is also incapable of uniting in action. From the happenings around the Copenhagen climate talks, Monbiot (2010) assesses that what used to be movements, is individualised today, because of the way that consumerism and individualisation have influenced people. Instead of a strong movement, there is just a mass of individuals, each with his/her own vision, but no shared story.

3.4 INSIGHTS ON HOW THE INTERDISCIPLINARY FRAMEWORK CAN SUPPORT CLIMATE CHANGE AWARENESS RAISING

To achieve a switch in an extent needed to address the climate challenge, humanity is facing a need to dramatically change how the societies and economic system function. For this, a variety of drastic transformations, from a deep change of values (Suzuki and McConnel, 1999) to slowing down people's lives (Bertman, 1998), will be needed. This subchapter shows briefly how the lessons learned from looking at the climate problem from a few different angles can be applied in practice, both for communication on climate change, as well as for the implementation of the important changes that have to be made. A significant part of the proposals appear in The psychology of climate change communication: a guide for scientists, journalists, educators, political aides, and the interested public (The psychology of climate change communication, 2009), which was compiled at about the same time as this subchapter was being composed, hence this source is a reference for the whole subchapter.

3.4.1 Communication

Some hints on how to communicate or not communicate climate change were already given in the psychology subchapters above, so this section only adds on to those. Due to the variety of psychological glitches described in this chapter, the communication of climate change can be adjusted to make use of those glitches, rather than to fail because of them. According to Tan et al. (2008), numerous surveys conducted all over the world, show that although awareness on climate change is widespread among the people, there is a low priority for climate action. The issue also ranks low in priority when compared to other issues. Tan et al. (2008) attribute this gap to ineffective communication, whereby they outline a few key failures: trying to scare people to trigger action, shaming people and

appealing to their morals and believing that if people understood more about climate change, they would act immediately.

An important climate change communication tool is a guide for communicating climate change, which was developed by The psychology of climate change communication (2009). The guide is based on numerous studies from all over the world, and proposes communication strategies and specific directions how to best communicate climate change, such as:

- characterize your audience- define the mental models, values and beliefs of your audience,
- frame your message correctly (e.g. local, present; see also Maibach et al., 2008),
- turn scientific data in concrete experience by making it visual and understandable,
- limit use of emotional appeals not to make people resistant to them,
- clarify scientific uncertainties and manage them (see also Maibach et al., 2008),
- use the potential of social identities and affiliations,
- motivate participation in groups,
- stimulate behaviour change by making it easier (near-term incentives…).

Similarly, the European Commission (Science for environment policy, 2010) suggests 'Ten Principles of Climate Change Communication', which adds the following recommendations to the ones above:

- shape your message to appeal to the cultural values and beliefs of your audience,
- empower your audience with specific actions that make a difference,
- stimulate people to think about links between climate change, resources and themselves,
- create partnerships,
- involve leaders before communicating.

Futerra's guides (The rules of the game, 2005; New rules: new game. Communications tactics for climate change, 2005), which also base their recommendations on numerous psychological, social and climate awareness studies, offer recommendations similar to those listed above, but add the following suggestions:

- reach out to people who are not 'the usual suspects',
- address both conscious and unconscious behaviours,
- ensure that conscious behaviour becomes unconscious (habit),
- acknowledge people for what they do well,
- be aware free riders can spoil the game,
- realise money is not a good motivator,
- label people who make climate actions,
- make sure actions to protect climate are compatible with lives of people,
- catch people when they are changing (moving, job change, etc.) as they are open to change,
- do not attack or condemn home or family,
- motivate trendsetters and use social learning,
- use consistent explanation of climate change,
- keep government policy in line with communications on climate change,
- build a recognized voice on climate change.

Filho (2009) outlines four factors on which climate awareness raising needs to build:

- making people personally accountable,
- engaging the relevant stakeholders,
- combining technical expertise with communication,
- identifying and promoting solutions.

In order to explain the recommendations better, some of the key recommendations are elaborated more in detail in the following paragraphs.

Avoid scaring people: Many studies advise to avoid scaring people (O'Neill and Nicholson-Cole, 2009; Gladwell, 2004; Maibach et al., 2008; The psychology of climate change communication, 2009; The rules of the game, 2005). A study on tetanus vaccination, to which Gladwell (2004) refers, showed that the 'scariness' of the message did not have quite as much impact as the simple inclusion of a map of the student campus that had a sign where the hospital was- the inclusion of the map turned the brochure from something abstract into something connected with the students' lives. This clearly illustrates the use of the recommendation suggested by Maibach et al. (2008) to accompany potentially scary content with efficacy-enhancing messages. Similarly, in the case of smoking, raising awareness of the dangers of smoking is not likely to yield results, especially not if done by grown ups. Strategy with preventing some 'visible' peers to smoke is more likely to work, explains Gladwell (2004) and stresses that smoking on its own is not cool: it is the smokers that are cool, and it is the influence of their peers that can have an impact on growing children. Those two examples show that when communicating climate change, it is advisable to avoid scaring people and provide them with as tangible information as possible instead. Maibach et al. (2008) also suggests to use a tailored explanation of climate change impacts, which makes the threat as tangible as possible.

Frame the message, use stories and emotions: Numerous cases (for example: discount for cash vs. charge for credit) show that framing of the message can significantly impact the behaviour of people (Schwartz, 2004; Ariely, 2009; Gowdy, 2008; Earls, 2007). Emotions guide people (Rapaille, 2006), so playing the emotions could prove more effective than playing on the rational. Revkin (2010) says that feelings of anxiety and loss should be played first, while figuring out how to change behaviour should come in the second place. Instead of sensible evidence, he proposes to base communication on stories and emotions.

Communicate to various types of people: Segmenting the audience for climate change communication is best done on the basis of psychosocial variables (e.g. according to global warming risk perception or values) and not demographically (Maibach et al., 2008). People are generally aware that communication must be tailored to the characteristics of the target groups, but it should also be tailored to the psychological groups (for example: individualists vs. collectivists, people who generate their own beliefs vs. people who accept beliefs from others). When trying to change beliefs, find out from where people get their beliefs. If they lean towards self-generated belief, then give them experiences or rational arguments. If they rely more on beliefs that external world offers, then communicate the messages through experts or authorities (Changing minds, 2009).

Illustrate climate change with tangible problems: In his article, Corner (2009) shows that people in the UK do not feel under the threat of climate change, because the problem is perceived as abstract and vague. As people cannot imagine it, catastrophic scenarios are not likely to trigger behavioural change. Research also shows that climate change can be perceived more easily in people's minds if illustrated with air pollution, something that all can see or smell and hence relate to. This shows that it is crucial to find manners to make climate change more visible and easier to perceive.

Get the message to 'stick': It is important that the message sticks to people; if the message does not get stuck in people's minds, no change will occur (Gladwell, 2004). There are ways to make the message heard by the people and even small changes in the way of formulating or communicating the message can make a big difference: put stress on the words and repeat the words to make sure that they are impressed in people's minds.

Harness spoken message and non-verbal communication: Gladwell (2004) claims that in the age of mass and virtual communication, the power of spoken message is still strong-recommendations from people are more likely to work than the mass messages. According to experts, this is mainly because in the world that is ruled by loneliness and immunity to mass communication, the rules of gossip or spreading rumours are welcome (see also Earls, 2007). Non-verbal communication is as important, if not even more important, than verbal communication (e.g. vertical movements that are similar to nodding head can have positive impacts). Emotions are contagious too, which are two important guidelines for communication (Gladwell, 2004).

Engage the right people in communication: Some people are more able to start epidemic than others, and it is therefore important to identify those and use them for messaging (Gladwell, 2004): connectors, connoisseurs and sellers. These people should be connected into a group that will spread the change. Means for making a change should be concentrated to this small group of people, who can spread the change (Gladwell, 2004; Ball, 2005).

Accompany informing with other actions: Marshall's (2001) proposal is to discover the form of climate problem denial in order to decide the strategy. This should result in different approaches, suitable to address the denial. Denial, Marshall (2001) and Roberts (2010) stress, cannot be answered with information only, and there is sufficient proof that more information can result in more denial. Other strategies must be applied too, such as:

- showing public response to the problem,
- creating social support for action,
- creating social demand for action,
- snowballing a mass movement.

Maibach et al. (2008) points out that communication has to be done on four levels:

- individual level: target the key audiences,
- social-network level: activate opinion leaders,
- community level: campaign for social norms or collective efficiency,
- place level: build public support and role model behaviour.

While communicating climate change is obviously of key importance, the link between being informed and aware about climate change and taking real action is not always present. The Halady and Rao (2010) study points out that people perceive climate threats as distant and fail to relate them to their life or personal actions. A gap persists also between the perceived high risk and low level of actual changes for reducing greenhouse gases. The key finding is that health impacts trigger action, which is why the study recommends to primarily communicate the health impacts of climate change in awareness raising campaigns.

3.4.2 Personal level

Although a structural change of the global capitalist system is needed to properly address the climate challenge, change begins with individual people. This is why a selection of changes that should be introduced on a personal level is presented here.

In response to his findings about the paradoxes of choice, Schwartz (2004) proposes some important changes in personal attitudes. It is suggested that one should seek what is 'good enough' instead of seeking 'the best'. Other suggestions are to lower expectations, regret less, pay less attention to other people and show gratitude for what one has. Ariely (2009) also proposes that when dealing with actions that are not pleasant on the short term but beneficial on the long term, it is a useful trick to link the action with something that is immediately pleasant for people (awarding yourself with something that you like for doing something that you dislike).

As Ariely (2009) suggests, the first step to changing behaviour is to question the rationality of your habits. If you do that, you may discover that you do not really need all the functions of a new telephone. Suzuki and McConnel (1999) call upon the use of common sense. For example, evaluate the received information critically and trust your common sense when assessing information: challenge the most basic assumptions (that human beings are on top of nature, that science and technology can solve all problems, that economic growth must be endless, etc.), and reflect on your needs. Behaviour change must be based on personal goals, which need to be supported by strategy for reaching them (Corner, 2009). However, the decision to go green should not be made on self-interest only, according to Garvey (2010), but for other reasons too. When making the right decision from wrong reasons, the results can be far from right. Following self-interest motives only actually brought humanity in the current situation.

Avoiding consumption and consuming differently is another important step. If collective, the consumption patterns of individuals do make a difference. When talking about change in consumption, there is rarely talk about reducing consumption, but rather how to switch from one form of consumption to another (Gould et al., 2004). This does not slow down or stop the treadmill of production and consumption, so discussion and action about reducing consumption is needed, no matter how politically unpopular it is. Ritzer (2001) points out that sustaining from consumption is the best people can do- more so than orienting their consumption towards 'green' products. Soper (2007) also believes that individuals should

keep away from consumption to erode the undesired side effects of aggregated individual consumption.

Voluntary constraints play a role too. Schwartz (2004) and Ariely (2009) show that voluntary constraints can be beneficial for leading a more balanced life. Instead of fighting constraints, people should embrace them as they help them feel better in the maze of choices and changes. Because there are some restrictions that people can accept and even like, and some constraints that people cannot accept, a middle approach is a good compromise- give possibility for self-committing solutions.

Relating to past wisdom can help construct a more sustainable future. Bertman (1998) and Suzuki and McConnel (1999) suggest to build a link to old wisdom. This includes taking steps to insure the preservation of the past and the dissemination of its wisdom by talking to elders and understanding the interconnectedness of everything (everything is connected to everything else). Rapaille (2006) warns that cultures take time to be created and fully evolved, but when the change takes place, it is passed to the next generations. This is another reason to keep the intergenerational links vivid.

3.4.3 Social level

In order to achieve a deep change, the individual action will need to trigger and contribute to the action on a social level. Some social level changes are listed here, the list being a response to the analysis in the previous parts of the chapter.

Reform of the global systems is needed. There is a need for a radical change in the economic model, according to Gould et al. (2004), so that production decisions are controlled more by the citizens. As the system exhausts environment and people, people are likely to demand limitation to unlimited economic control (Gould et al., 2004). Diamond (2005) believes that the public has responsibility to control the behaviour of companies, as only public demand can bring the change in the corporate world. In order to raise people's awareness of the way that the current system works and trigger different demands, the public will have to be informed of how the current system is seducing and stupefying it (Ritzer, 2001). Although some believe that fundamental or structural change in the global governance is likely to be brought about by a sort of global crisis (Held and McGrew, 2002), some believe that changes can be introduced without it. Monbiot (2003), for example, believes that a global government is needed to address the side-effects of globalised economy, such as environmental problems, unfair trade barriers or poor labour value. The key elements of his proposal are a world parliament (as opposed to the UN) and a fair trade organization (as opposed to the WTO).

It is necessary to create an epidemic. Successfully mixing the three factors that Gladwell (2004) defines as epidemics causing ones (the law of a few, the stickiness factor and the power of context) could lead to the creation of the needed critical mass. The first step is to connect people into a group that will spread the change. The second step is creating a 'sticky' message, putting stress on the words and repeating the words to make sure that

they stick in people's minds. The third step is focusing on small details in the environment that could matter for changing the circumstances.

Herding can be harnessed for solutions. Using the knowledge that people are social animals can inform the solutions. Earls (2007) calls for dismissing the perception that people are independent individuals and embrace the fact that society determines them and their behaviour, although people are not aware of it. Naish (2009) agrees with this strategy, as social pressure might be an answer that will push people to act. The principles of herd 'marketing' are, according to Earls (2007):

- interaction: mass behaviour is a result of interaction among people,
- influence: influence and not persuasion is the driving force for mass behaviour,
- us-talk: word of mouth; endogenous and exogenous word of mouth,
- just believe: beliefs and purpose create better business than money,
- (re)light the fire: relighting the beliefs and purpose,
- co-creating: letting the herd co-create.

Developing effective behaviour change programs is important. Roberts (2010) highlights that changing people's behaviours to mitigate greenhouse gas emissions is a painstaking enterprise. There is no silver bullet solution, hence it is important to handle each behaviour that needs to be changed as a single, indivisible unit. For each such unit the unique set of barriers and drivers needs to be identified- not be guessed, but thoroughly researched. From the possible array of methods, the most promising ones should be selected and tested in a pilot scheme. If they work, they should be applied on a wider scale. Each behaviour change that should be achieved needs its own set of measures.

Involvement of people in forming solutions can yield better results. Earls (2007) outlines the so-called Hawthorne effect: if company employees are consulted before a change is introduced, the productivity goes up, no matter what change is. This suggests that involving people in forming solutions for climate challenge (policies and measures) could lead to better results as they would be more likely to follow the solutions.

Communities appear as an important solution for many of the currently existing problems. Suzuki and McConnel (1999), Dickens (1996), Naish (2009) and Ariely (2009) point at various aspects of community life, from establishing closeness to people around us to creating exchanges based on effort, rather than money. Local communities should be protected and promoted. Small, self-reliable communities, linked into a network could represent a base for sustainable future society. Self-provisioning overcomes alienation and closeness to people can have positive effects on us. Putting effort into doing a favour or helping lies between the level of social norm and economic norm. Exchanges that are based on effort are more in the realm of social norms than monetary, so people should be asked to invest effort, instead of money- e.g. effort to recycle.

3.4.4 A few examples of implementing the proposals in practice

A few examples of putting the upper proposals and suggestions into practice are presented in order to show that the solutions must be comprehensive.

Soper (2007) looks at the congestion charging in London. Although initially being a policy idea that many found unacceptable, there was a small group of people who ensured that this could become a part of public policy. The implementation of this policy helped other people to experience the benefits of the congestion charging, and this ensured a wider, mainstream acceptance of the policy.

Diamond (2005) presents the case of how Dutch people care for the environment in the areas where land was seized from the sea. People there are aware that they must be interdependent from each other if they wish to stay protected. This is opposed to the trends in many places, where the society is becoming more and more segmented, because people try to insulate themselves from the rest. Paying for expensive private services instead of building joint social services leads to the feeling that the ones who can pay for the private services, do not need the public ones, and the ones who can pay to be protected, will remain protected also in case of climate disasters.

Tan et al. (2008) outline the case of a Japanese government campaign, Team Minus 6%, which stimulated behaviour changes, such as more efficient driving or less use of air-conditioning. It tried to harness the value of team work in Japanese culture. Apart from this success factor, the campaign was built on other success factors such as making global warming "local", making it understandable, leading by example, addressing collective power, using chain effects for promotion of messages and incorporating culture and social values.

Gram-Hanssen (2010) presents the case of changing the routines of stand-by electricity use. There are three key findings of the change of routines:

- Motivation changed partially on account of better knowledge and partially on account of changed perception (perception of eliminating stand-by consumption was changed from 'fanatic' activity to 'normal', while perception of using energy for stand-by was changed from 'normal' to 'insane');
- implementing changes was enabled first through rearrangement of technology and then through a change of habits (making it everyday routine);
- once the routine was established, it was easy to maintain.

Another important finding is that this change cannot be explained only through rational decisions, but also irrational factors, while policy-making counts solely on rational actors to execute the changes. This shows that traditional policies in regard to stand-by consumption should be accompanied with measures to address a variety of irrational factors.

4 METHODOLOGY

This research was done through three key research phases. In the first phase, a desk research of the existing opinion polls was done. In the second phase, insight was gained into the barriers and drivers of climate action among people with the use of in-depth interviews. The last phase cross-checked the results of the first two phases and gained additional insight into a few issues through the debate in two focus groups. Some researchers point out that a combination of research methods can enhance the research by reinforcing each other (Harrell and Bradley, 2009; Bryman, 2001). This is why the research was conducted in three phases.

4.1 SETTING UP THE RESEARCH FRAMEWORK

The main steps in the quantitative research are (Bryman, 2001): research theory > develop hypothesis > design research > devise measures of concepts > select research site(s) > select research subjects/respondents > administer research instruments/collect data > process data > analyse data > arrive to findings/conclusions > summarise findings/conclusions

According to Punch (2006), the research framework should be set up by pursuing the following hierarchy of concepts: research area > research topic > general research questions > specific research questions > data collection questions.

As this research is of qualitative nature, the research plan set up followed the structure suggested by Punch (2006). Rather than having set hypotheses, only the key research questions have been set. This dissertation applied Punch's hierarchy of concepts in the following manner:

- research area: climate change mitigation,
- research topic: drivers and barriers that (de)motivate people to take personal action to fight climate change,
- general research questions:

(1) Is taking climate action closely related to a personal reward/punishment system or feeling? (Would people take action if they were personally rewarded for it; and vice versa: Would people not take action if they have to sacrifice their comfort?)

(2) Is a person who is affected by the consequences of climate change, or understands the connection between his/her behaviour and the consequences of climate change, more susceptible for changing habits than a person who is not affected or does not understand this connection?

(3) Is change of habits to implement climate solutions- and the scale of them- conditioned with factors such as the price, availability and quality of the product or services?

The specific research questions and data collection questions are too numerous to present in this place, but are available in the annexes (Annex A and C) in the form of an in-depth interview guide and a focus group guide.

Although literature (Punch, 2006) differs between theory verification and theory generation, the upper key questions are a mixture of both approaches. They are all more on the side of theory verification. Yet, as the theory in all the fields, related to the key research questions, shows gaps in details and nuances, answering the key questions also contributes to theory generation. This is especially true because the key research questions focus on the population of Slovenia and look between the gaps of a variety of studies and opinion polls.

4.2 LITERATURE OVERVIEW

For the theoretical framework a secondary research of existing literature (library materials, databases, legislation, regulations and case studies) and documents was conducted. Literature overview helped to define the characteristics of the climate problem and to establish the wider framework into which climate change problem is placed. The literature overview outlined the important open issues, which helped form the specific research questions.

4.3 DESK RESEARCH

Because desk research enabled an efficient exploration of the opinion of the people, the review of the existing opinion polls and research was used to form a solid basis for answering research questions and finding the areas where the available data is insufficient or of poor quality. The research overview was also used to form the questionnaires for practical research and fine tune the practical research.

The desk research started with a focus on two Eurobarometer opinion polls on people's attitudes towards climate change. Although some more studies/opinion polls are available in the European area, these two were selected because they could, apart from presenting the current attitude of people towards the climate change issue, also present a trend. Because they are both done in the same manner, the findings could be compared in time, not only at the certain point.

Apart from those two opinion polls, a similar opinion poll, but done by a Slovenian agency, was studied. The findings are not directly comparable, but this study also reinforces some of the findings of the Eurobarometer opinion polls.

Further desk research was conducted on the opinion polls that are conducted on a weekly basis by the multimedia portal www.rtvslo.si. The researched opinion polls cover the period between April 2005 and January 2009. Not all the opinion polls were studied, simply the ones that are related to climate or closely related issues (energy and transport). Because of the opinion polls being based on an internet portal, the results have a limited

validity (it is not a national representative sample), and can hence not be extrapolated as findings that would be valid for the whole population of Slovenia. Apart from that, some of the questions of the opinion polls are set in an unprofessional manner, which gives also results of questionable quality. However, because the opinion polls are on very specific questions, they provide an insight into the opinion of a certain part of Slovenian population. As such, they were estimated to be interesting enough to represent a basis for further research.

4.4 IN-DEPTH INTERVIEWS

4.4.1 Selecting the format of interviewing

Qualitative interview allows certain advantages over the quantitative interview (close to survey) according to Bryman (2001), such as being less structured and therefore enabling more improvisation, flexibility and deviations from the topic, making it possible to obtain deeper views of the interviewee and more detailed answers. The qualitative interview can have various degrees of structure (Holstein and Gubrium, 1997; Bryman, 2001; Harrell and Bradley, 2009), from unstructured through semi-structured to fully structured. Semi-structured interviews are useful for gathering insight into the view on a topic and a good understanding of the views of the respondent (Harrell and Bradley, 2009).

Semi-structured interview allows for some improvisation (Bryman, 2001), but still using a guide or a protocol is useful because it sets clear questions, enables consistency across the interviews and structures the questions (Harrell and Bradley, 2009).

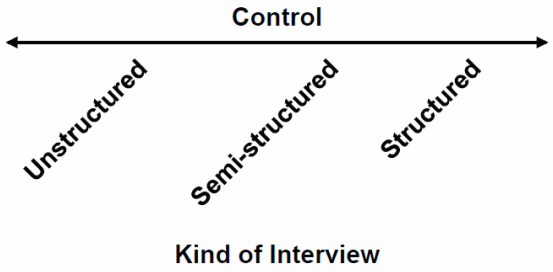


Figure 3: Level of structuredness of interviews (Harrel and Bradley, 2009: 25)
Slika 3: Raven strukturiranosti intervjuja (Harrel in Bradley, 2009: 25)

For the reasons outlined above, the form of semi-structured in-depth interview was used for conducting the research. Although a protocol was used, some of the questions were set to all the interviewees, while some of the questions were added in relation to the answers of the interviewees (e.g. to further clarify some attitudes or opinions).

It is important to highlight that the practical approaches to interviewing were substantially based on a constant communication with a market research expert, who was dealing with interviewing in practice for the past ten years (Pirotte, 2010).

4.4.2 An interview guide

The art of formulating a good interview guide covers a variety of issues, from the openness of the questions to the use of projection techniques. The first part of the guide gives instructions for creating a good atmosphere and building trust between the interviewer and the interviewee (Kazmierska, 2004). It encompasses the presenting of the purpose and technique, small talk and reassurance of the interviewee (for example, the researcher has to make the interviewee comfortable with the recording of the conversation). When creating the guide, one has to pay attention to formulate the questions in an open enough manner to gather new information (Bryman, 2001), yet to ensure that questions are specific enough (Kramer et al., 1986). Questions also have to follow a logical order to ensure a smooth flow of the interview; however the interviewer has some liberty about the order in which questions are asked (Bryman, 2001; Harrell and Bradley, 2009). It must be ensured that all respondents understand the question being asked. For this reason it is important to test the questions from the guides beforehand. Questions must use neutral language so that they do not suggest answers (Kramer et al., 1986). It must also be kept in mind that an interview is not a test, and if the respondent does not understand some questions, it might be frustrating for him or her (Harrell and Bradley, 2009). When the covered topics or questions are not easy to discuss, or it is possible that the respondents might not understand the topic, various probes may need to be used to ensure that the interviewee provides an answer (Holstein and Gubrium, 1997; Harrell and Bradley, 2009). A variety of projection techniques can be employed to obtain answers (ESOMAR, 2003). The last phase of interview is, although unofficial, important for returning back to a normal atmosphere, when the interviewer thanks the interviewee (Kazmierska, 2004).

The interviews were conducted in accordance with the interview protocol presented in Annex A, which established some key categories for the analysis of interviews.

Table 2: Overview of the sections of the in-depth interview guide
Preglednica 2: Pregled delov vodiča za poglobljene intervjuje

Sections of the in-depth interview guide
Introduction
Changing of habits - lifestyle exploration - factors that influence decisions
Motivations for changing a habit
Understanding of the climate change problem - associations with climate change - information and communication - consequences
Climate solutions
Conclusion

The interview guide was based on literature overview and desk research of the existing public opinion polls. The first part of the guide established trust between the interviewer and the interviewee by presenting the interviewer, assuring anonymity, reasons for taping and observing, explaining that: there is no right and wrong answer; everyone has his/her own opinion; and that criticism is welcome. The research topic was not revealed

beforehand because it could influence the answers of the interviewee. In this step the interviewee was also briefly presented to the interviewer to obtain the socio-demographical data.

The first part of the guide addressed the change of habits. At first, values were addressed through using a projective technique of a fictive alien that has to be introduced to life on Earth. Next was lifestyle exploration in which an average day gave insight into the interviewees' habits. Third step was using a so-called spider net to establish factors that influence interviewees' decisions in a spontaneous manner. Initially the next step was to explore changing habits, but a few interviews proved that a more natural next step would be to proceed with prepared cards on factors that influence decisions. The cards listed a variety of factors that could potentially represent an influence. Interviewees were requested to sort them into categories of 'would influence me', 'would sometimes, but not always, influence me' and 'would not influence me'. If the 'would influence me' category would contain too many factors, the interviewees were requested to further categorize them according to importance. By using first the method of spontaneous listing of factors, and the method of prepared factors later, it was possible to establish if there was a degree of providing 'desired' answers when using the method of spontaneous listing of factors. The next step was analysing the change of habits. Interviewees were first asked to give a spontaneous listing of what motivated them to change a habit, after which they were again presented with a set of cards with prepared motivations (or demotivations).

Until this point, the interview did not focus on climate issues to avoid socially desired answers that would distort the research. However, after testing motivations, the interview went further to discover what people know about climate change; how they perceive information about it; how they relate to consequences; etc. The knowledge of climate change was normally clearly revealed through the associations to the term 'climate change', which gave a good insight to what people relate the term 'climate change' and how detailed their knowledge is about it. It was a good method to use for not embarrassing the interviewee if he/she did not know what climate change is, which, apart from that, gave a good indication on how to proceed with further interview questions.

An important step was discussing solutions for the climate change challenge. Interviewees were again presented with a set of cards, listing measures to reduce greenhouse gas emissions, and asked to explain: what they already are doing; what they would do; what they occasionally do; and what they would not do. Their decisions were probed with explanatory questions on why they answered 'yes' or 'no' for certain measures.

The last part of the interview focused on what represents a personal action, and what represents a political action. The very last step was presenting the research to the interviewee.

The described interview protocol was tested twice before being finalised. In spite of that some further adjustments were needed, which were discovered during the interviewing. However, the changes were not so big as to disable comparability between interviews.

4.4.3 Sampling

To ensure validity and generalisability of the data gathered through interviewing, sampling is an important step in the process (Peräkylä, 1997; Harrell and Bradley, 2009). In this aspect categorization is relevant (age, occupation, etc.), as well as using approaches that help establish links even in the small group of interviewees, such as comparisons (Peräkylä, 1997). One option is random sampling. The next option is systematic or stratified sampling, where the sample is first stratified according to characteristics, and then sampling is done from the clusters. Structured sampling is when sampling is done so that the research does not over- or under-represent some groups. Another option is convenience sampling. Opportunity sampling is also an option, whereby one interviews upon opportunity and with individuals that were not planned to be interviewed. Snowball sampling is when one respondent suggests another to the researcher, but such a method should not be the only sampling method used because it can lead to overrepresentation of a certain group (Harrell and Bradley, 2009).

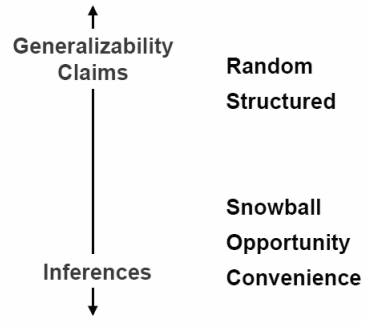


Figure 4: The benefits of different sampling and the ability to generalise (Harrel and Bradley 2009: 33)
Slika 4: Prednosti različnih oblik vzorčenja in možnost za posploševanje (Harrel in Bradley 2009: 33)

The sample for interviewing was selected by applying the following criteria for selecting the interviewees: age, education, region and lifestyle. The criteria and the size of the sample were established in the communication with a market researcher (Pirotte, 2010), with the objective of creating as representative sample for Slovenia as possible.

Table 3: Overview of the sample characteristics
Preglednica 3: Pregled značilnosti vzorca

Characteristic	Parameters
Age	18-25 26-35 36-55
Education	professional/high school bachelor degree degrees higher than bachelor
Region	Southwest Slovenia Central Slovenia Northeast Slovenia
Lifestyle	urban rural

Age: Three age groups were explored, namely: 18-25 years, 26-35 years and 36-55. The younger part of the population was not taken into consideration, because the opinions and behaviour of people younger than 18 are not fully shaped, which could have a negative impact on the overall picture. The age group of 55+ was not included, because their habits are hard to change.

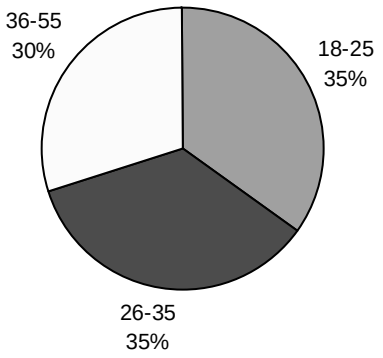


Figure 5: Structure of interviewees in the research according to the age
Slika 5: Struktura vzorca intervjujancev v raziskavi glede na starost

Education: Three levels of education were sought for: (1) professional/high school, (2) bachelor degree and (3) degrees higher than a bachelor degree. With the latest group it was problematic to find a sufficient number of interviewees, so it is not equally represented. These various degrees of education were used to enable observing the effect of education on the behaviour and habits of the people.

Region: Although Slovenia is traditionally divided into 12 statistical regions (SURS 2010a), for the purpose of the research it was divided into three key regions: southwest Slovenia, central Slovenia and northeast Slovenia. Such a division clearly omits some parts of Slovenia, yet it covers the regions where key differences might arise and which cover the country sufficiently for the purpose of the research.

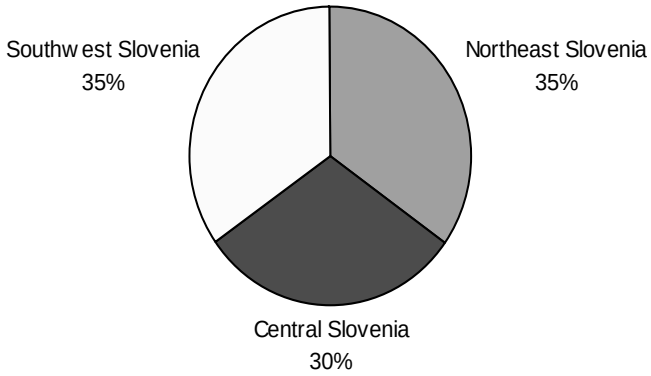


Figure 6: Structure of interviewees in the research according to region
Slika 6: Struktura vzorca intervjujancev v raziskavi glede na regijo

Lifestyle: Two varieties of lifestyle were explored, namely rural and urban.

Size of the sample: The ideal size of the sample was defined between 15 and 18 interviewees. In practice, this meant the following rough division, which was a guideline for recruiting the interviewees. For each of the three regions, 5 - 6 interviewees were needed, of whom ideally two of each age group had to be represented. Ideally half would be male and half female. Ideally minimally two would have a high school level of education, two a bachelor degree and one more than a bachelor degree. In the end 17 interviews were conducted, five in central Slovenia, six in the Southwest and six in the Northeast; for more details see the overview of the interviewees in Annex B.

A variety of approaches was used to access the representatives of the sample. The key method was to approach the circle of friends, colleagues and family with the request to assist in finding the appropriate people. Another method, used to a small extent, was using the so-called snowball sampling, whereby interviewees suggested next possible interviewees.

The interviews were conducted in a wide variety of environments, from working offices to home gardens, depending on the interviewee's convenience. The majority of the interviews with the interviewees from the Southwest and Northeast were conducted in the named regions. Only in two cases the interviewees from those two regions were interviewed in Ljubljana because it was suitable for them to organise it in such a manner.

4.4.4 Data collection and analysis

The data on the interviewee is normally not disclosed, yet one must keep fact-sheets of the interviewees (Bryman, 2001). Also a file with information about the sample, with information on the sampling criteria and demographic information, should be kept, because it is important for limiting the assertions that can be made with the data (Harrell and Bradley, 2009). Although there is an open question on whether to record or not, it is recommendable to record the interviews to enable proper writing up of the findings. However, it is also recommendable to note the key points of the interview right after it, because the recordings do not capture all the important information (non-verbal and situational data) (Bryman, 2001; Harrell and Bradley, 2009).

The interviews were recorded, with the exception of two, during which the recording equipment did not function properly. For those two interviews only notes were made, while for the rest of the interviews the audio files of the recordings are available in Annex E. The interviews were not fully transcribed due to a highly time-consuming transcription process, but the notes of the answers were made based on the recordings. The notes were compiled into a table for comparative analysis, which is available in Annex E.

The analysis was done mainly by checking and comparing the answers of interviewees in the different sections of the interview, analysing the overall ideas and checking them against the socio-demographic characteristics. The analysis was done according to the topics (e.g. looking into the values or climate change associations). To analyse some of the

topics and factors, simple quantitative methods were used. For example, when determining the importance of factors that influence decisions, a simple weighting method was used. The first level of importance received the weight of three points, the second level of importance received two points and the third level received no points. According to these weights, the importance of various factors was ranked. This approach was used to analyse the factors that influence decisions. For analysing the same factors, but based on pre-prepared cards with factors, a similar approach was used. It was rechecked for which factors reappear in importance when asked to rank again. Appearance in the first position brought five points, the second four points, and so on. This method was applied also with factors that motivate change of habits, actors and climate measures, with the exception that at the last two aspects, the last mentioned actor or measure did not receive zero points, but one point.

4.5 FOCUS GROUPS

4.5.1 Selection of the method

Although definitions of what a focus group is differ, a focus group is basically a group talk or discussion through which information needed for research is collected (Bryman, 2001; Harrell and Bradley, 2009). The number of participants depends on the topic, but generally it varies between six and ten (Bryman, 2001). For issues that can cause a lot of controversy and hence debate, it is recommendable to have a smaller amount of people and the opposite for the less controversial issues (Harrell and Bradley, 2009, Bryman, 2001). Sensitive issues are not a good topic for a focus group. The discussion among participants is guided by a moderator (Harrell and Bradley, 2009). Although the focus group can be done for other reasons (e.g. saving time), the main interest is to discover how the participants interact with each other, how they co-shape their views and the view of the group (Bryman, 2001). Further advantages of the focus group are (Bryman, 2001):

- the method can help the researcher explain why people think in some ways-people's opinions are challenged and to some extent brought into one view,
- issues that are of group concern might arise, which is not necessarily the case with the interviews,
- there is more consistency, as participants tend to challenge the people that provide inconsistent views or opinions,
- focus groups give an idea of how people arrive at meanings around phenomena, which is the interactive process that brings people to a joint understanding and views.

The data or information obtained through a focus group, no matter how abundant, cannot be generalized or statistically counted (Harrell and Bradley, 2009). Focus groups are helpful for providing a clarification for counterintuitive or conflicting findings (Harrell and Bradley, 2009). There is no clear answer of the amount of focus groups. The research objectives will give direction on the amount of focus groups, as well as the logistics and the budget (Harrell and Bradley, 2009).

In this research, a debate among four to six people was used to find detailed and in-depth answers in relation to the research questions. This method was also used because it gives a better insight on how people's interaction influences their decisions and behaviour. Two focus groups were organized and implemented; one gathered people from rural areas, while the other one gathered people from urban areas. The focus group guide was used, which was substantially based on communication with a market research expert (Pirotte, 2010).

4.5.2 Focus group guide

Most of the guidelines for creating an interview guide can be applied to a focus group guide too: start by creating a good atmosphere and ensure anonymity; formulate the questions properly (open enough in a logical order with liberty on the order); test the guide and use probes and/or projection techniques. It is important to develop a precise protocol, prioritise the questions, assign an amount of time to the topics of discussion, use structural or descriptive questions and avoid embarrassing ones (Harrell and Bradley, 2009). An icebreaker question- normally a question pertaining to the background of the participants- is useful for triggering discussion and creating a relaxed atmosphere (Harrell and Bradley, 2009). Probes or projection techniques should be used to direct the debate and ensure a dynamic participation from all participants (Harrell and Bradley, 2009).

For directing the focus groups, a guide was created (see Annex C).

Table 4: Overview of the sections of the focus group guide
Preglednica 4: Pregled delov vodiča za fokusne skupine

Sections of the focus group guide
Introduction
Values
Effects on you and others
Motivations to change habits
Climate information
Communication
Action
Inaction
Wrap up

The first part of the guide established trust between the moderator and the participants by presenting the background of all present at the debate, assuring anonymity, providing reasons for taping and observing, explaining that there is no right or wrong answers, understanding that everyone has his/her own opinion and that criticism is welcome. Also the research topic was presented.

The first exercise that participants were asked to do was to write down associations with the term 'climate change'. This exercise revealed the knowledge of climate change without embarrassing the participants. The next step was discussing the differences in values that people claim to have and values that they live. This debate was probed with agreement or disagreement with the statement 'We all know the values that we are supposed to know,

but life teaches us that we live more successfully among people with a different set of values.'

The next step was discussing how people affect each other and their environment. No special methods were used in this section. This was followed by a debate on motivations, where the participants had to jointly select 5 motivations from a set of 16 prepared motivation cards. Motivations for the following three activities were selected: using a bike or public transport instead of a car, installing photovoltaic panels, buying the same-sized appliances.

A section on climate change information and communication was used to get insight into how the participants perceive the climate information and what sort of communication is the most desirable. Here a projective technique was used, whereby the participants were requested to specify how large a problem they think that climate change is by selecting from differently sized balloons. The next section dealt with climate action, and here another projective technique was used. Participants were given a sort of ruler or scale, on which they had to specify to what extent they would be willing to change their lifestyle towards taking actions to prevent further climate change consequences. The scale had no fixed measuring points, so that the participants could give their perception of how much they thought they would be willing to change their life to save the climate (therefore it is important to stress that only their perception was tested, not a real measure). The last part dealt with overcoming the feeling of powerlessness of one individual.

The described guide was not tested in practice, but was adjusted with the help of the moderator, who based her suggestions on relevant past experiences (Šmitran, 2010).

4.5.3 Focus group sampling

Sampling should be done in line with the research questions and target groups. To plan the set up of the group, one should bear in mind the questions and the characteristics according to which group should be composed (Harrell and Bradley, 2009).

The sample for focus groups was selected by applying the following criteria for selecting the interviewees: age, education and lifestyle. The criteria and the size of the sample were established in communication with a market research expert (Pirotte, 2010), the main objective being to make the groups as close to a representative sample for Slovenia as possible. One focus group was organized around participants coming from rural areas and one on participants from urban areas.

Age: As with the interviews, three age groups were explored, namely: 18-25 years, 26-35 years and 36-55.

Education: Two levels of education were sought for: (1) professional/high school and (2) bachelor degree or higher.

Lifestyle: Two varieties of lifestyles were explored, namely rural and urban.

Region: Region was not used as a criterion in the case of focus groups, because it would have been very hard to find participants from all the regions. Another reason for not building on this criterion was that the in-depth interviews rarely showed a major difference between the regions.

Size of the Sample: The ideal size of the focus group was defined between six and eight participants. They were roughly divided into the three age categories (two participants of each age category) and education (three participants of each category). The ideal balance of half male and half female participants was sought. However, both the size of the focus groups and the criteria match were not met, because it was hard to recruit participants for participation in a focus group. In the rural group the number of participants was lower, because two participants cancelled participation one hour prior to the implementation of the discussion. As the moderator evaluated that the group can be implemented also with 4 participants, the decision was made to conduct the talk in spite of a lower number of participants. For more details see that overview of the participants in Annex D.

The participants were contacted, similarly to the interviewees, by requesting contacts from the circle of friends, colleagues and family. In the case of focus groups snowball sampling was not used because it could have led to overrepresentation in the groups. Both debates were organised in Ljubljana and participants from outside of Ljubljana were offered travel costs reimbursement.

4.5.4 Data collection and analysis

Again, same guidelines can be followed as with the interviews. Data on the participants is normally not disclosed, but kept in a file. It is recommendable to record in order to be able to write transcripts. General notes should be taken during the focus group. To analyse the gathered information, deductive or inductive analysis can be applied (Harrell and Bradley, 2009): while the deductive analysis validates the information for the researcher (either by providing answers to the same question or by proving/disproving hypotheses), the inductive analysis explores the information to find relationships or issues (word finding or identifying themes through reading).

In this research, the focus groups were recorded. The audio files of the recordings are available in Annex E. The focus groups were not fully transcribed due to highly time-consuming transcription process, but the notes of the answers were made based on the recordings. Based on the notes, an analysis was done, mainly by checking and comparing the answers of participants to the different sections of the guide, analyzing the overall ideas and messages. Both deductive and inductive analysis was used. It was observed that the focus groups have strengthened the effect of socially desired answers. In some cases this was helpful to highlight which of the intuitive feelings from the interviews are more than just an intuition. In other cases, however, it was good for defining what would be the socially acceptable messages (e.g. on one child policy).

4.6 EMPHASIS ON AGRICULTURE

During all the phases of the research, except in the literature overview, special attention was paid to the agricultural aspect. In the desk research, the aspects that are linked to the agricultural field were especially observed, such as extreme weather events. The phases of in-depth interviewing and focus groups were initially designed in a way to be able to observe any potential differences between participants from rural and urban areas. The participants were balanced between the rural and urban area, in the case of both interviews and focus groups. In both phases, the participants that came from rural areas were representing a mix of those that primarily live off of agriculture (fully employed in agriculture) and those for whom agriculture represents an addition to their regular job (from small scale gardening to large scale field cultivation). As mentioned above, when choosing the structure of the participants, the objective was to get to a sample that is as close as possible to a representative sample for Slovenia. This is why among the participants only one person was fully dependent on agriculture for making a living (representing roughly 5 %, which is the share of farmers in Slovenia according to SURS, 2010b), while other participants were linked to agriculture by various degrees.

In the analysis of the findings, special attention was paid to the possible differences among the rural and urban participants. Where those differences appeared was highlighted. Additionally, a review of all the findings was conducted in order to spot possible differences between rural and urban participants. The results are presented in section 6.1.2.

4.7 RESEARCH LIMITATIONS

In spite of paying utmost attention to designing the research in an effective and objective manner, several problems have appeared during the research, the three most important ones being:

- socially desired answers that the subjects of the research were providing,
- lack of willingness to explain personal opinions about some issues, and
- inability to generalise findings, but gain insight nevertheless.

Bryman (2001) points out that a common belief still exists that because it cannot be fully objective, social research cannot be scientific. Hence respect to the objectivity of the social research should be considered. There is, according to Bryman, a set of factors that influence social research to which attention should be paid: theory, practical considerations, epistemology, ontology and values. While the influence of these factors should be reduced, it is not possible to fully eliminate them, and therefore Bryman suggests acknowledging them and explaining their possible impact on the research.

Already in the design of the research one could expect that a good measure of socially desired answers would be provided by the subjects of the research. One reason is that attitudes towards the environment are an area where, according to the experience of the author, people tend to present themselves in a good light. Most express concern for the environment, although in reality they would not be concerned about it. This is because paying respect to the environment is socially desired. Another reason is that the author is

known by the public as an active environmental campaigner, on mainly climate issues. Some subjects that were interviewed or participating in the focus groups were likely aware of the background of the researcher. Miller and Glassnes (1997) stress that the presentation of the researcher can impact the research and this is to be limited. In the case of in-depth interviews, the background of the researcher and the research topic was not revealed to the participants until the end.

In spite of searching through literature on research methods, only a small amount of suggestions on how to limit socially desired answers was provided (Miller and Glassness, 1997; Holstein and Gubrium, 1997). Sieder (2004) shows that when researching history, the views of the interviewees sometimes interfere with the historical facts, hence the subjective views of the interviewees have to be found in the interviews and eliminated. Hence when analyzing the findings of the research, the occasions where the answers were socially desired according to the estimation based on previous knowledge and experience of the author, were explicitly pointed out in the findings. Baker (1997) emphasizes that interview analysis does not search for actual descriptions, but rather for the connections of the categories- not only what, but also how thoughts are connected in speakers' minds. This was used in the analysis of the interviews to establish where the socially desired answers could affect the research. Kramer et al. (1986) points out that the questions should not be phrased in a manner to lead to socially desired answers; they should be neutral and use phrases that do not stimulate socially desired answers. This was used as a guideline when creating the interview or focus group guides. The design of the research proved to assist in limiting the effects of the socially desired answers. It was observed that the focus groups have strengthened the effect of socially desired answers, which were observed in the analysis of the in-depth interviews. In some cases this was helpful to highlight which of the occasions from the interviews were such cases, when it could be detected that answers were most likely socially desired answers. Focus groups were also useful for defining what would be socially acceptable messages.

The second key problem, people's unwillingness to answer, is most likely related to the ability or inability of the people to talk about some issues. Values are normally hard to discuss, be it because one does not wish to disclose his or her values, or because one does not know them. Rapaille (2006) discovered in his research that people often give answers that they believe the researcher wants to hear. This is not because people want to give a researcher the wrong information, but because they use a 'cortex answer' and not an emotion or instinct. This problem was, in some aspects of the research, limited through the use of projection techniques (ESOMAR, 2003). If one wants the people to reveal what they mean or feel, one needs to become like a stranger to them, like a visitor from another planet. By asking basic questions, such as an outsider would ask, people are stimulated to stop giving reasonable answers and answer authentically.

Literature stresses that findings from interviews or focus groups cannot be generalised (Peräkylä, 1997; Harrell and Bradley, 2009; Bryman, 2001), but in order to ensure that some level of generalisation is possible, the research must be done on subjects that are sufficiently diverse. The selection of the interviewees and focus group participants was therefore done according to a set of criteria that guaranteed that conclusions that are as general as possible could be reached.

5 RESEARCH RESULTS

This section presents the result of the research. First the desk research results are presented, then the results of the in-depth interviews are gathered. The section outlines open issues for further research before presenting the results of focus groups in the last section.

5.1 DESK RESEARCH

This section presents the results from the desk research. The presentation is organised into two sections: the first looks at the Eurobarometer studies and the second at Slovenian studies and opinion polls.

5.1.1 Eurobarometer studies and polls

Eurobarometer, the EU's house public opinion analysis tool (European Commission, 2010), has in recent years done two studies of attitudes of the Europeans towards issues related with climate change that are particularly interesting for this research:

- Europeans' Attitudes Towards Climate Change 2009 (Europeans' attitudes towards climate change, 2009a)
- Europeans' Attitudes Towards Climate Change 2008 (Europeans' attitudes towards climate change, 2008)

This section gives an overview of the key findings from both studies.

Europeans' attitudes towards climate change 2008: key findings

Slovenia's inhabitants, who participated in this study, are highly aware of the seriousness of the climate change problem. According to the opinion of respondents, in 2008 global warming, poverty and international terrorism were the three most serious problems facing the world. With 80% of the polled people listing global warming as a serious global problem, this problem was ranked first as compared to the other two (79% for poverty and 45% for international terrorism). In combination with the fact that Slovenia was second only to Greece (90%) in ranking global warming as a serious problem, this shows that people in Slovenia in 2008 had a high awareness of the seriousness of the climate change problem. 58% of the participants of the study ranked global warming as an extremely serious problem, 22% as a very serious problem, 8% as a fairly serious one and only 1% did not find it a serious problem whatsoever.

Slovenians are averagely informed about climate change- better on consequences than on solutions. 66% of the people feel well informed about climate change in general (11% very well, 55% fairly well), while 33% feel badly informed (27% not very well informed, 6% not at all informed). On the consequences of climate change, the people feel informed a bit better (69% well informed and 30% badly informed), but still the level is not very high. Also the feeling of being informed about the solutions and ways to abate climate change is rather average, as 62% feel well informed on this aspect and 37% feel badly informed.

Not enough action is being taken on all levels; the EU is the most progressive. People feel that companies should do the most about climate change, then people themselves, then national government and lastly the EU. 93% believe that companies are not doing enough (5% think companies make the right amount of effort), 86% people think that they should be doing more about climate change (12% think they do the right amount) and 84% of people think that the national government is not doing enough (12% think it is about the right amount). The EU is estimated to be doing the best: 20% think the EU is making the right amount of effort, while 75% think it should be doing more. Only 1% of the people thinks that too much is being done on all levels.

Climate scepticism in Slovenia is relatively low. Of all the polled people, 31% agree that climate change is an unstoppable process, and therefore people cannot do anything about it, while about two thirds (67%) disagree with that claim. Only 18% believe that the seriousness of climate change has been exaggerated, while 80% disagree with that. 32% think that CO_2 emissions have only a marginal impact on climate change, while 59% disagree with that. The percentage of people who do not feel they know enough about the impacts of CO_2 is 9%, which is rather high. 68% of people agree that fighting climate change can have a positive impact on the European economy, 22% disagree and 10% cannot estimate this.

People are taking action to fight climate change, mainly because acting together can make an impact, but many people still need to know what they can do. 79% of the people have taken actions aimed at helping to fight climate change (about half of the people on an occasional level, about a quarter rather seriously). 18% of the people do not tend to take action. The most popular actions are recycling (80%), reducing energy consumption (70%) and reducing water consumption (66%). The next in popularity is the use of public transport (38%) and reducing consumption of disposable items (33%). A little less popular are the measures of reducing use of car and/or car sharing (24%), use of environmentally friendlier cars (23%) and buying seasonal and local products (20%). 6% have installed renewables, 5% are avoiding short flights and 2% use green electricity.

68% of the people take action because they believe that if everyone changed behaviour, it would make an impact on the climate. 61% take action because they feel it is their duty to protect the environment, 59% because they are concerned about the world that they will leave to future generations, 33% because taking action will save money and only 14% because they have been directly exposed to consequences of climate change.

Over half of the people (52%) are likely to stop climate action, because they think it is governments and companies that have to change, not citizens. 37% are hindered by the thought that changing their behaviour will not have an impact on climate, while 19% think that it would be too expensive to take actions that fight climate change. 11% of people do not act, because they are not concerned about climate change. A surprising amount of people (29%) would like to take action but do not know what they could do to fight climate change.

The respondents would be ready to pay about 11% more for clean energy. 31% of the people would pay up to 5% more, 21% up to 10% more and 9% up to 20% more than the regular price to have energy produced from sources that emit less greenhouse gases in order to fight the climate change. 16% are not willing to pay anything more.

The respondents from Slovenia mostly support the climate and energy objectives of the EU. A little more than half of the people believe that the climate and energy objectives of the EU are the right ones (20% or 30% reduction in greenhouse gas emissions by 2020 compared to 1990, 20% share of renewables by 2020). The rest find those objectives either too modest or too ambitious, with slightly more people finding them too modest.

Europeans' attitudes towards climate change 2009: key findings

Slovenians who took part in the study are highly aware of the seriousness of climate change, even while there is a recession and a flu epidemic. In 2009 the percentage of respondents listing climate change as a serious global problem reduced from 80% in 2008 to 70%. This share was still high above the European average (47%), but nevertheless one can observe the effects of the global financial crisis in this development. While poverty was still seen as an important problem (69%), the spread of infectious diseases was ranked by 53 % of respondents as a serious global problem (the effect of the Mexican flu epidemic) and economic downturn (52%) became more important for the people. Interesting is an observation that 18% of the people thought the increasing world population to be a serious global issue, which is lower than the European average in this aspect. 78% of the Slovenian respondents thought climate change to be very serious, 15% fairly serious and 5% not serious. 83% do not believe that the seriousness of climate change has been exaggerated, while 14 % believe that to be the case.

Climate action is still missing on all levels, mostly in companies, less so in the EU. Also in 2009, people felt that companies should do the most about climate change. 92% believe that companies are not doing enough, 82% of people think that they should be doing more about climate change themselves, 81% of respondents think that national government is not doing enough and the same share of people think that the regional and local authorities are not doing enough. The EU could still be doing more for climate change, believe 72% of the people. The education split shows (see Table 5) that the more people are educated, the more it is likely that they will think they do not do enough to fight climate change.

Table 5: Education split for the people that think they should do more about climate change (Europeans' attitudes towards climate change, 2009b)
Preglednica 5: Izobrazba ljudi, ki menijo, da bi morali ukrepati več v zvezi s podnebnimi spremembami (Europeans' attitudes towards climate change, 2009b)

Education (end of it)	Share
<15	76%
16-19	81%
>20	86%
Still studying	82%

The split according to the perception of climate change (Table 6) shows that the more people perceive climate change as a serious problem, the more they are likely to feel that they do not take enough action.

Table 6: Split according to the perception of climate change (Europeans' attitudes towards climate change, 2009b)
Preglednica 6: Delitev po pogledu na problem podnebnih sprememb (Europeans' attitudes towards climate change, 2009b)

Perception of climate change	Share
Not a serious problem	60%
Fairly serious	73%
Very serious	86%

Personal action is growing slightly. 79% of people have personally taken actions aimed at helping to fight climate change, which is 2% more than in 2008. 16% still have not taken action and 5% do not know. The age split of the 79% shows that the highest action-taking share is in the age group of 40-54 (87%). All other groups have a lower share (between 74 and 77%). In the education split, the group of people that finished education between 16-19 (normally finished high school) is the most likely to take action (82%). The split by the difficulty to pay bills (Table 7) shows that people who almost never have problems with paying bills are the most likely to take personal action, while the people who most of the time cannot afford to pay bills still take action, but to a lesser extent.

Table 7: Split according to the difficulty to pay bills (Europeans' attitudes towards climate change, 2009b)
Preglednica 7: Delitev glede na težavnost plačevanja računov (Europeans' attitudes towards climate change, 2009b)

Difficulties paying bills	Share
Most of the time	68%
From time to time	78%
Almost never	80%

Recycling remains the most popular climate protection measure. 81% of people separate their waste for recycling. 69% are reducing water consumption at home; 68% are reducing energy consumption; and 68% are reducing consumption of disposable items. The latter measure gained a lot in popularity since the previous research. Environmentally friendly transport at 40% and buying seasonal products at 28% are the next most popular measures, while reducing use of a car and car sharing at 20% and using an environmentally friendlier car at 21% lost a little bit in popularity. Avoiding short flights (8%), installing renewables (8%) and switching to green electricity (6%) still remain the least popular measures.

People still mostly agree that fighting climate change can have a positive impact on the European economy (66%). The education split shows that the higher the education, the higher likeliness that people will believe in positive impacts on the European economy. The likeliness increases with the perception of seriousness of climate change.

Less people would be willing to pay more for clean energy. As compared to 2008, the share of people that would not be willing to pay more for clean energy grew from 16% to

23%. Still 33% of the people would pay up to 5% more and 14% up to 10% more, but all in all, the willingness to pay more for clean energy has reduced.

Climate scepticism is decreasing and understanding of impacts of CO_2 on climate is increasing. 75% believe that CO_2 has an impact on climate change, while 20% think that this impact is only marginal. This shows that in comparison to the previous poll, the climate scepticism has reduced (59% vs. 32%), and also people have gained understanding of the CO_2 impacts on climate change (5% do not know, as compared to 9% from 2008).

Table 8: Comparative overview of findings from the studies on Europeans' attitudes towards climate change from 2008 and 2009
Preglednica 8: Primerjalni pregled ugotovitev iz študij Odnos Evropejcev do podnebnih sprememb za leti 2008 in 2009

Topic	Europeans' attitudes towards climate change (2008)	Europeans' attitudes towards climate change (2009)
Awareness of the problem	80% list global warming as a serious global problem. Global warming is: - an extremely serious problem 58% - a very serious problem 22% - a fairly serious problem 8%	70% list global warming as a serious global problem. Global warming is: - a very serious problem 78% - a fairly serious problem 15% - not a serious problem 5%
Action on various levels	Who has to do more: - 93% companies - 86% ourselves - 84% national government - 75% EU	Who has to do more: - 92% companies - 82% ourselves - 81% national government - 72% EU
Climate scepticism	80% believe the seriousness of climate change has not been exaggerated, while 18% believe that to be the case. 59% believe that emissions of greenhouse gases have impact on climate change, while 32% think that this impact is only marginal.	83% believe the seriousness of climate change has not been exaggerated, while 14% believe that to be the case. 75% believe that emissions of greenhouse gases have impact on climate change, while 20% think that this impact is only marginal.
Climate action	79 % of people take climate actions 18% do not take climate action 3% do not know Popularity of Actions: - recycling 80% - reducing energy consumption 70% - reducing water consumption 66% - use of public transport 38% - reducing car use and car sharing 24% - use of environmentally friendlier cars 23% - buying of seasonal and local products 20% - installation of renewables 6% - avoiding short flights 5% - use of green electricity 2%	79 % of people take climate actions 16% do not take climate action 5% do not know Popularity of Actions: - recycling 81% - reducing energy consumption 68% - reducing water consumption 69% - use of public transport 40% - reducing car use and car sharing 20% - use of environmentally friendlier cars 21% - buying of seasonal and local products 28% - installation of renewables 8% - avoiding short flights 8% - use of green electricity 6%
Paying more for clean energy	Would Pay Up To: - 5 % more: 31% - 10% more: 21% - no more: 16%	Would Pay Up To: - 5 % more: 33% - 10% more: 14% - no more: 23%

5.1.2 Slovenian studies and opinion polls

Climate change opinion research is not a standard practice in Slovenia, but some cases of systematic studying of it are available. The research is mostly based on the opinion poll 'Knowledge of Climate Change Issue in the Slovenian Population' from 2009 (Poznavanje problematike podnebnih sprememb med prebivalci Slovenije, 2009) and the opinion polls conducted by the daily web based media.

The opinion poll 'Knowledge of climate change issue in the Slovenian population'

Opinion poll 'Knowledge of climate change issue in the Slovenian population' (Poznavanje problematike podnebnih sprememb med prebivalci Slovenije, 2009) reveals similar findings as the Eurobarometer studies. Climate change is listed as the most concerning 21st-century problem by 27.6% of people, followed by economic crisis with 13.3% of the votes and poverty and hunger with 12.6%. Population growth is raised as the most concerning problem by 3.5% of the respondents. Two thirds of the people also think that climate change should be of more concern to people than other threats to humanity. More than ¾ of the people believe that action is needed now to reduce human impact on climate change, because the time is running out, while 14.4% believe that it is actually already too late for action.

The state should do more, but not only because of the profit stimulus. People are quite clear that the state should take more ambitious measures for climate change action, even if on account of their lifestyle (4.1 on a scale of 1 – 5 where five is agree fully with the statement; 76% of people answered with a four or five). However, many people believe that climate action is stimulated by interests, related to capital and profits (4+5=59%) and that state uses climate change as an excuse for new laws, limitations and taxes (4+5=43%).

People are averagely aware of the causes. Industry, transport and deforestation are believed to be the key reasons for climate change, closely followed by waste. Over-consumption, energy and agriculture are the last in the row of reasons for climate change on the public's list.

People need to act as individuals, although some think people do not need to worry about climate change. About half of the people quite strongly agree that they can do a lot in the climate change fight as individuals. There are still some people, however, who believe they need not worry about climate change and the future, because they will not feel the consequences of climate change (about one fifth).

Saving electricity and recycling are preferred to taking public transport. When acting for protection of the climate, saving electricity and recycling seem to be the two key measures. Other measures, but not as often applied as the listed two, are the use of efficient appliances, avoiding buying unnecessary items, choice of food (eco-food) and buying degradable and environmentally friendly products. Using public transport is the least favourite measure. People also seem to have interest in taking action through voting decisions: 48% give priority to the candidate that supports measures to reduce emissions when voting.

Opinion polls conducted by the multimedia portal, www.rtvslo.si

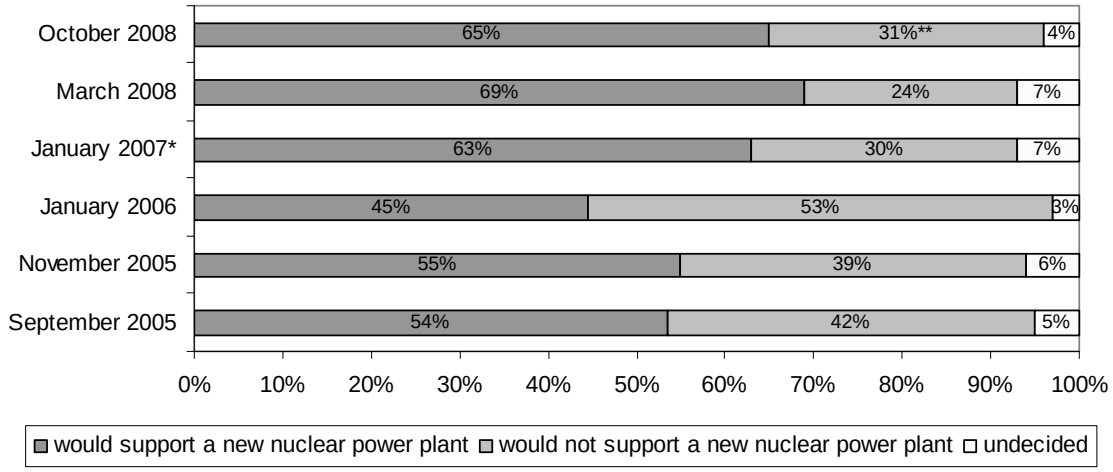
The multimedia portal www.rtvslo.si (RTV Slovenija, 2010) is conducting opinion polls on environmental issues on a regular basis. Being aware of the limitations of the web based opinion polls, this overview of the most intriguing polls and their results gives an indicative overview of relevant and useful findings.

Energy

There is a rivalry between renewables and nuclear. In March 2006, out of 921 people, 52% thought that in the future people should use solar power, 17% nuclear, 16% wind, 10% water, 2% fossil fuels and 2% other forms of energy. In August 2008, 41% thought Slovenia should focus future energy efforts mostly on solar, 27% on nuclear, 18% on wind and 12% on hydro. In January 2009, out of 702 people, 44% believed that renewables are the energy source of the future, 31% bet on nuclear energy, 15% believe people will find a new source and 3% think fossil fuels are the energy source of the future.

Windmills are welcome, but must be placed suitably. Although hotly debated since 2004, the windmills remain popular. In 2005, the polls showed that about ¾ of the people (75% in April 2005 and 77% in September 2005) would support windmill farms, even if close to their homes. In August 2006, the support of wind farms grew to 80%, but in 2007 and later it can be observed that the people became aware of the potential negative effects as suitable placement of the wind farms became the condition for the support.

The share of people, who would support a new nuclear block, is slowly growing. However, when in November 2008 164 people decided on the issue of nuclear safety in Slovenia, only 27% thought that Slovenia is well enough prepared for a nuclear accident, while 63% thought Slovenia is not well enough prepared for it.



* The question was 'Do you think a new reactor in Krško would be environmentally justified?'
** 22% would not agree with a new nuclear power plant, and 9% would close the existing Krško nuclear power plant entirely

Figure 7: Public support of nuclear energy in Slovenia (RTV Slovenija, 2010)
Slika 7: Javno mnenje o podpori jedrski energiji v Sloveniji (RTV Slovenija, 2010)

Gas pipelines are preferred to gas terminals. In March 2006, 44% of the people thought that a new gas terminal in Trieste bay would mostly lead to seawater pollution, 37% to negative effects on sea fauna and 13% to the image of the bay. In comparison to the terminals, people were somewhat more enthusiastic about the pipelines: in June 2006, 27% said they would support construction of new gas pipeline, because there will be no more need for a gas terminal, and 30% because Slovenia is dependant on gas import. 24% would not support the pipelines, because of environmental concerns and 8% because gas would increase Slovenia's dependency.

Wood gains importance in heating on account of gas and oil. Although the data from various polls is not directly comparable, because of the inconsistencies in the range of heating sources and technologies, the following table gives a clear trend of growing use of wood for heating, mainly on the account of oil and gas.

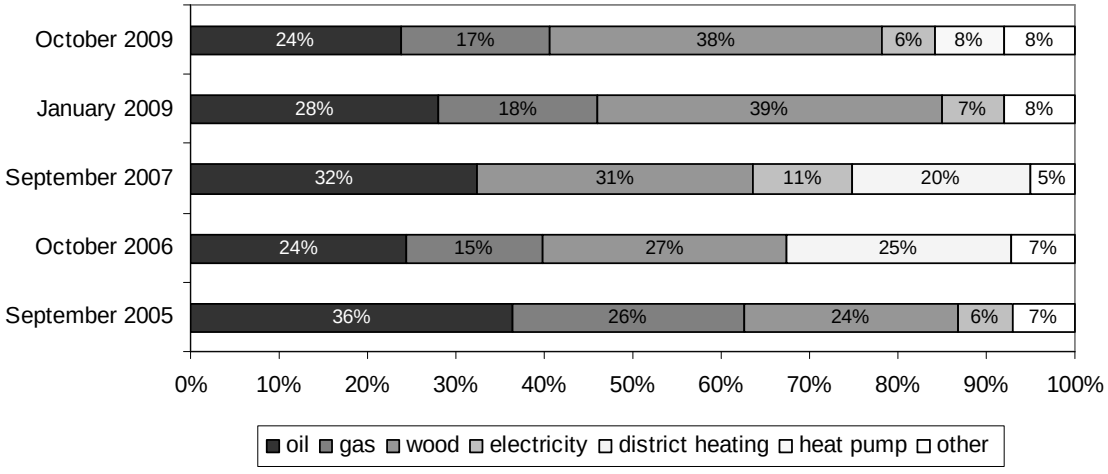


Figure 8: Use of various energy sources for heating in Slovenia (RTV Slovenija, 2010)
Slika 8: Poraba različnih energentov za ogrevanje v Sloveniji (RTV Slovenija, 2010)

Findings of a poll on Slovenian real-estate portal (Slonep, 2009) shows a similar picture in October 2009: 32% use oil, 17% use gas, 32% use wood, 5% use electricity, 7% use heat pump and 5 % use other sources to heat their flat or house.

The use of air-conditioning is growing. In June 2005, 22% had an air-conditioned home, 63% not, and 15% were thinking about buying an air-conditioner. In July 2006 already 25% had an air-conditioner; 20% were planning to buy it; and 55% did not need it.

People are willing to take action to save emissions. In August 2005, 34% believed they personally could save more electricity, 31% motor fuels, 16% heating fuels and 14% nothing. In August 2006, 36% saved energy at home occasionally; 26% saved it because of reducing costs; 32% saved because of environmental protection; and 6% did not save energy. In November 2006, 44% were willing to reduce car use, 36% not, and 16% did not use a car. In October 2007, 48% said they would give up hot water three times per week to save glaciers, 45% would not, and 7% did not know. In January 2008, 39% would change their habits to protect the environment, 40% sometimes and 21% not.

Energy saving light bulbs: as long as they are just an option, they are popular. The figure below shows an interesting fact: when asked about the use of efficient light bulbs, people use them in principle. But on September 1, 2009, when 100W light bulbs were banned from the market, there was an uproar in the public. This was also reflected in a more realistic finding about how many people actually use efficient light bulbs.

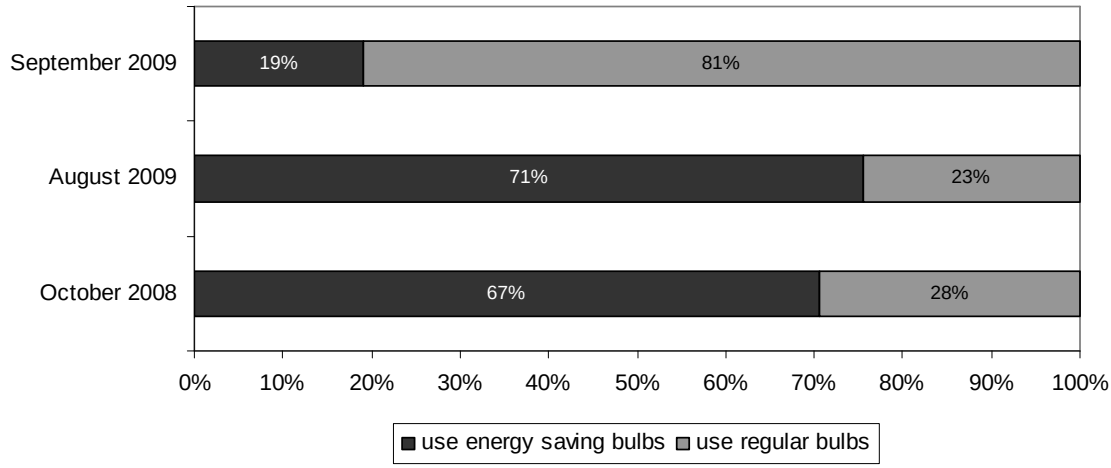
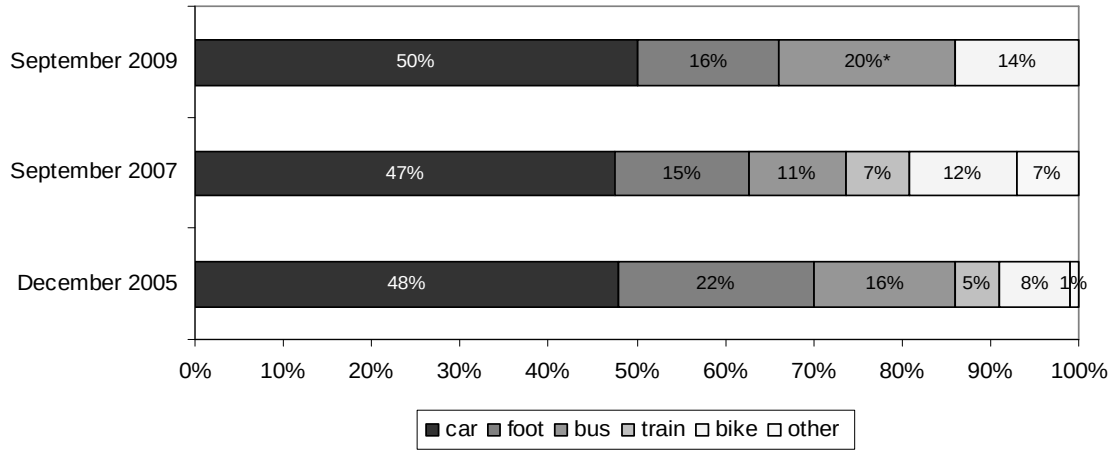


Figure 9: Use of energy saving and regular light bulbs in Slovenia (RTV Slovenija, 2010)
Slika 9: Uporaba navadnih žarnic in energetsko varčnih sijalk v Sloveniji (RTV Slovenija, 2010)

Mobility

The use of cars and bikes for commuting to work is growing, mainly on account of walking to work. Public transport use remains more or less the same. In February 2009, 19% always used a car, even for short distances (half to one kilometre), 22% occasionally, 26% very rarely and 23% never. 9% did not have a car.



* 20% for bus and train together.

Figure 10: Modal split in Slovenia (RTV Slovenija, 2010)
Slika 10: Raba prevoznih sredstev v Sloveniji (RTV Slovenija, 2010)

Eco-vehicles are appealing, but still too expensive and too distant in the future. In October 2006, 47% were eager to get environmentally friendly cars; 36% thought they would only appear when humanity runs out of oil; 9% thought they would never exist; and 9% thought eco-cars were too slow, unpractical and expensive. In May 2007, 85% would buy an eco-vehicle, if they had enough money, while 9% would not buy it, because they consider it unnecessary. In May 2007, 32% would buy an electric car; 32% would purchase a car that runs on solar power; 21% would bet on ethanol; and 15% did not show any orientation towards alternative cars.

Public transport is desired, but expensive. In November 2007, 74% said they would take public transport more often if it was cheaper, while 21% would not take it, even if it was cheaper. In December 2007, 75% believed that the introduction of a tram would be an environmentally meaningful project, in spite of the high costs, while 21% did not think so.

Congestion charges are fine in Germany, but not really desired in Slovenia. In November 2007, when a proposal for introducing a congestion charge was debated in Slovenia, 59% were against a congestion charge in city centres, and 38% supported it. In January 2008, 72% of the people found the German introduction of environmental zones a positive effort for emission reduction; 5% thought it was too expensive; 11% did not believe in any measures against climate change; and 6% liked the idea, but found the fees excessive.

Effects of a mobility week are weak. In October 2005, 58% of the people were not affected by the mobility week; 13% were warned about the negative effects of transport; 12% were actively involved in the mobility week; 2% took other forms of transport than a car in the future; and 15% did not know what mobility week is.

Awareness and attitudes towards climate change

The majority of the people is aware that the current climate change is largely caused by human actions. Although the poll question varied, the following numbers can broadly show how people felt about the cause of climate change in the period of 2005-2009:

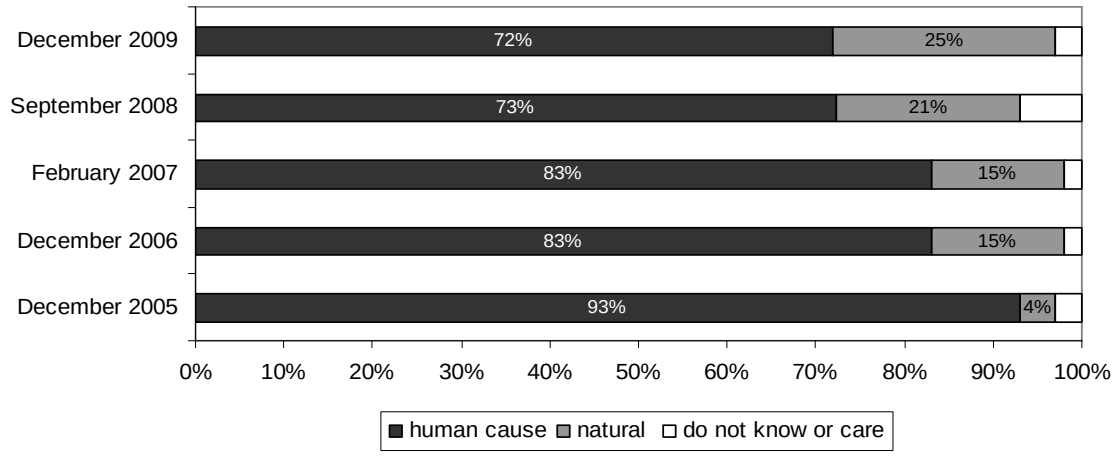


Figure 11: Slovenian public opinion regarding the cause of climate change (RTV Slovenija, 2010)
Slika 11: Slovensko javno mnenje o vzroku podnebnih sprememb (RTV Slovenija, 2010)

Similarly, in April 2008, 71% thought that arctic ice is melting due to man made climate change, while 26% found this to be a natural phenomenon.

People are worried about climate change and its consequences. In June 2005, 68% thought that climate change is threatening Slovenia very much; 28% thought that not at the moment; and 2% thought that not at all. In February 2006, 92% thought that glaciers will melt faster and faster if people do not stop destroying the Earth, and 5% thought the glaciers will not melt faster. In April 2006, 87% were worried about the consequences of climate change and 11% not because the worries are exaggerated. Later in 2006, in September, 65% thought climate change consequences will be catastrophic; 26% found it a serious, but solvable problem; and 9% thought that the media exaggerates the problem. In November 2006, 53% were most worried about climate change, 26% about extinction of species, 20% about quality of air and 2% about other issues. In January 2007, 41% thought climate change was the key environmental threat in Slovenia; 24% thought release of chemicals in water was the key issue, 15% air pollution, 14% increasing waste problem, 3% nuclear power and 2% other issues. In July 2007, 67% thought that warnings of experts about climate change were not exaggerated because they are well-informed; 25% believed some of them to be exaggerated; and 8% thought all the scientific warnings were exaggerated, because the situation is not so bad.

People link extreme weather events with climate change. In July 2005, 72% linked the extreme weather events of that summer to irresponsible management of environment; 18% linked it to natural climate change; and 9% thought it is just a coincidence. In March 2006, 48% thought that stronger winters were due to manmade climate change; 31% due to partially manmade climate change; and 17% due to natural phenomena. In July 2008, 67% recognised the recent storms as a consequence of climate change, while 32% thought it was just a natural extreme weather event.

People notice the consequences of climate change. In December, 70% noticed that the seasons did not bring the expected weather; 21% noticed that the temperature range is increasing; and 7% did not notice any change. In August 2007, 33% had already felt the consequences of hail, 12% of floods, 11% of earth quakes, 2% of fire and 1% of avalanche. 15% respondents felt more different consequences, and 26% felt none. In March 2008, 30% had already witnessed strong winds that cause damage and 66% did not. In April 2008, 19% thought that of the various climate change consequences, the heat waves will be most harmful for people's health, 32% drought, 13% floods and 26% believed pollution to be the most harmful for the health.

Attitudes towards policies and actors

People's belief in global climate deals is fading away. In November 2005, 70% believed that the Kyoto Protocol could contribute to solving environmental problems, while 21% did not think so. In April 2005, 43% thought that the EU should respond to the Kyoto Protocol non-acceptance in the US with announcing sanctions; 43% with direct response measures; and 10% thought there was no need for the EU to respond. In June 2006, 27% thought that Slovenia would reach its Kyoto target; 23% thought it will, but not by 2012; 31% thought Slovenia will fail, but so will other countries; and 13% thought that just

Slovenia would not meet the objective. In December 2007, 55% thought the Kyoto Protocol was positive, because it is a first step, while 41% thought the Kyoto Protocol was doomed to fail because the key polluters were not included in the deal. In December 2009, only 9% believed that the Copenhagen Agreement will help to reduce emissions, while 85% did not put much hope in the agreement.

The majority believes in the success of climate actions. In May 2006, 15% thought that a raise in price of oil could reduce car emissions; 35% thought the same, but also thought that only with marginal effect; 20% yes, but on the long term; and 27% did not think there would be any effect. In January 2007, 72% thought that with environmental policies and measures people can prevent the disappearing of glaciers and ice, and 16% did not think so. In January 2009, 72% thought that an individual can significantly contribute to environmental protection, and 27% that an individual cannot. An outstanding finding from the polls is that although 75% of people think that actions like 'Give 5 Minute Rest to the Planet' are needed, and 22% think these kinds of actions are meaningless (February 2007). Only 38% joined the action in March 2009, while 52% did not and 10% remained undecided about it.

For some, climate or environmental issues should be given a higher priority than economic development. In June 2005, 78% would support radical greenhouse gas emission reduction on account of economic growth and 17% would not. In January 2006, 90% would support conservation of nature on account of development and 10% would support development on account of destroying nature.

Green movements and politics are desired in Slovenia. In October 2006, 77% thought that environmental movements in Slovenia do not have enough power, while 18% thought them to be strong enough. In November 2006, 66% missed a green political bloc and 29% not. In October 2007, 49% still missed a strong green party and 31% not, while in June 2007, 56% believed Slovenia needed a strong green party and 33% not.

We all should do more, but politicians have a special role to play. In April 2007, 54% of people thought that they should do more for the environment; 38% thought national states should do more, 4% international organizations, and 3% environmental NGOs. In September 2007, 37% thought there should be more environmental awareness in schools; 56% thought there should be more environmental education in schools; but the politicians should also increase their action; and 6% thought there was enough environmental education in schools.

5.1.3 Key findings from the desk research

Based on the previously presented opinion polls, a few key findings can be constructed. The most important one is that Slovenians are highly aware of the seriousness of the climate change problem. A closer look at the awareness shows that in spite of the high awareness of the seriousness of climate change, Slovenians are only averagely informed about climate change, whereby they are slightly better informed on consequences than on

solutions. There is an established link between extreme weather events and climate change. People tend to notice the consequences of climate change.

Being aware of the seriousness of the problem, the Slovenians estimate that not enough action is being taken on all levels. The action is the most lacking at the level of Slovenian government, while the EU is the most progressive in action. People are willing to take action and are taking action to fight climate change, mainly because acting together can make an impact. Many people still need to know better what it is that they can do about the problem.

Recycling remains the most popular climate protection measure. Saving energy is popular and also clean energy is an acceptable measure (for which people would be ready to pay a bit more), but using public transport is not a very acceptable measure. People's belief in the global climate agreement is, however, fading away. A large majority of Slovenians believes in the success of climate actions. For some, climate or environmental issues are even prioritised to economic development. Climate scepticism in Slovenia is relatively low, and the majority of the people is aware that the current climate change is largely caused by human actions.

All in all, the awareness of Slovenians is relatively high, which suggests that more action and less raising of awareness is required. Further research is needed to establish whether- and to what extent- Slovenians transfer their awareness of climate change into practice.

A fast comparison with the results of research Dobra klima za promjene (2008) shows that the situation in neighbouring Croatia is very similar to the situation in Slovenia. Namely, the research reveals that 72% of Croatian people believe climate change to be a very serious problem. The highest concern is in the Adriatic region, which is likely to be more affected by climate change. People perceive only direct threats of climate change, such as health threats, as being dangerous, while wider threats, such as negative effects on food production, are not perceived as dangerous.

The study also shows that in spite of high declared concern, the level of knowledge on causes and effects of climate change is rather low. Croatians are mainly informed about climate change over media and less likely through school, friends or family. Over 90% of the respondents believe that Croatia should do more to reduce greenhouse gases. They believe that government and companies are the most responsible for reducing the emissions. A large majority of respondents claims to take steps for protecting the environment and is also ready to pay more for environmentally friendlier sources of energy. Their readiness to pay more is higher than seen in general throughout the EU, hence it should be harnessed to promote efficiency and environmentally friendlier consumption.

5.2 IN-DEPTH INTERVIEWS

5.2.1 Findings from the interviews

This section briefly lists the key findings from the in-depth interviews to lay the basis for conclusions that informed the next step of research. The sections follow the interview guide (see Annex A).

Changing of habits

The first aspect of changing habits was to determine the values of the interviewees. In general, people's key values are to be honest, fair, and friendly, as well as to help others, to socialize, to be patient, etc. However, many of the interviewees have expressed that one should be careful with people, because they do not live according to their declared values:

> "I would teach him that not all the people are like that, that people do not always act in line with their values." female, rural, 36-55

> "There are values, but only a minority holds on to them, in general they are not important, on a personal level maybe. In real life we only look at ourselves or family, there are some ideals, but in the end the bad values overrule." male, rural, 18-25

(Please note that with 'he' or 'him' the interviewees refer to the fictive alien that was used to probe their answers.)

The finding is that interviewees know the values that they are supposed to know, but life teaches them that those values do not make it possible for one to live successfully among people. Only one interviewee defined the values according to which the society functions ("individualism, greediness, competitiveness, people are objects for reaching objectives, games in the society are played with people…"), but for the rest people did not wish to define the 'real' values. Apart from this crucial finding, there are a few less notable findings. For example, in central Slovenia, the most outstanding values are socializing, friendship and helping others; in southwest Slovenia the values are honesty, fairness and helping others; while in northeast Slovenia one needs to be nice to people, socialize and be fair. The interviewees from southwest Slovenia were the most aware that the thought values are not in line with the values they live by. The notable difference in the rural/urban split is that in rural areas they trust less than in urban areas. In rural areas it is also exposed that the thought values are not the same as the values being applied to real life. Also, the higher the education, the more likely the people will realize that the way they live is not in line with the values. The age split shows that in the 18-25 years group, socializing and friendship are important, while in older groups honesty is an important value, as well as care for people, respect and patience. The younger age group is exception, but the other two groups showed belief that life is not in line with thought values and expressed carefulness in relation to how you deal with people. Men tend to realize the discrepancy between the thought and real values more than women.

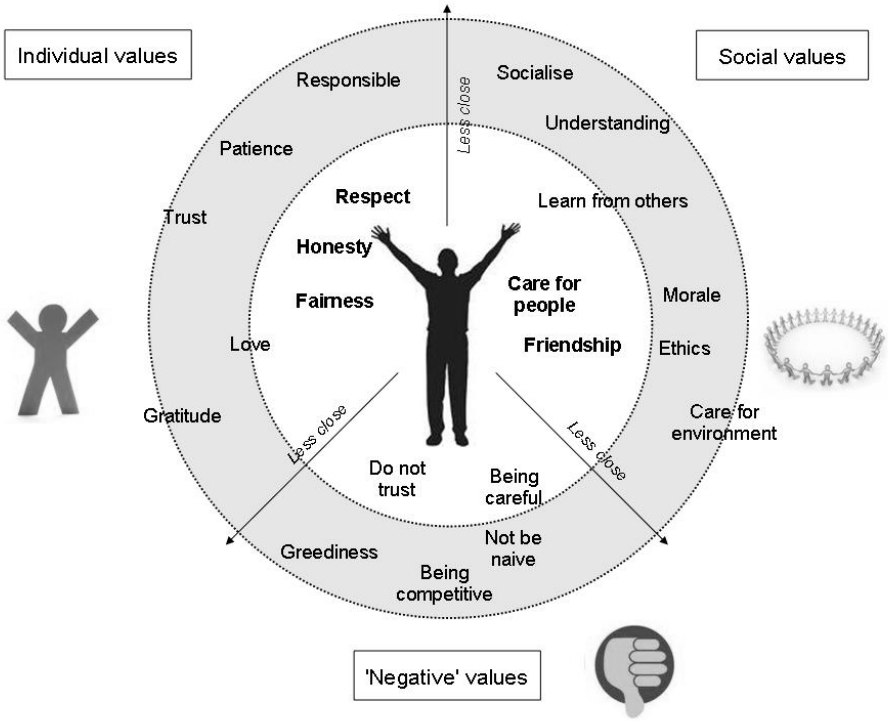


Figure 12: Categorisation of values of the interviewees
Slika 12: Kategorizacija vrednot intervjujancev

The second step was to look at interviewees' reward and punishment inclinations. The majority of the interviewees decided that they would not really punish the alien, but would consider praising it or rewarding it.

> "I would tell the alien he behaves badly and would first try to explain to him what the problem is." male, rural, 18-25

> "If he did something bad, like not wanting to help people, I would do the same thing back to him and explain to him why I did it. I would not punish him, because punishment is a reward in a way- it shows that the alien attracted attention, so by punishing him, I might actually reward him." female, urban, 18-25

Most people would first try to talk to a person if he or she did something wrong. Punishing the person would be the last resort- some would punish the person by doing the same bad thing back to him/her to see how he/she feels, while some would not be friends with him/her any longer or even not give the person food. Rewarding the person was an option for some of the interviewees, but it was not as exposed as punishment. Some felt that neither of these two options was doing any good, and that the only solution was to talk to the person.

In the socio-demographic split there were three notable findings. The interviewees from urban areas would strictly not use punishment. Also, females are less likely to use

punishment than males. A female approach would be to talk and explain, while the male approach would be to talk and show how something should or should not be done.

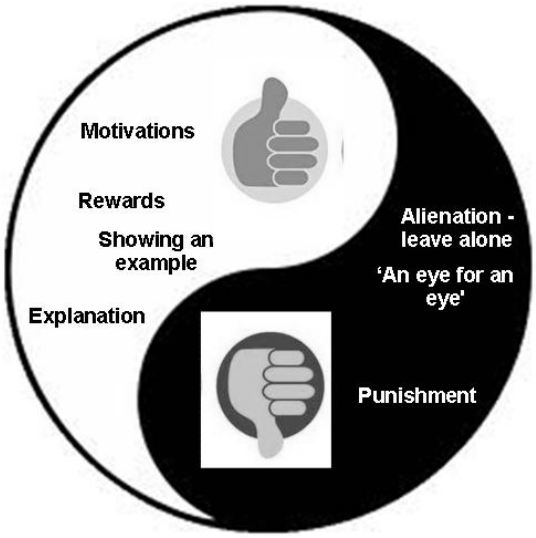


Figure 13: Methods that would or would not be used for teaching values
Slika 13: Metode, ki bi jih intervjujanci uporabili za učenje vrednot

The next step was to look at the average day of the interviewees to explore their lifestyle. The average day of the interviewees looks rather busy. Most of the interviewees feel too busy while they rush through their days. The least busy, and therefore the most relaxed, were people who were still studying. Some interviewees complained to be too busy all the time, mostly those who seemed to like doing what they are doing in their life. Some interviewees expressed the belief that if they had more time, they would take it easier and live differently.

> "I'm too busy too often, and this sometimes results in nervousness that I transfer to other people that don't deserve it; I react too fast or even over react." female, urban, 26-35

> "The tempo of life is fast, so we need a car to be able to move around fast, and we get climate change in the end." female, urban, 26-35

One specific aspect that was studied in this framework was stress. The younger people (18-25) tend not to be too busy, while the group of 26-35 is the busiest and suffers the most stress. The older group (36-55) is rather busy, but not too stressed. It seems that it is slightly more stressful to live in an urban environment, but also the rural life can get busy. More education seems to positively relate with more work and stress, as the interviewees with a higher education level expressed that they are busy and stressed more often.

Another specific aspect that was studied in this framework was whether or not people do outdoor activities, such as working in fields, gardening, walks or outdoor sports, which would bring them closer to nature. In central Slovenia the least amount of interviewees were doing outdoor activities, while in northeast Slovenia the most interviewees spend their time doing outdoor activities. The love of outdoor activities seems to grow with the

age, as the youngest group tends to mostly avoid them, while almost all interviewees from the oldest group were engaged in some kind of outdoor activity. However, this might also have to do with the new ways of spending time, as the younger generations are traditionally more attracted to indoor activities, such as computers, and therefore have less contact with nature. The rural environment seems to offer more interest for outdoor activities, as the majority of interviewees from the rural areas do outdoor activities, while urban interviewees tend to do less outdoor activities. Education seems to be related to outdoor activities in a way that the higher the education, the more likely the person will do outdoor activities. There seems to be a split also among male and female, as the latter tend to do less outdoor activity than men.

Next are findings regarding the information sources for the interviewees. In spite of being in an era of multimedia, people are still the most utilised source of information. People seem to get their information mostly from other people, and this is still preferred to getting it from media. Internet is the next useful source, while the media (TV, radio, and papers) is the source of information only after people and the Internet. Some people cross check the quality of information through talking to other people, while some do this through comparing different sources of information, e.g. different papers. Almost all the interviewees believe that commercials and media do not have an impact on them. In general there is enough information, only some said that there was too much information, and one can get confused.

> "Information about products or services? I mainly get those from other people and then from the Internet." female, rural, 26-35

> "I find that there is too much information. There is enough useful information, but also a lot of false information, so I like to ask other people or check different media to find out what is correct." female, urban, 18-25

> "I sometimes worry because I feel resistance to all the information in papers, in mails, on internet, TV... I started to think what this resistance to information means, because I would not like to close myself from information." female, urban, 36-55

Only in central Slovenia the Internet seems to have an advantage over people as an information source, which seems to be a case also for the age group 18-25. In southwest Slovenia shops are an important source of information too. People from central Slovenia are more critical about information; people from southwest find that there is too much information available, while people from northeast tend to have a sufficient amount of information. Younger people tend to pay attention to media as a source of information too, while older age groups mostly bet on people and the Internet. People under 36 seem to be exposed to an overflow of information. In urban areas, the Internet is the most expressed source of information, but media is also used. People there also tend to have too much information. In rural areas, people are the most important, but some importance is also given to shops. The higher the education, the more likely that the Internet will be a more important source of information than people, and the more likely it is that people will be critical of information. Males tend to trust people better than the Internet; females trust both the same. Environmentally more aware people are also more likely to use the Internet as a primary source of information.

The following step in researching the motivations to change habits was to determine factors that influence people's decisions. Based on spontaneous answers, the most important factor influencing people's purchase decisions is practicality or functionality. Other important factors are quality, price, recommendations or experiences of friends and outlook. The less important factors are efficiency and environment, durability, brand and service. Need, information and technology do not seem to play a role in people's decisions.

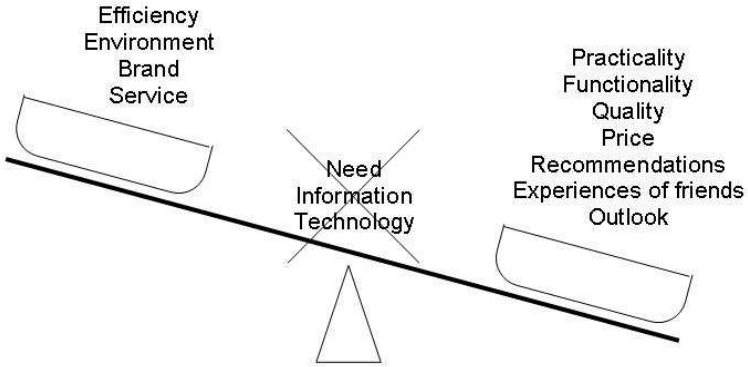


Figure 14: Factors that influence people's decisions according to the research
Slika 14: Dejavniki, ki glede na raziskavo vplivajo na naše odločitve

In the age group of 18-25 quality and price are important, but outlook and brand stand out as well. The next age group seems to appreciate recommendations, while for the oldest age group practicality and durability are relevant. The rural interviewees placed importance on practicality, quality and durability, while urban ones gave priority to quality and needs. A similar split is with the education level: people with a higher level of education need more practicality and durability, while people with a lower level of education preferred quality and placed price before the outlook. For women quality, need and recommendations are the key factors, while for men the key factors are practicality, durability and quality. For the more aware people durability is important.

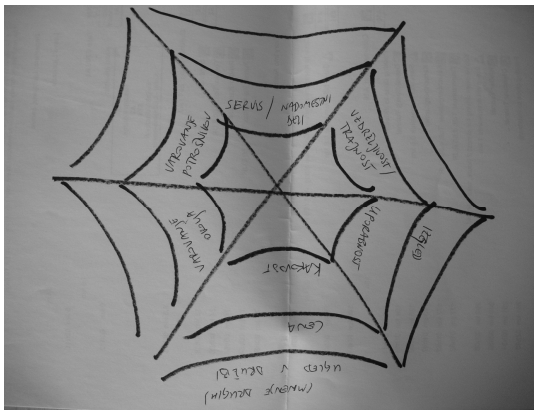


Figure 15: An example of using 'spider net' for listing decision factors in the research
Slika 15: Primer rabe 'pajkove mreže' za predstavitev dejavnikov za odločitve v raziskavi

When one looks at the answers that were based on pre-prepared factors (cards with factors), the findings change slightly. In the case of pre-prepared factors, quality and price

are the most important factors, closely followed by need, environment and durability. The next influential factors are practicality, family and impact on life, while innovativeness, technology, friends, awareness, availability, design, packaging and subsidy follow. Other people as a decision factor are ranked low, but still higher than status, media and commercials, which are the three factors that people are the least influenced by when making decisions.

quality
price
need
environment
durability
practicality
family
impact on life
innovativeness
technology
friends or family
awareness
availability
design
packaging
subsidy
other people
status
media
commercials

Figure 16: Factors that influence people's decisions according to the research (based on prepared suggestions and ranked according to the importance)
Slika 16: Dejavniki, ki glede na raziskavo vplivajo na naše odločitve (na osnovi vnaprej pripravljenih predlogov in razvrščeni glede na pomembnost)

Figure 17: An example of using pre-prepared cards with decision factors in the research
Slika 17: Primer rabe predpripravljenih kartic z dejavniki za odločanje v raziskavi

Another step was to detect how the interviewees felt about being influenced by other people and their influences on other people or environment. A large segment of the interviewees did not feel to be influenced by other people. Those who did perceive

influence of other people listed closest people as the ones that can influence them (friends and family). The majority of interviewees do not think about their impacts on environment or other people whatsoever. A few happen to question themselves about their influences, but not systematically; only sometimes. There are a few more of those that think of impacts on environment than those that think of impacts on people.

> "Opinion of others… Friends count, but other people's opinions are not really important. Family and friends would still have the most influence on me." male, urban, 26-35

> "I am aware that my decisions have impacts on other people, like children producing sports shoes, so I check the origin and eco-impacts. But it is not something that I systematically think of." female, rural, 36-55

Interviewees from central Slovenia seemed to be the most influenced by close people. The young people seemed to be the least under the influence of others, while the oldest group was most likely to be influenced by others. Urban people, people with higher education, women and unaware people seem to be more likely to be influenced by close people.

The people of central Slovenia are the most likely to think about their impacts on other people or the environment. This seems to hold true also for the age group of 36-55, people with higher education, males and environmentally more aware people.

The final area to explore in the first part of the interviews was the change of habits. The majority of interviewees changed some habits that they found to be bad, ranging from not yelling at people to not eating late or smoking. Most of them enacted the change gradually, taking some time, but there were also a few who just simply decided to change the habit and did so the next day. The prevailing motivation for changing the habit was to feel better about oneself. The most impressive finding for some of the people was that it is possible to actually live with the changed habit, although they would not think so before changing it. It is not always easy to change habits, but when it works, it feels good. In general self-limitations are not too problematic for people if they have the right motivation and they know how to motivate themselves. Most of the interviewees have faced failures in attempting to change the habit, and that made them feel bad about themselves.

> "I stopped planning things, because plans were falling apart. I intentionally stopped planning; it took time to realise that I had to do this, but then the change of habit was rather fast." female, urban, 26-35

> "Main motivation was to feel better about myself, be healthier." male, rural, 18-25

In the youngest age group (18-25) other people seemed to be somewhat more of a motivation than for other age groups. Similarly, other people tend to be more of a motivation for the people with lower education than for the people with higher education, whose main motive is to feel better. The age group of 36-55 expressed satisfaction with the change of habit more often than others. For male interviewees it seemed to be easier to stick to limitations than for females. For the more aware interviewees the changed habit was often recycling, and their motivation was found in other people's or nature's wellbeing. Regionally no notable differences were detected.

Motivations for changing the habits

After checking the habits that the interviewees changed, the last part was to look at the motivations for changing the habits. The interviewees highlighted feeling better about oneself, better health and better living environment as the most outstanding motivations for changing habits. The next three important motivations were a better life for children, improving the environment and helping others. Saving time and money, along with receiving praise are still rather important motivations, while reducing poverty, improving wellbeing of society, following ethics, receiving stimulation, obeying laws and receiving awards are somewhat less important drivers for change. The least important driver seems to be the actions of other people.

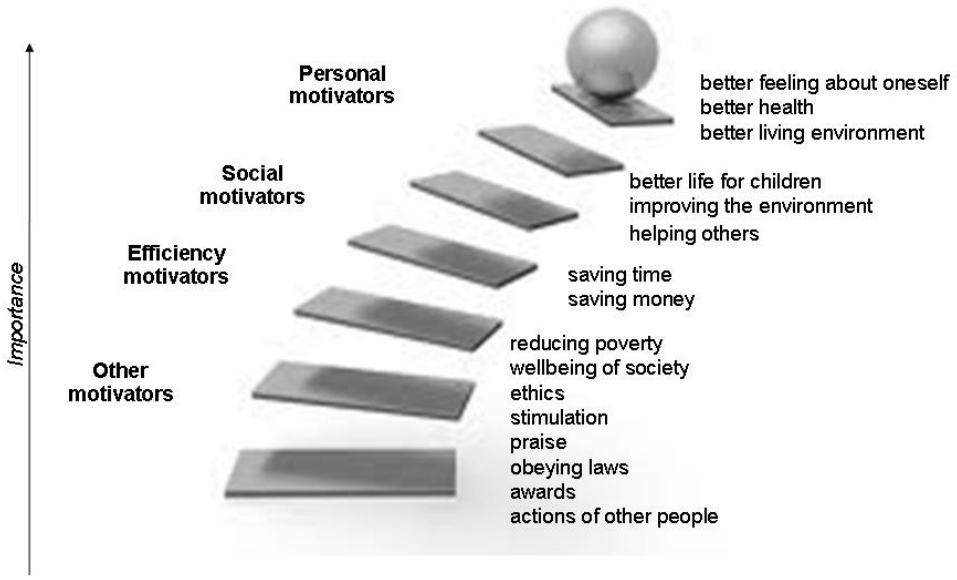


Figure 18: Factors that motivate change of habits of the interviewees according to the research
Slika 18: Dejavniki, ki glede na raziskavo motivirajo spremembe navad intervjujancev

Figure 19: Example of using cards with motivation factors in the research
Slika 19: Primer rabe kartic z dejavniki za motivacijo v raziskavi

Understanding of the climate change problem

The first step was generating associations to climate change. The first associations with the expression 'climate change' reveal that weather is the most common association. Slightly less common, but still important, are global warming, environment and greenhouse gas / effect. Fossil fuels, extreme weather events, natural disasters, storms and melting of ice are the next first associations. The second associations are natural disasters, extreme weather events, weather and greenhouse gas / effect. The most important third association is the ozone hole. The following associations were still mentioned in relation to the phrase 'climate change': floods, Al Gore, heat, species extinction, drought, change of life or habits, sorts of food, continuity, recycling, too much traffic, air corridors, damages, polar bears, agriculture, energy efficiency, economic crisis, death, politics, renewables, Kyoto, scientific and military tests, impact on nature, adaptation, war, impact on people, lack of drinking water, plastic, hail, moving, consumption, thermal power plants, more and more diseases, fast tempo of life, more and more material goods, sustainable development, personal and social responsibility, urgency, hunger, humans challenge the nature and the nature strikes back, over-saturation of market.

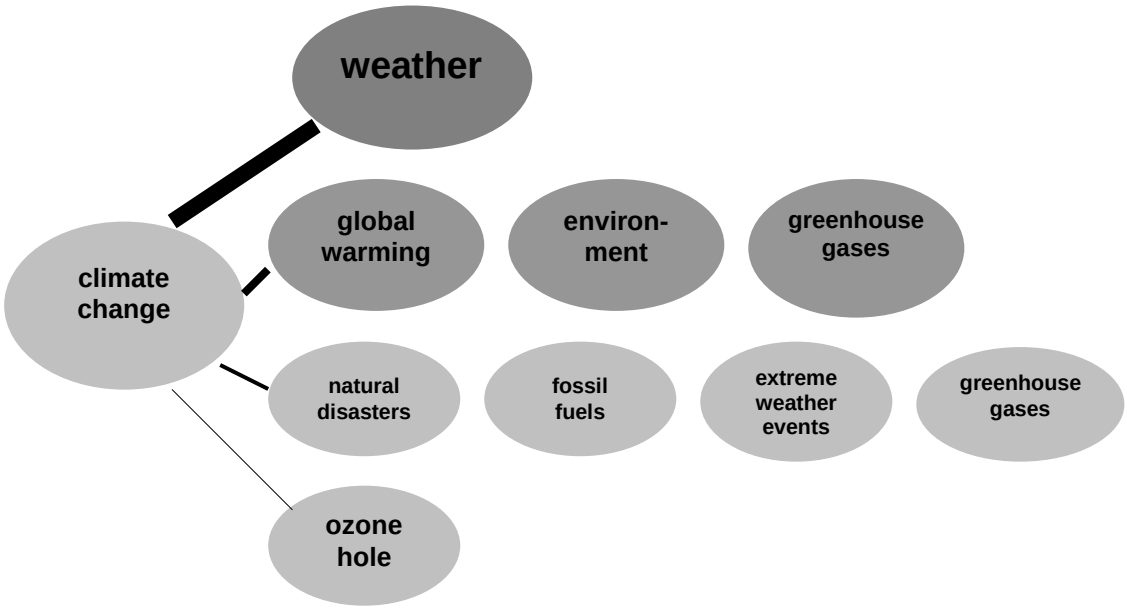


Figure 20: Associations of the interviewees to climate change, ranked according to importance
Slika 20: Asociacije intervjujancev na podnebne spremembe, razvrščene po pomembnosti

A look into the demographic characteristics of people who are well aware, partially aware or rather unaware of climate change shows that the ones who are well aware of the climate change problem are people who are generally more environmentally aware, have mostly high education, are mostly from rural areas and are mostly male. The ones who are averagely aware of the problem are mostly female from urban areas that have higher education and are in general not more environmentally aware. Half of them are in the 26-35 age group. The people who are least aware of the climate problem are mostly from rural

areas, with high school education and generally not environmentally aware. They are mostly from the 18-25 age group.

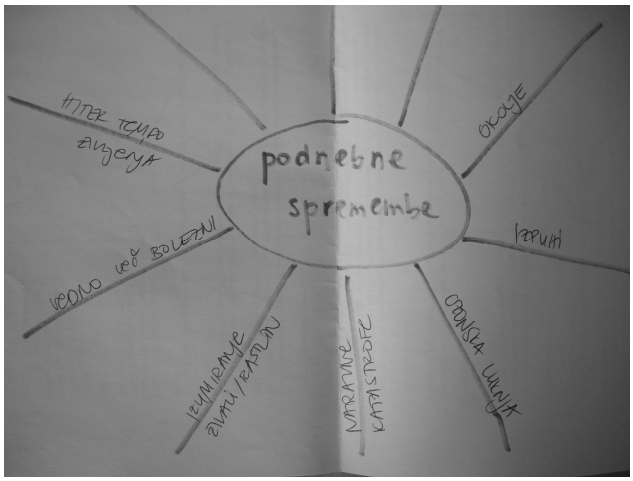


Figure 21: Example of using 'sun rays' for associations for climate change in the research
Slika 21: Primer rabe 'sončnih žarkov' za asociacije na podnebne spremembe v raziskavi

The next step was to check information on climate change. Most interviewees thought that they receive enough information on climate change. Only a few actively search for information on climate change, mostly in relation to education or work purposes. The rest of the interviewees are only passively following climate change issues in the media or online. The major source of information on climate change for the interviewees is media or the Internet; they rarely obtain information from e.g. books or brochures. Of all the media, TV is referred to as the most common source, but magazines are also used. Some information is obtained in school and some over email. Some people have seen the Al Gore film 'An Inconvenient Truth' and received information from there.

There is a relatively high extent of scepticism about the information on climate change that people receive through various channels. It should be noted that scepticism in this case refers to situations when people hear opposing information and decide to believe both sides of the story or decide to dig further for information; not really about people who would publicly defend the position that climate change is not real.

In general it was found that people would prefer visual information, in an easy to understand manner and as practical as possible. Also in-depth pieces (articles, TV shows, talk shows or interviews) would be appreciated by people.

> "I think I have enough information. I mainly get it from the shows that I translate and this information raises concern. Sometimes I also trace information in the media, but it's very general, always the same, and not enough details. Sometimes I get information in email or find things on the net; sometimes I have to proactively look for information for my work." female, rural, 36-55

> "I'm well informed, I think, but there is a flood of information; the media talks about what is interesting - if contra theory is interesting, they publish it and create confusion among the people. There are always conspiracy theories, from climate change issues to war in

> Iraq, and then you start to wonder what is real, it makes you think. […] For the majority of people scientific articles are not understandable, so it has to be clear and based on a credible source." male, rural, 18-25

> "The first time I heard of it in primary school, if there was a good teacher, like a biology teacher. Now I get most information on the Internet, TV, sometimes in a magazine, but also in the lectures that they have for us [farmers]. They tell us there are changes, but you don't know it, you have to judge if this is correct: it is like the conventional and biodynamic raising of cattle and crops- you have someone who wants to earn from this, and then you have an objective side that sees the real picture, and you need to judge if this is really going to affect you and how." male, rural, 26-35

No significant differences are observed regionally. The group split shows that young people (18-25) get information from media, internet and school, but they also simply notice the changes. The group of 26-35 additionally puts stress on TV and magazines. There is a large extent of scepticism present. The oldest group (36-55) was marked by listing radio shows as a source of information. In the rural areas scepticism was highlighted more and similar was the finding for the more educated interviewees. Women tend to stress importance of visual information, while men stressed the radio more. Men are also more likely to be sceptical about climate change. The same is valid for those who are more aware, who wish to have more in-depth information about climate change. With the people who are less aware, the Internet seems to be an important tool for obtaining information.

Next, the actors for protecting the climate were analysed. The interviewees mostly agreed that all people have to act to protect the climate. The government is perceived as the actor that has to do the most to protect climate. The next actor in line is public, then companies, schools, civil society and media. The interviewees believed that the government must take a lead and set up laws and regulations for the companies that would then influence the consumers. Some pointed out that education and child rearing has an important role in the story. A few interviewees expressed concern that the system is formed in a way as to keep people living the way they live, which is the same way that lead humanity into trouble. There was also a notable amount of fear that one individual cannot do a lot make a change.

> "We all must act- companies are above us, government above companies, so the government should direct the companies, which then should direct us, as consumers." female, urban, 18-25

> "First act yourself, then change policies. Companies will always look to the politics, and politics can only be changed by the media, the popular opinion. Lobbies have impact on policies: commercials are focused on cars and politicians believe that cars are important for the people. Media has large impact on the people, but it is run by politics..." male, rural, 36-55

Interviewees from central Slovenia were the most sure that the government is a starting step for change, while in the other two regions the people (all of us) is the most important starting point. People from northeast Slovenia were most concerned about the existence of a system that is hard to change. The young people (18-25) had the highest belief that government is the first to act. This belief seems to deteriorate with age, while the belief that people are the first to act grows with age. The young people felt the most powerless

about the impacts of one individual or one country, while the oldest age group most distinctly expressed concern about the system that cannot be changed. The rural/urban split shows that all who believe there is a system that keeps people going in a loop are from rural areas. Interviewees from the rural areas are also the ones that feel the most powerlessness as an individual or country. Yet, many still think the government is the first step to action. In the educational split the interviewees with a higher level of education do not put their trust mostly in government, but into people. The people with a lower level of education believe more in government and companies, although they show concern that the system cannot be changed, and individual action is doomed to fail. Women tend to highlight the importance of schools, while men tend to despair because it is almost impossible to change the economic system and individuals can only have a low impact on the system.

Not very often, but sometimes climate change seems to be a topic of discussions among people. Although not a large majority of interviewees, some people said that they did talk about the climate problem with their friends or family. Many discussions are related to the extreme weather or unusual seasonal trends, but some also talk about the possible solutions.

> "Yes, it happens that I discuss climate with my friends, lately not so much, because I don't have enough time, but it happens here and there. Seeing a documentary or reading a book sparks the debate, and the debate is more oriented on the climate problem. Sometimes we also debate about the solutions." male, urban, 26-35

> "We talk about it very rarely. Normally it is more about the weather, sometimes also the solutions, but more likely the weather." female, urban, 26-35

Regionally the differences are negligible, and the same is valid for the age split and rural/urban split. The only notable observation is that the younger groups' wish for action is too weak. The education split shows that the higher the education, the more likely it is that people will be discussing the problem with their friends; there is also more of a chance that the talks will address both the climate problem and its solutions (unlike the group with lower level of education, where the main focus is only on the problem). Women tend to have somewhat more weather oriented debates and show low motivation for action. The aware people are more likely to talk about the problem and solutions, while less aware, if they talk about it at all, they talk about the problem.

The following step was to explore how much the interviewees know and feel the impacts of climate change. It was observed through the interviews that not many people feel impacts of climate change in their lives, in spite of the fact that some of them did witness extreme weather events and have felt uncomfortable during those or even suffered serious damage. Interviewees mainly did not see a connection between the impacts in their lives and the climate change problem. Being affected by climate change consequences is a motivation for some people to act, but most feel too powerless to make a difference.

Interviewees have even less of a feeling that their actions would impact lives of other people. This is mainly due to the belief that connection with other parts of the world or

future generations is not proven. Many think there is a connection, but until this connection is proven, they are not willing to act.

The impacts that are felt in people's lives are: more insects, a fast change of weather, extreme weather events, and weather that is not like it used to be. The interviewees most often experienced hail, winds, floods and storms, whereby they felt emotional distress (bad feelings, uncomfortableness, wonder, anger, fear, powerlessness). However, this does not make one think about the cause or connection to climate change, and even less about action (only a few observed such links, majority not). Some do not connect extreme weather events to climate change because of scepticism.

> "I don't connect hail with climate change. When I was younger there was hail, but not so strong as now, now it is hard to e.g. protect cars from it." male, rural, 18-25

> "I do not really see a lot of connection between my behaviour and Bangladesh, because the connection is not proven - if it could be proven, I would think about it. Impact on farmer's crops cannot be proven because this is a big issue. However, I see a connection to the hungry people in Africa, although there is no reasonable connection." female, urban, 26-35

> "I witnessed floods. The feeling was horrible, but at the moment you are not thinking about the causes, only later you think why it happened. I did not think how to change habits because of that, there was no direct relationship at the time." male, urban, 26-35

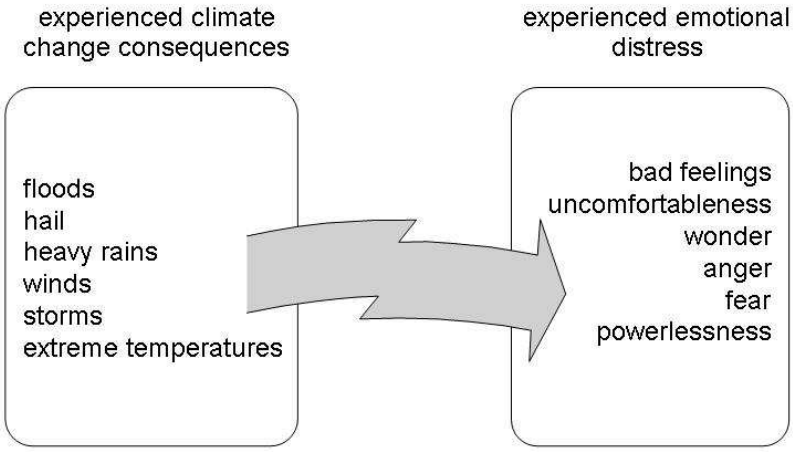


Figure 22: Experienced emotional distress of the interviewees related to climate change consequences
Slika 22: Občutki intervjujancev ob posledicah podnebnih sprememb

Interviewees from central Slovenia expressed a slightly higher feeling of connection between one's actions and other people, but they did not think it was proven enough. The young people (18-25) do not seem to note impact of climate change in their lives, and even if they do, they do not seem to connect it to climate change. They are likely to feel uncomfortable during extreme weather events, even if indoor. The oldest group (36-55) showed a more expressed comparison of how it used to be and how it is now. If they witness extreme weather events while indoor or in a group, they can even enjoy them. It is also less likely they will find something really extreme.

Of the interviewees from rural areas only a few did not feel impacts of climate change in their lives. The rest did, either in small aspects (e.g. more insects), or in bigger aspects (e.g. destruction of crops). They also more often expressed a comparison of before and now. They are less likely to think about the connection to other parts of the world or future generations, and even if so, they tend to put a question mark over the connections. Almost one half of the urban area interviewees do not feel any impact of climate change and even if they do, it is a small impact. They are more likely to think about the connection to other people or future generations, but few still do not think connections are proven.

The higher the education, the more likely the interviewees feel climate change impacts and think about them, and the more likely interviewees also think about impacts on other people. Yet they will still question the connection between personal behaviour and impacts on others. Women tend to be more aware of influences of their behaviour on others than men, but tend to observe less climate impacts in their lives than men. Women are more likely to be scared; men are more likely to feel bad or horrible while witnessing extreme weather events. Environmentally aware people tend to be aware of influences on other people's lives, but often question them; only one aware person really did something because of it. They also question the connection between extreme weather events and climate change.

Climate solutions

Solutions on a smaller scale were either implemented already or quite acceptable, while large scale solutions (like PV or insulation) would be welcome, if not too costly. The most popular measures turned out to be turning off lights, installing better insulation and using efficient appliances. The least popular measures were avoiding long-distance flights for exotic holidays and having less children. The overview of the popularity of various measures is given in Table 9.

For some of the measures interviewees did not present many comments, for some they did and this is a swift overview of the key thoughts on certain measures:

- energy:
  - switching off lights: Some people like their lights on or do not want to think about turning them off, so sensors might be welcome for the later argument.
  - installing better insulation: It works in practice. It can be done when getting a new house or renovating, but needs support from everyone in the building.
  - using efficient appliances: Save money; sometimes it is unclear what is efficient.
  - showering instead of bathing: Occasionally it feels good or is necessary. Slovenia has enough water and can be heated with solar energy.
  - eliminating stand-by: At home stand-by can be done, but in bigger buildings it is hard. Regulation for producers would be a welcome improvement.
  - reducing temperature: Some simply like it hot. Some say that they personally can have it, but their family not. Stimulation would be to know that this contributes to savings.

- using green electricity: Many do not know how it works. Concern is what will happen with it and its price in the future. Some do not believe it is green. If the price is the same, it can be accepted. Some cannot switch on their own.
- not using air conditioning: Most needed air conditioning in cars and if it is really too hot in the summer. It is also used for heating in the period when it is not too cold yet.
- installing photovoltaic panels: When doing or renewing houses, this is acceptable. It is expensive, so only if subsidy was available. Some are sceptic as more emissions are used to produce them than they save.

• mobility:

- using a bike: Further insight shows that many interviewees do use a bike, but only sometimes, because the car is used in many situations. One cannot put items on a bike. Terrain or weather can be obstacles.
- reducing speed: Some would do it, if it was obligatory, but for even then it would not be acceptable. In Scandinavia one gets used to slower speed, but when on holidays and with time.
- using public transport: If it was faster, more often and cheaper, people would use it. Some are too comfortable in their cars and would never use it.
- taking short flights: Many do not do it often. Some would think of going by car instead, less with train. Planes leave anyway, so there is no difference if one more person is on the flight. A high price demotivates.
- avoiding exotic holidays: Many did not go on these yet, but would not mind it if they could. People want to learn about new places. Price is demotivating.

• consumption:

- avoiding consumption: Some do not like consumption, but when one needs something, one needs something. Many believe they do not buy unnecessary items. Being economical prevents one from buying unnecessary items. Going to shop can be a stressful event.
- reusing or fixing of items: One needs to know how to fix items. The system does not stimulate the act. Sometimes objects are just too broken or obsolete. Sometimes it is good to give items to someone else.
- buying locally produced products: If the price is not too high, they are good. Local is used mainly for food, for other items it is not checked. Quality is a motivator for local products.
- buying of same sized or smaller appliances: If one needs an item to be bigger or with more functions, it is bought, otherwise not. The trend is that the size of appliances increases and one cannot go against it. Price can be an obstacle.
- doing some tasks manually: Often one is in a hurry or the amount of work is too big to be done manually. People would not give up the machines.
- using less products of animal origin: Some claim they do not eat meat often. People would reduce, but not entirely give it up. If a meat substitution would taste like meat, it would be acceptable. Proper production of meat would improve the situation. Health reasons or high price would demotivate.

• other:

- demanding environmental policies and measures: If there would be a response to it, people would do it. Some still doubt the effectiveness. Some would do it passively, but not actively.

- having less children: In Slovenia more children are needed, because population numbers are decreasing. There is no connection to climate change. If there was, maybe some would think about it. Money would be a reason to have less kids.

Table 9: Popularity of actions for protecting the climate according to the preferences of the interviewees
Preglednica 9: Popularnost ukrepov za varovanje podnebja glede na preference intervjujancev

	Does it	Sometimes does or would consider it	Does not do it	Overall score
Turning off lights	16	1		49
Installing better insulation	15	2		47
Using efficient appliances	14	3		45
Showering instead of bathing	13	4		43
Eliminating stand-by use	13	3	1	42
Reusing or fixing items	12	4		40
Using bike	11	5	1	38
Buying locally produced products	11	4	2	37
Reducing temperature by 1 or 2 degrees	11	2	3	35
Demanding policies and measures	11	2	4	35
Using green electricity	9	7	1	34
Not using air conditioning	9	6	2	33
Avoiding consumption	7	10		31
Reducing speed	8	4	5	28
Doing some things manually	6	8	3	26
Using public transport	6	7	4	25
Installing photovoltaic panels	6	7	3	25
Buying same sized or smaller appliances	6	6	5	24
Avoiding short flights	5	3	8	18
Eating less meat	4	6	6	18
Avoiding exotic holidays	1	5	11	8
Having less children	1	3	11	6

Figure 23: Using cards to explain climate action and inaction in the research
Slika 23: Raba kartic v raziskavi za razlago o podnebnem ukrepanju in neukrepanju

There were many obstacles identified by the interviewees. They also identified some possible solutions to overcome these obstacles (see Table 10).

Table 10: Obstacles to implementing various climate protection measures and suggested solutions
Preglednica 10: Ovire za izvajanje ukrepov za varovanje podnebja in predlagane rešitve

Obstacles	Solutions
Energy	
support from everyone in the building for insulation and PV	revising the regulations on share of agreeing owners
having to think about lights	light sensors
manual unplugging for stand-by	regulation for producers
preference for hot temperatures in flats	reducing of temperature during the day and raising awareness on how much it contributes to the savings
low awareness of green electricity	same price as normal electricity and informing people about it
air conditioning in the car or in summer	raising awareness on right temperature settings
the expense and pollution of use of photovoltaic	subsidy
Mobility	
difficulty of putting items on a bike	presenting cases, which show how more goods or bigger objects can be transported by bike
terrain or weather obstacles for biking	providing of weather protection solutions
no acceptance of speed reduction, even if legally binding	more time for driving and raising awareness on fuel use at high speeds
not enough time to drive slow or do things manually	showing of relations between time used for working to earn money for driving (or goods) and time used to go by bike/public transport (or to fix objects)
slow and expensive public transport	lobbying for increasing political relevance of and stimulating improvements in public transport
departure of planes, irrelevant of an additional person on the plane	information concerning air traffic expansion and comparison of emissions with other modes
use of cars instead of planes	us of trains instead of planes
the wish for exotic holidays	correct pricing of flights (because high price is an obstacle)
Consumption	
lack of knowledge to fix items	support to give items to someone else or establish reuse shops
lack of stimulus to reuse or fix items	trendsetting of reusing or fixing items
high price of local products	stress on quality of local products
buying of locally produced items; mainly food	stress on quality of local products
belief that unnecessary items are not bought	stress on that unnecessary items are not economical; showing how fast items become redundant or obsolete
trend of items becoming bigger and bigger	obstacle of pricing
Other	
no response to demand for environmental policies	raising of awareness of political responsibility and stimulating of the engagement of people in processes
no complete commitment for becoming vegetarian	reduction of the use of meat, raising of awareness about meat production, and the exposure of health reasons and high prices
the decrease of Slovenian population	changing of socially accepted norms concerning the number of children in a family; if people cannot leave a good place for the children to live in, then better not to have them at all
the perception that Slovenia has enough water	raising of awareness about the availability of water in Slovenia
no link between population and climate change	raising of awareness on the connection

5.2.2 Highlights for further research

The conclusions from the in-depth interviews point out some questions that should be further addressed in the focus groups:

- discrepancy between one set of values that people live according to and the socially prescribed set of values
- influence of other people on us
- our influence on other people and environment
- credibility of sources of climate information and what breeds (dis)trust
- effectiveness of climate communication
- overcoming the feeling of powerlessness of one
- effects of climate change consequences on people's lives
- our impact on climate change
- willingness to give up the current life standard to some extent
- motivations to change the climate related habits
- presenting change of climate related habit as a personal motivation
- further insight into the 'tricky' areas for solutions: population issue, flying, meat
- relation of changing habit to the general lifestyle of people

5.3 FOCUS GROUPS' FINDINGS

This section outlines the findings of the focus groups. The sections follow the sections of the focus group guide.

Values

The first step was to outline the values of the participants. The following values were listed by the group members (grouped positive or negative):

- positive: tolerance, empathy, patience, money, nature, equity, success, carrier, school, education, family, work, move to your own place, responsible attitude towards society and environment, saving, non-consumption, integrity, honesty, transparency, moral, fairness, live and let live, free thinking, spontaneous, animalism (following instincts), accepting, understanding differences, openness, love, compassion, active thinking, participation, responsibility for society, active citizen
- negative: over consumption, buying as much as possible, more shopping centres, more packaging

The positive values have become less valuable. People try to live according to these values, but now the values are put upside down. Some of the values of today are not personal values, but social ones (e.g. consumerism is a value in society, but not a personal value). It seems like the 'old' values are an obstacle for the 'new' values (e.g. honesty vs. achievement of objectives over other people).

Society today is estranged, and many people feel lost. People are not in touch with themselves and even less with nature. They all work a lot, because society values it, and

one is expected to run and hurry to build a carrier, although people are at a level where they could start arranging quality of life, not quantity. If one does not live according to the values that society prescribes, he or she is marked. One has to be brave to live outside of the social norms and values. One interesting remark on the living of values was that one can achieve values easier if one decides for the right job.

Effects on you and others

The following step was to estimate how many participants feel influenced by other people, and how much they feel their actions would influence others. In general, the participants did not show a perception of high impact of other people on us. Some cases of influence were exposed, such as school kids influencing the teacher or a professor inspiring a student, but for the rest a notion of influence was expressed, but not specified.

Also some notion of how people influence the others was expressed by the participants, but it was not very developed, just general, that people do influence others. The specified cases were the case of influence that people have on kids when raising them, the influence on the nature through their actions and influence through personal actions (being a role model for friends or involving other people in a fashion show with recycled clothing.

Participants agreed that people have influences on such distant places as Africa, mainly because everything is globalised. Items that are bought and used in the developed world have impacts on other parts. There is also a direct influence through donations for work in developing countries. A concern was expressed that even if people were aware of their impacts, the companies would not allow them to stop consuming.

Participants mentioned a lot of manners in which they impact the environment, from positive (recycling, turning off water while brushing teeth, biking, etc.) to negative ones (using car and plane, cutting down forests, export of waste, use of materials, etc.). When asked about the impact on the Maldives, the participants did not enter into debate. Participants sometimes thought of the environment and illustrated some actions when they think of it (turning off water, walking in nature, etc.). However, one participant explained that when she was getting used to the habit of turning off water, she thought of the environment all the time, while now that it is a habit, she does not think about it anymore.

Motivation to change habits

First the satisfaction with the living standard was checked among the focus group participants. Many of the participants were satisfied or even very satisfied with their living standard. The ones that were still students could not estimate what sort of a living standard they would have. The outlined obstacle to having a better standard or being fully happy with the current one was stability of income. It was stressed that today a large part of standards comes down to material goods. The older participants expressed disappointment with the developments in the last 10 years: middle class disappeared, and even if one works really hard, he/she needs to rationalize his/her income in order to live with it.

When asked if they would be ready to give up an item of possession, if they had to, a car was the most often mentioned item that people would be ready to give, closely followed by long-distance travelling by plane. The other items that participants were willing to give up were a mobile phone, the Internet, going to the sea, cigarettes, music and bread. It was stressed that it would be more acceptable to give up a car than a job, education or family.

The first group estimated that they would be willing to change their lifestyle to the following extent in order to protect the climate: 80%, 65%, 72%, 78%, leaving it at 74% on average. The second group had the following extent: 64%, 80%, 52%, 72%, 48%, making an average of 63%. Both groups together would have the perception that they would be willing to change their life to the extent of over two thirds in order to protect the climate.

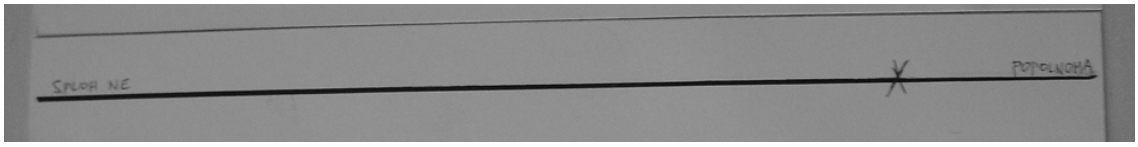


Figure 24: Indication of willingness of focus groups' participants to change their lifestyle
Slika 24: Pokazatelj pripravljenosti udeležencev fokusnih skupin, da spremenijo svoj življenjski slog

For some of the participants the change of habits towards environmentally friendlier ones was a part of a bigger change, whereby they started to look at the life differently. This was not the case for all of them, however. The 'step by step' approach was highlighted; some started with one field and then moved on to other fields, because they thought there were connections. It was expressed that kids must be raised in an environmentally friendly manner, so that they understand the environment and know which changes need to be made when they become directors and politicians.

When asked about motivations for biking or using public transport instead of car, the following motivations were listed: better health, saving time, saving money, a better life for children, improving environment, wellbeing of society and a better living environment. Among exposed obstacles, the following were listed: safety for biking and bicycles, cheaper public transport, better connections and faster public transport.

When asked about motivations for using solar energy, those were listed: improving environment, saving money, a better living environment, stimulation (or award), wellbeing of the society, poverty reduction and better feelings about oneself, but also giving a good example and making it legally binding would be motivators. Although one participant thought that solar energy is not useful, others did not share his opinion and exposed lower prices and subsidy as possible motivators. They said that service should be included in the price; that security is an issue (to have electricity also when there is no sun); that panels should have better efficiency; and that the whole building has to approve use of solar energy.

When asked about the key motivations for keeping to the same size of appliances when buying a new one, the following were emphasised: saving money, improving the environment, having a better feeling about oneself, improving the wellbeing of society, providing a better life for children, having a better living environment and supporting

ethics/morale. Participants believed people do not tend to buy bigger appliances with more functions, especially if there is no need for that. As additional motivators they mentioned efficiency and lower price. Saving climate would mean a good experience, because they would feel good about it.

Climate change information

In the first step, the following associations were listed by the participants:

- environment: air, water, nature, climate, UV rays, skin cancer, ozone hole, expansion of sun,
- weather events: weather, rain, temperature,
- consequences: catastrophe, apocalypse, endangered species (bears, penguins), Africa, sand, freedom, water, war, dying, threat, melting of ice, disease, long term consequences for all generations, poor food quality, floods, droughts, glacier, melting, sea level, higher temperatures, change of season times, hot,
- system: change, capitalism, money,
- solutions: green technology, energy saving, new laws, carbon footprint, change of habits, electrical cars, trend, smart use of energy, using solar energy for electricity and heat,
- politics: politics, Al Gore,
- doubt: idiocy, climategate,
- social issues: social problem, migrations, limits, bad feelings towards other people, worsening of relations among people,
- causes: energy, waste,
- other: future, time, IPCC.

The participants obtain climate information mostly in the media: TV, radio, written formats, but also on the Internet. Participants complained that climate information normally consists of percents, data and numbers, which makes it hard for them to understand the problem and extent of it. The numbers and percentages are supposed to explain know how deep the climate problem is, but it is hard to understand them. An issue of wrong data, poor interpretations and copy-paste news pieces was raised, as well as alarmist approach that only scares people.

When asked about the human impact on climate change, some participants believed that humans do not have a notable impact on climate, while some saw this attitude as the problem: people do not think that they have an impact, but they do, all of them bit by bit. Most people expressed that they tried to reduce their impact on climate by recycling or reducing waste, but some thought that personal action is not enough. There is a major difference in what one can do as a consumer and as someone who influences policies. Transport is the field where participants most often thought on their impact on climate; recycling too.

A high level of uncertainty was expressed by some of the participants on the aspect of climate consequences. For some consequences, such as polar bear extinction, there was an almost unanimous consensus among the participants that they are climate change consequences. However, on the CO_2 impact, especially the human CO_2 impact, there was

no common opinion. The key origins of doubt are the fact that the Earth can handle the emissions, that there are many historical cases when CO_2 was changing without the human impact and that it is simply required to doubt. Some opinions stated that even if it is not known how much of the climate change is natural and how much is human, it is better to act because it cannot hurt to act. One participant was pointing out that it is strange not to believe scientists: in the past one would not even think about not believing scientists, while today science is more of an opinion, not the truth.

One participant was questioning why all the people that are aware of the climate problem do not stop eating meat, since it was known how much stress it puts on the climate and environment in general. Participants concluded that each person should decide on his/her own priorities; some would rather give up a car than meat.

Participants thought that one does not feel many climate change consequences. The listed cases are: less snow, so less skiing, going to the sea in June or September, short periods of hot weather and cold for the rest, unusual weather events, and hail that destroys cars. It was pointed out that media shows a lot of extreme weather events, and in general writes a lot about climate change consequences these days, but most of it is just marketing tricks for 'greening' the companies. When asked to pick a balloon that best represents their perception of the size of the climate problem, if the consequences of climate change that can be felt are taken into consideration, one group reached and average of 2,8 on a 1 – 5 scale (1 small, 5 large). One participant of this group highlighted that there is a lot of evidence, but science still works on the consequences, and therefore the problem should not be treated so seriously. Another participant said that selecting the biggest balloon would be his choice in the 90s, but now the situation is improving. The other group reached an average of 4, meaning that they find climate change to be a big problem.

Communication

Most thought that there is not sufficient communication about the problem and more is needed. However, the issue of scepticism was brought to light again, and participants thought that poor interpretations and poor articles open space for climate scepticism. The film 'An Inconvenient Truth' was exposed as an example that was not based on sound data, and hence opened place for critique, but still made it possible to communicate to the wider public. This opened a debate on the issue of science vs. commercialisation. Participants said that when news that appear in the media are more complex, people are less interested to listen or see those. This is why you need to go out of the expert circle and make it more attractive for the public. This brought the participants to a conclusion that the climate topic is very complex, so it is hard to estimate how to best communicate it. Advice was given to develop special models of communication for each of the different groups of people. Other advice was to talk more about sustainability and less about climate change because the issues are interconnected anyway.

Participants shared the opinion that it is necessary to find information in more than one source. It is necessary also to talk about tangible aspects, such as impacts of eating or not eating meat. It was also expressed that films are easier to understand. Some participants followed their 'gut feeling' on how much to trust the sources. Credibility of the source was

highlighted as important, too. The key elements of sound information or media pieces were outlined as follows: in-depth and better explained information, multiple-verified sources, rational writing, research-based information, logical stories, and use of pictures and numbers. Graphs were not believed to be good, because they are impractical and hard to understand. Another message was that people might be sceptical about the cause of climate change, but are not sceptical about humans' negative impacts on the environment.

Action and inaction

In regard to actions for protecting climate, the attitude of the participants towards several specific actions was checked.

Flying: The participants more or less agreed that there was too much flying and travel in general. They listed several important reasons for flying: because their close relatives or friends live far away, because it is cheap (although there is no need or even wish for travel, just the price stimulates it), conferences, a new standard for holidays, expensive train. If they substituted flying, it would be with a car. The majority would not give it up entirely, just reduce it. One participant said that he travels on foot or on bike for a better experience.

One child policy: First the attitude towards the one child policy in China was checked. In general there was a disagreement between participants who found this solution unnatural and unacceptable and participants who thought this was a good solution for China (and other countries with a growing population). The debate was focusing on other possible mechanisms for reducing population, such as catastrophes and diseases. In principle it was agreed that with too many people too many resources are consumed, and if there are too many people, they all might have to live at a lower quality. It was also agreed that each individual should be able to decide on this issue by himself/herself. An agreement was also around the fact that the 'normal' amount of children depends on the time- in history it used to be normal to have 5-6 children, while now 1-2 is considered to be the normal amount. There was no answer to the question of what is the natural amount of children to have. The next step was to check the attitude towards a one child policy in Slovenia. Here the majority agreed that in Slovenia the population growth is desired, because there are not many Slovenians and the numbers have been declining for a long time. While it might be a problem in China, it is not in Slovenia, and it would be unnatural to regulate the number of children. Some believed that such a policy would not pass in Slovenia anyway.

Vegetarianism: Participants in general respect vegetarians, but would not give up meat. They would reduce the use of it, but not give it up entirely, because human organism needs meat. One participant even pointed out that meat is also a part of her culture, not just biological needs. A variety of views was presented, from vegetarianism being a luxury and fashion trend to the suffering of plants, yet many agreed that the problem is that meat production is intensive, and this is why it leaves such an imprint. If there were small farms with cows, it would be less of an impact and this is what should be looked for instead of giving up meat.

Buying balls from Asia: If buying a ball from Asia, participants would consider work force abuse, mainly child abuse. Some would think also of transport and unequal exchange,

while some would think it cheaper and of less quality than a Slovenian ball. For some participants it was a dilemma whether to buy a ball and abuse the workers in Asia or not to buy a ball and maybe cause a fallout of income for the workers in Asia. Generally it was thought that it might be better that workers can work and receive at least a meagre salary. Participants wondered if there really was an impact and doubted that people's choices would make a difference.

Checking origin of products: People did not seem to think of the origin of the product too often. If they do think about it, it is mostly food that they check. With food many would only buy Slovenian food or from nearby regions, because it is known how it is produced, unlike food from other origins that might suffer from various diseases. With other products they do not check, because everything is so linked into the global system that it does not make sense.

Many expressed that the feeling of powerlessness was a reason for inaction. When asked how to overcome the feeling of powerlessness, the best illustration of the feeling was provided in the following statement:

> "One puts his or her drop into the sea, but one does not change the sea."

The key message of participants was that while people are strict with themselves and might start to act, they fail to be demanding towards politicians and the 'big system'. One is ready to take personal actions, but not change politics. This seems to be a key problem. To overcome the problem, the participants suggested that more specific cases of how the situation can be changed should be put to the public. Because today's generations are more involved in community and the wellbeing of society (not so individualistic), there are many critiques among the younger generations. They are ready to do more than taking personal actions. It was also believed that the problem has to be resolved on the level of values: one can be aware, but in the end one is practical and follows the line of least resistance- unless one has values to which he or she sticks.

6 DISCUSSION AND CONCLUSIONS

6.1 DISCUSSION

This subchapter provides some views on the findings described in the previous chapter. First the research findings are debated, then the focus is put on the agriculture and lastly a general discussion is provided that relates the findings to the literature overview and the key research questions.

6.1.1 Discussion of research findings

The first important conclusion that can be observed from the research findings is that people know what their values should be, but they do not live in accordance with them. As much as people still cling to the traditional values (honesty and friendliness), in reality they know that to live their lives according to another set of values (individualism and competitiveness), is making it easier for them to live successfully among other people. People have their own individual values, which do not necessarily coincide with the values of society. Some individuals will still follow their personal values to the best possible extent, while trying to show that they also follow the societal values. However, it did not seem that the interviewees or the participants of focus groups were aware to what extent the societal values prevail in the practical aspects of their life. It was also interesting to observe that people are not ready to name the real values, probably because they would be considered as 'bad' values, although the whole society is based on them.

The set of values that people live by is influenced by how the society influences their lives. Findings show that people are too busy to live differently. People are stressed to organize their life according to the values of the society. Under stress they tend to implement actions the way they would not if they were not stressed. If people were less busy and stressed, they would also have more time for thinking about how to do things differently. This is most obvious with the age group of 26-35, which is the busiest and stressed, because they are changing their life: finishing education, starting to work, forming a family or finding a place to live. These are important and tiring activities, and yet at the same time they have to prove themselves at work or among their friends.

When pointing out that people departed from the important values, this has to be pointed out in a positive, supportive way. People do not like to be punished, but reward and recognition are welcome. A positive approach in discussion and praising or rewarding seems to be attractive to people. If their behaviour is not according to the desired behaviour, people would like to have it explained and be shown tolerance, which means that climate change should be explained to people in a way that they can understand. There should also be tolerance towards different points of view. Building understanding and explanation is what people want, not punishment

From time to time people realize that in order to be in line with their desired values, they need to change their habits. People mainly change habits to feel better about themselves or

to do something good for themselves. Change of habit must evoke positive feelings in people, which means that for example communication campaigns must be long enough to build such feelings. If proper motivation is found, limiting oneself is not a major problem for people, and they do not tend to have really bad feelings about limiting themselves (except when they fail).

It is estimated that there is a discrepancy between what people say motivates them and what in reality actually does. Respondents choose motivation factors that are not really there, but would look bad in the eyes of other people if they did not choose them (e.g. helping others). As far as the most important motivation factors are concerned, the having better feelings about oneself and better health are certainly believed to be the top motivations- basically people are motivated by personal wellbeing, but a better living environment is questionable. Other questionable motivation factors are helping others, wellbeing of society and a better life for children. What probably does have more influence than assigned, but respondents do not seem to know or admit, are praise, award, ethics and other people's behaviour. Praise for example is not rated as highly important, yet when the values were discussed, the respondents explained they do not want to be punished, but they do want to be acknowledged for what they do well.

Similarly to the discrepancy in motivations, there is estimated discrepancy also in the factors that influence people's decisions. Practicality and quality seem to guide people's decisions, but it can be felt that the respondents often choose factors, which in practice do not play a role in their decisions, but it would make respondents look bad if those are not chosen those (e.g. environment and awareness). Further research would be needed to prove if this perceived discrepancy is correct. However, in this research the perceived discrepancy between the stated factors and real life factors needs to be taken into consideration, because it somewhat discounts the stated importance of some factors. For these reasons it must be concluded that the insight into factors that impact people's decisions is valid to some extent, but the validity of some parts is questionable, although it cannot be disputed in this research. It can also be estimated that there are some factors, for which respondents believe that they do not play a role in their decisions, while in reality they do (e.g. media, commercials, subsidies, technology, status and other people).

As mentioned, people think they are not influenced by other people (except by those close to them, like family or friends). Because studies show that people are subject to the influence of other people, one of the possible conclusions is that people are simply not aware of the impacts that others have on them. They also quite strongly believe that they cannot influence other people or the environment. This is why people tend to do things without considering the effects on anyone else (maybe on close family or friends, but that is all the influence they seem to perceive). They do what they do, because it is a habit and so far it did not harm anyone or at least they did not perceive that it would harm anyone. When probed about the impacts on distant people, there was more active response, which showed awareness of people's global impacts. Still, the general conclusion is that people do not tend to evaluate how their actions will impact other people.

A parallel can be drawn between attitude towards climate change and general aspects of people's lives. People live up to social values, in spite of knowing the desired values.

Similarly, people live climate-unfriendly lifestyles, in spite of knowing what the climate friendlier lifestyles should be.

However, findings lead to conclude that people have an idea about what the climate change problem is and how to solve it, but the real situation is far from what their idea about it is. From the findings of the research, it can be concluded that associations to climate change show low knowledge of climate change. About one third of respondents had a reasonably good understanding of what climate change is; one third had a vague idea of what climate change is; and the last third had hardly any clue about climate change, because they related it to weather or the ozone hole. The awareness is mostly linked with education (high education – high awareness) and general environmental awareness of the person. Young people are less aware. Rural people are more aware, probably because of their contact with nature. In general it can be observed that many respondents relate climate change with weather- weather events and normal weather changes. Another strong link is with the consequences of climate change. In the focus groups associations to system problems (capitalism) and social aspects (migrations, relations among people) were expressed more. The association with solutions is rather weak.

It can also be concluded that thinking about the environment is a socially desired activity. Participants showed a good level of awareness on how they impact the environment, but judging from the answers provided, it is, in some cases at least, an artificial concern arising mainly from the socially imprinted activities (recycling and turning off water while brushing teeth). The respondents also listed many measures as ones that they do or would do, but when cross-checked, they only did a part of those solutions and even this part they did only sometimes, not always. Again, it can be assumed that people tend to try to look better than they are, because this is what is socially expected from them.

People hardly ever consider or think what impact their actions would have on others (except on their kids) and even if they do so, they still do not really believe it until it is proven. This is why it is necessary to improve the understanding of connection between the observed impacts in their life and climate change among all people. It would be useful to try to establish a link between behaviour and impacts on other people by proving those as much as possible. It is also needed to build willingness of people to act without having to see proofs of each possible connection. Communication should be oriented in making people aware of the connection of extreme weather events and climate change and translating their emotional distress into a motivation for action. The raising of awareness of the relation between climate consequences and climate change is most needed among young people. Comparison of how it used to be and how it is now is useful for people, as they can observe it and identify themselves with it. Women should be used for promoting the connection between actions and impacts, as they tend to understand it better.

Climate change does not affect people's lives yet, or at least not sufficiently to want to worry about it. Most of the people do not really feel impacts of climate change in their lives, except for the occasional weather impacts. The closer that the respondents were to the nature, the more they seemed to feel the impacts. Climate change consequences are also noticed mainly with outdoor activities (holidays) and when cars are destroyed by hail. The research participants seem to feel consequences more because of media attention for

the consequences. The seriousness of climate change consequences is perceived as rather strong (3,4 on the scale of 1 – 5), whereby the fact that the problem is still being explored and that some progress was made already to reduce the seriousness of it.

In spite of the high concern about climate change, the climate challenge is not really a discussion topic, which subsequently translates into a conclusion that people show concern about climate change, but the issue is not high enough on their agenda to penetrate their discussion with friends. The people that do talk about it are mostly referring to the change through weather issues. Talks about the solutions are rare, but they do happen. A higher level of education and awareness do contribute to discussing the problem, which shows that the problem is relevant for those people.

Because people do not talk about climate change, they fail to understand the real problem. It also means that someone else has to talk about it, because people perceive the problem as serious, and they expect that someone (government) will deal with it. When talking about informing the public of climate change, the findings show that people want practicality and preferably visual information on climate change. Information about climate change must be as practical as possible: tangible consequences, practical solutions. Information must be easy to understand, and if numbers and data are provided, they need to be interpreted to the people (e.g. what does 1ºC rise of temperature mean in practice?). Visual aids were also stressed, but graphs were identified as something that does not really help in understanding. An unresolved dilemma was whether to make climate communication scientific, and therefore trustful, or more commercialized and therefore prone to critique. In the case of a too-scientific approach the problem was that it would not reach out to all people, while in the case of commercialization the problem would be the quality of the communication. This remains an open question for further research.

The most useful channel for communicating climate information should be the Internet. It works mostly for young people and less aware people. As people do not know what to trust from the information in media, the use of the Internet is welcome also because there they can filter information and find more detailed information. Among media, TV is a good tool to be used, but also the importance of radio shows should not be underestimated, especially when addressing older people and men.

People trust and believe in information from other people or the Internet. Usually they rely on people close to them for information. The next step is the Internet, not media. This is probably because they can find information themselves on the Internet, filter it, check it and this makes it more credible for people than swallowing stories from the media. Also it seems that the Internet is a tool, where people can actually share and communicate information and experiences, builds more trust than one way media, where one journalist tells one story. This is probably because sharing information in a sort of community approach is better for people than one way communication. It can be noted that the Internet is slowly taking a more prominent role than people, especially as the younger people tend to rely on it more.

An interesting observation in regard to the sources of information on climate change is that here people do not appear as a relevant source. When asked about general sources of

information, other people are an important source, yet in the case of climate change information they do not appear as such. This is probably because climate change is far from people's discussion topics. However, it could represent an appealing manner for communicating climate change: people to people or word of mouth. The communicated information should be easy to understand, practical and visual (especially for women). For young people, stress can be put on the observable changes. More stress should be put on presenting the full climate issue through in-depth pieces (especially for the more aware ones).

Although generally low in Slovenia, there is a certain degree of climate scepticism present. Scepticism is indicated to be the highest in the age group of 26-35, among men, people with higher education, rural areas and environmentally more aware people. The link of climate scepticism to men is also established by Black (2009). Men, who finished their education and are mostly living in rural areas, seem to be the important target group for reducing the levels of scepticism and increasing communication on climate change. The approach for this group must be different. They are estimated to be the right target group, because they are the ones who are building up their life- car, house, family, which could be perceived to be a contradiction with the ways to protect climate, hence they show more expressed doubt about the climate problem. This conclusion could be backed up by the finding that people in the older group (36-55) do not tend to be sceptical: they have all the material goods that they need in their life, so they can 'afford' to believe in the climate problem and change their ways here and there to pursue the solutions. However, these conclusions should be further researched together with further research into the factors that make men more outspoken-climate sceptics than women.

In the problem of scepticism, the solutions offered were to ensure that climate communication is based on logical, not alarming, well-interpreted, appealing to common sense and sound data (more sources, trustful and credible sources), while aided with a visual and practical angle. A similar message as outlined above appeared here too: people might be sceptical about the cause of climate change, but they are not sceptical about the negative impacts of humans on the environment. This is a basis that should be used for communication too, orienting it from purely climate change communication to sustainability communication.

An interesting conclusion is also that no matter how much science is sound and sources credible, some people will be following their 'gut feeling' for building a picture. This, in combination with the findings of the psychology section explains why there is a place for charisma in the climate change debate (both on the science side and on the side of scepticism).

A key conclusion in regard to communicating climate change is that it may not be imposed or critical, but positive and rewarding. The communication should transfer the message that people do something good for themselves by acting to protect climate; that it can make them feel better to protect the climate; and that they will be acknowledged for doing something good. The focus groups reinforced the conclusion of the interviews that people like to be awarded and stimulated for their 'good deeds'. Another reinforced conclusion is that people change habits if it makes them feel better, which means that protecting climate

would mean a positive experience for people if they would feel good about it. This is what should be achieved through communication for changing habits. It should be pointed out to people that changes in their behaviour are good for themselves (and close family or friends) and not solely by pointing out that changes are good for other people. Close people do leave an impact on us. The implication for communicating climate change should be that changing habits towards climate friendlier ones can be triggered through the influence of others, and the power of spreading the message from mouth to mouth should be harnessed.

When exploring the motivations for biking or public transport use, the use of solar energy and buying same-size appliances, one important conclusion is that in focus groups it was possible to see more clearly, which of the answers, given by the interviewees in the in-depth interviews, are socially desired rather than reflecting personal motivations. In focus groups motivations such as improving the environment, a better living environment and the wellbeing of society were quite exposed (also saving money), while motivations such as better feelings about oneself or better health came in second, as opposed to the interviews.

This means that some of the motivations will be of a more social nature and some of a more personal nature. Both types should be used when triggering the change of habits, only they should be used in different manners. It is important how people receive the message of motivations- do you communicate the message to an individual sitting in front of a TV or to a group through a screen in a stadium? Social motivational messages should be communicated in a social way, individual motivations in an individual way.

When asked how much they would be willing to change the standard of living to protect climate, participants believed that they would be able to change their life significantly (perception of two thirds) in order to burden the environment less. Changes are more acceptable if they do not represent serious limitations. The car would be one item that people would give up, closely followed by long-distance travelling by plane. Baring in mind that people tend to think about their impacts on climate most in the transport field, this provides a window of opportunity for influencing people to reduce their travel. Another conclusion was that it would be more acceptable to give up a car than to give up a job, education or family, which also gives a hint on how to formulate the messages: job, family or education are more important than a car.

The most popular measures tend to be those that do not affect people's wellbeing or comfort significantly and are linked to saving energy or water (and consequently money): switching off lights, insulating, using efficient appliances, showering instead of bathing or eliminating stand-by use. At the same time it can be observed that the most popular measures are those that are well known to the public, because of the raising of awareness and subsidies. The next group of measures is related to the actions that people in principle see as a good action to do, and therefore believe they are doing, but in reality still to a small extent. For example, using a bike was claimed to be a popular measure, but many respondents commented that they do it occasionally, because a car is used in many situations. The third group of measures shows a great variety, but one characteristic is that it starts to demand more effort and has more impacts in life. Another observation is that the

connection of those measures to reducing greenhouse gas emissions is not widely known and/or accepted.

It can be observed that people know these are good actions to do, but in reality they are not done to a big extent. For example, avoiding consumption was not too harshly criticized, and many people thought they only buy what they need. However, they mentioned that they still bought items that are not strictly needed. The least popular group of measures is avoiding flying (be it long or short distance), eating less meat and having less children. Most of these measures go harshly against people's beliefs (travel is interesting; we are facing too slow of a population growth in Slovenia; and meat is healthy). The least favourable solution was to have less children, as people thought that this really does not make a difference, and that it is people's duty to reproduce. Some respondents felt really uncomfortable when discussing the having of less children issue. Because those were perceived as the most limiting measures, special attention was given to them.

Flying: While people are sure that there is too much flying, they also tend to find excuses for it (visiting loved ones, having to go to a conference or holidays). As the prices stimulate people to fly, it is becoming a social trend to take flying holidays. It seems that in this sector it can be clearly observed that a need is created from the side of the flying industry, because when asked about what they would give up, some participants pointed out flying. Although in each person there is a need to discover distant places, this need is being carefully nurtured by the flying and tourism industry. In practice, this means that raising awareness on flying should be based on making people question their need to fly and looking for ways to reduce it, rather to give it up. As many would substitute a plane by a car rather than a train, this leaves a lot of place for stimulating people to use trains instead (here some collaboration from the railways would be welcome in order to create a different pricing system).

One child policy: Although clearly a taboo issue, the participants of focus groups did show some awareness about the importance of limiting population growth, however, only as long as it is meant for countries other than Slovenia. One clear conclusion is that establishing a limit on the number of children would not be acceptable, while establishing a socially accepted 'normal amount of children' would be acceptable. In such a way people would have the feeling of personal freedom of choice in regard to such an important issue, yet they would know the socially desired limitation. This shows that instead of bombing the Slovenian society with the message that numbers of people are decreasing and introducing stimulations for expansion of families, the government should be giving a message that with too many people too many resources are consumed. If there are too many people, they all might have to live at a lower quality. However, unlikely as it is that the government would find such a message acceptable, this would be a good move.

Vegetarianism: Vegetarianism turned out to be another measure that could be perceived as restrictive. Two key conclusions or messages can be pointed out here. One is that people are not willing to give up meat entirely. This is why it would not be good to try to persuade people to give up meat entirely, but to rather persuade them to reduce the use of it. The other conclusion is that all question the quality of meat, so the focus should be on orienting the meat production from intensive to extensive. A combination of the both conclusions

gives a useful message for practical application: eat less meat and make sure that the meat you eat is produced in environmentally friendlier manner.

Cheap products from Asia: While in relation to buying meat the research participants questioned its origin and quality, this was hardly the case with products such as balls. Although participants are aware of abuse of workforce in Asia, they still questioned the link between their choices and the working conditions in Asia. This doubt, coupled with the belief that for workers in Asia it is better to earn a meagre salary than none, makes it possible for people to continue buying cheap Asian products, although they do doubt their quality and the ways of treating workers who produce the product. In practice this means that the link between people's choice and poor working conditions needs to be established better. A good way to communicate this link is to accompany it with the communication on the quality of products and questioning the level of prices of products, as in the case of food.

With changing habits, some participants have pointed out that there is a sort of snowball effect, where changing one habit becomes a part of a bigger change, because one starts to look at things differently. In combination with the 'step by step' approach that was highlighted by participants, this makes a good basis for communicating the change of a lifestyle.

People expressed that they do not want anyone to limit their freedoms, but paradoxically, they expressed that they want someone to provide a framework for addressing climate change (e.g. government or companies). Action is needed on all levels, but especially at the governmental level, because people feel a discrepancy between the seriousness of the problem and the lack of seriousness in responding to it. Failing to see a proper response from the authorities is creating confusion among people. People expect the government to take a lead and set up a framework for action both for companies and individuals.

The reason for demanding governmental action was also an expressed belief that individual action is not enough to make a difference. According to research participants, personal actions do not translate into consequences- neither positive nor negative. There is no close correlation in people's minds between their actions and climate change consequences (or environmental problems in general). The participants are aware to some extent, but basically they believe that they do not contribute a lot to the environmental problems. This is also the origin of belief that they cannot do a lot to resolve the present problems.

There is a need for creating a stronger link between personal actions and climate consequences, as this link is likely to also strengthen the belief that actions by all people matter also when resolving the problem. It is necessary to show that even one individual contributes, and that more individuals together do make a difference (both in positive and negative ways). Another important conclusion is that people do not think about exercising their influence on the political system and policies, which gives room for raising awareness. Transportation and recycling are the fields where participants most often thought on their impact on climate, which also gives a clue on where to first place the messages for creating links.

People do not feel that they contribute to the problem, so they have difficulties also in understanding that they can help with solving the problem. However, there seems to be one crucial difference in the direction of contributing to the problem vs. contributing to the solution. While when contributing to the problem one is fully in line with the wider capitalistic system that makes you consume (that is the use of natural resources and leaving of pollution), in the case of solving the problem one is fully against the current system. People do try to act with small contributions, but only very few will try to change the system as such or even try to fully exit the system. This provides a platform for further action: motivating the people who are already doing their bit to also do their share in changing the system. Here specific cases of success can be applied, appealing to people's sense of community, especially among younger people, and helping people to live according to their values, even if those are not in line with the societal values. Of course reorienting the personal values is one necessary step of action.

Communication should be oriented into overcoming the feeling of powerlessness and inability of individuals to make a difference. It is estimated to be a good idea to stimulate the young people to demand governmental action, while older people should play as an engine in generating movements of regular people. The possibility to change the 'system' should also be communicated. The communication of the possibility to change the system with individual action should primarily be directed into rural areas and target people with lower degrees of education. Education is an important action to promote, mainly through and with the support of women.

There is a high level of doubt on whether it is the human impact that causes climate change or not. However, a rather strong agreement lies in the finding that even if it is not known how much of the climate change problem is natural and how much is human, it is better to act, because it cannot hurt to act. Combined with the findings from other parts of discussion, one conclusion is that it is better to talk about general change in environment and link the solutions with sustainable development, than to single out climate change as one big issue and leave the rest aside. Two other conclusions can be pointed out from the findings from the debate around this issue. One is that science should re-establish its position as the field that gives solid answers and not just opinions. Although it is impossible to give the ultimate truth and final facts in many of the scientific fields, and there are open questions, it would be better for people to rely on science as a solid field and not just an arbitrary opinion-maker. This, according to Schwartz (2009), could make people less lost, as they would not have to keep wondering whether to trust the doctor or not. Another conclusion is that it is important that those that deliver messages about climate change also act in line with their messages (the question of why all the ones that are aware of the climate problem do not stop eating meat). This is also established from the general critiques of the film ‘An Inconvenient Truth’ (Al Gore is sitting in a car or going to a plane while describing how the planet is suffering because of him doing so) and the personal experience of the author of this dissertation.

6.1.2 Discussion of findings with an emphasis on agriculture

In the results of the research (see sections 5.2 and 5.3) the emphasis on agriculture was integrated into the findings of the specific research phases, while this section focuses on briefly reviewing the findings from the angle of agriculture. The section first generally discusses the findings and then outlines the discussion on specific aspects or the research, such as research of the values or impact of climate information.

People who are closer to nature and have to live with it are sensitive to extreme weather events, but at the same time they do not find them quite as extreme or special as the urban people do. The rural people tend to be more aware of environmental issues in general, yet they are more likely to be sceptical about whether some environmental problems are real problems or are just exaggerated. Rural people seem to hardly ever consider or think what impact their actions would have on others or on the environment.

An interesting observation is that rural people seem to camouflage their personality, their real selves, more than the city people. This can be observed through the socially desired answers that the rural participants tended to provide more often than the urban counterparts. This is likely to be because they know that in a village one should not stick out among the average, which means that it is often better to give desired answers than to give answers that make you look bad.

The last general observation is that the tempo of life and also tempo of change is slower for the rural population than for the urban. Not only that people from rural areas experience less stress, but they are also slower to take up novelties and changes. Traditions and old values are more appreciated and are built upon more among the rural people than among urban dwellers. At the same time, rural people tend to be more down to earth and in touch with reality than the urban people. All these characteristics make them a rather different target group for communicating climate change than the urban group.

In the field of values, a few interesting conclusions can be made. Rural people show a low trust of values. As almost all the respondents warned, the values that people believe in are different from the values that they live. Many felt that there is one set of values that people are supposed to follow, but that they must be careful about living by those values. All in all, the respondents from rural areas showed a high level of distrust for the values that people hold on to. This might be because rural people are much more in touch with 'reality' or 'real life' and therefore seem to be less naive than the city people. Values that appear are respect, friendship, kindness, understanding, responsibility, goodness, helping others, fairness, and honesty. Those values are similar in the urban population, except that the urban people care for environment features more prominently than among the rural, where no one mentioned it as a value. The rural participants of the research also tended to highlight the traditional values (morale and fairness), while the urban group highlighted more the social values (success, career, education, etc.). It can also be noticed that apart from the 'traditional values', rural participants have more creative ideas on what their personal values are.

In regard to reward and punishment schemes, it can be concluded that while interviewees from urban areas would strictly not use punishment, the people from rural regions would use punishment, although not always or in all cases. They would first try to talk, explain or show what is wrong. If that would not work, some would put a person into situations from which he or she could learn. Punishment by not giving food was highlighted as an option. Reward would be a tool for everyone. All in all, more practical aspects of punishment were exposed than in the urban group (showing situations and punishing by taking away food).

In rural areas, people are an important source of information, but they are slowly being replaced by the Internet. The internet is mainly used to get brief information, while when more information (and opinion or experience) is needed, people are the right source. In rural areas some importance is also given to shops, where people can get information. People in rural areas tend to be less critical of information than in cities, but they still pay attention to it. Rural areas also tend to be a bit less saturated with information than the urban areas.

When it comes to factors that influence decisions, the rural respondents place importance on practicality, quality and durability, while urban respondents give priority to quality and take needs into consideration. Rural respondents seem to think that other people, media and commercials affect them less than in the case of urban respondents. They are also more likely to pay attention to technology as a factor than the rural respondents.

When it comes to factors that influence the change of habits, among rural people it seems less likely that if other people do something, this will be a motivation factor for them to change as well. Praise and award are also not likely to be stimulators. Saving time does not seem to rank as a strong motivation for the rural people either. An interesting finding is that obeying the law is an arbitrary issue for rural participants- sometimes this could be a motivation factor, sometimes not. Improving their living environment seems to be a strong motivation for rural participants, as opposed to urban participants, whose main motivation would be better health. Also a better life for children seems to be an important motivation for the rural respondents. In changing habits, the rural respondents tended to be more strict on themselves. When they decided to change a habit, it was a must to change it, no matter what. This shows that rural people are likely to have more self-discipline.

The associations of climate change are more vivid among rural people. One specific issue that can be noted about the associations of climate change is that the rural respondents tended to have more tangible associations of climate change than the urban respondents. Items like storms, floods, food- more tangible items, closer to real life, were slightly more often associated with climate change among rural people than among urban people. The associations of rural people also tended to be more sensationalistic (catastrophe and storms) than those of urban people, and fewer solutions for the problem seem to be associated with the problem than among the urban people. The rural respondents showed generally higher awareness on climate change, but on the other hand, the respondents that showed the least knowledge about climate change were also rural people.

Rural people seem to build their knowledge of climate change from school and not as much from the media as the urban respondents. Information on climate change is also

something that they observe around them, rather than getting from the media. The rural participants also thought they get too little information on climate change. They expressed that they would like it better to talk about sustainability in general and not specifically about climate change.

This is likely to be linked to the climate scepticism, which was more expressed in the rural areas. The respondents were unsure what to believe, because they receive opposing information. Also in some cases they simply did not want to hear about it, because they thought climate change is just another construct to make them worse off, because they have to change their ways and invest in new ways working and living.

The rural respondents had less articulated ideas on how to improve informing about climate change than the urban respondents. They mostly wanted to have climate change information communicated in a way that it reaches more people, but could not specify how this should be done. In terms of objectivity of the information, for rural people sources of information are important, while the information must be tangible, simple and understandable. The messages should be adjusted towards personal action, not action for society: the rural participants would act for themselves, but not for the society.

When talking about climate change consequences, only a few of the rural respondents do not feel impacts of climate change in their lives; the rest do, either in small aspects, such as more insects, or in bigger aspects, such as destruction of crops. They also more often expressed comparison of before and now. Rural respondents showed that if their discussion is spinning around climate change, then it is more likely that they will be discussing the consequences of climate change, mostly weather related, than the solutions.

It is possible to detect that the rural respondents are more used to extreme weather events because they do not find those to be such 'extreme' events- in comparison to the urban respondents, the rural people are less likely to be scared and terrified by the extreme weather events. They also expressed that they do not necessarily connect extreme weather events with climate change, that they are rather normal.

Rural participants are less likely to think about the connection to other parts of the world or future generations and even if so, they tend to put a question mark over the connections. While among the urban participants there was an opinion that there can be a positive impact on global level, through donations and help for developing the world, rural participants did not show any positive possibility, just negative through consumption and actions. Rural participants also expressed the belief that one is forced to negatively impact through consumption, and that it is not clear, which actions are good and which are bad because of the opposing information they would receive.

In regard to changing habits in order to protect climate, the list of items that one would not give up for climate is longer with the rural participants than with the urban ones. Items that they would not give up are exotic holidays and flying, although not many of them actually do it. Children are the next on the list. What stands out is also that the participants from rural areas would less likely give up big appliances with many functions than their urban

counterparts, although for them doing things manually is generally more accepted than among the urban dwellers.

On vegetarianism, the rural respondents focused on practical aspects, such as survival (in some places only meat can guarantee survival, and vegetarianism is luxury), while urban people were looking more into the 'scientific' aspects (can the human body function without meat?). Rural people did not specifically express tolerance for vegetarians.

On the one child policy, the rural respondents believed it was an unnatural measure, because nature should do its work, and no one can be given the right to say to others how many children to have. Rural respondents also believed that the acceptable amount of children is a socially designed concept: while in the past it was considered normal to have eight or nine children, today this number would be one or two.

On the use of PV panels, some of the rural respondents believed that this is a futility, but a few also saw potential for savings in it.

The last interesting conclusion that can be observed in the research findings is that all the respondents, who believed that there is a structural problem that keeps people going in a loop, are from rural areas. Respondents from the rural areas are also the ones that feel the powerlessness of one person acting against the system the most. Yet, many still think government is the first step to action.

6.1.3 Discussion of the special highlights about the findings

As in other research, also the findings of this research are to some extent expected. However, some findings carry a level of unexpectedness and are interesting to have a special look at. This section therefore briefly reflects interesting findings.

The first important highlight is that people have a double layer for their values: their values are both individually and socially constructed. In some situations the individual values prevail, while in some situations the social ones. Depending on which values one builds the climate communication, the effort can yield entirely different results.

The next highlight is that people believe they know a lot about climate change, but in reality they only know the really basic aspects of climate change or have a completely mismatched picture of what climate change is. They think that climate change is equal to natural disasters, or they believe that the climate problem is caused by the ozone hole. Even the people, who do know a bit more than just the basics, often do not see any connection between their actions and the climate problem.

Another highlight is that people need to see a very strong link between their behaviour and climate consequences before they start acting. However, once the people understand that everything is actually connected to everything else- the system, the way the society evolves, the environmental problems- it is easier for them to change their lifestyle and understand the need for a deep structural change.

Research showed that people seriously underestimate their contributions to the climate problem. Although aware of the problem, many have no idea that their contribution is actually significant. On the other side, when talking about the perceived contribution to the solving of the problem, people claim that they do everything possible to protect the climate, while not being aware that in reality their carbon footprint is still large.

An interesting finding is that environmentally more aware people are also at the same time more sceptical about the climate problem- both about its origin and its extent. This gives insight that climate scepticism is not born mainly from ignorance, but to some extent also because the climate change problem might be taking too big a part of the environmental agenda. People, who are concerned about the environment, believe that other issues should feature more prominently.

The last interesting component to stress is the finding that even when some people want to make significant changes in their lives, they are sort of captured or limited by the system (e.g. lack of public transport, disinterest of co-owners to insulate buildings, and limited ability to socialize due to a wish to not consume).

6.1.4 General discussion

It is of utmost relevance to understand that climate change- its causes, effects and solutions- is deeply intervolved in the global capitalistic system. This is often not understood enough by the variety of actors that seek solutions to the climate change problem and hence the gap between awareness and action remains wide.

While a large part of action focuses on informing people about climate change and promoting solutions- from renewable energy to biking, from voluntary pledges to emissions trading- there is not enough linkage with communication on the need to change the global market system. This is reflected in the research findings in several points.

The first such point is that there are some people, who are well aware that a deeper change in the system is needed. When they are faced with climate change communication without a link to the message about the need to restructure the system, they find the climate change communication ‘idiocy’ (as one of the participants of a focus group put it; see ‘Findings of the Focus Groups’ in section 5.3).

The second point is the finding that some people do wish to live according to their values concerning living in line with planetary limitations, but are ridiculed by the society, or it is very hard to live according to their values (e.g. dysfunctional public transport vs. an easily available car). Some people know that they need to live differently, but the system stimulates them to stay within its limits. Those who wish to act, are trapped in the system, and do not know how to get out of it. Even when they do know how to break out of the system, it often takes too much energy and effort. Eventually it is easier to remain trapped in a circle of which one knows is wrong. Apart from general environmental and climate problems, this also causes internal discrepancies among values of certain people.

The third point where research comes back to reviewed literature is that without wanting it, people support the capitalist system, because they do not know all the implications of their habits or behaviour. People are not aware that their actions affect the environment and other people, because the links are not visible or direct enough. Yet, if they were sure about the effects of their actions on the climate system or distant peoples, the people who participated in the research would try to rethink their behaviour.

In climate action, like in many other fields, people are used to looking for silver bullet solutions, but for such a complex problem as climate change, it would be hard to have silver bullet solutions. While many believe the climate problem is to be blamed solely on the overproduction that is stimulated by the multinational corporations, the consumption side should also be looked at. Although people are stimulated to buy because of marketing actions that are run by the companies, they are still responsible for their behaviour. Both sides need to be engaged in reforming the capitalist system. It is also not just the society that has to act, but individuals, so, again, effort should not stay focused on one aspect.

The research has shown that climate psychology indeed can play an important role in awareness of the problem.

The first important finding, that people have one set of values, but live according to another one, is related to the question of people being herd animals. Although people believe themselves to be individualists on whom other people, society, does not have influence and have important personal values according to which they live, the answers from the people who participated in the different forms of research show, that people are significantly more shaped by the society than they want to admit. With many people the personal values were in clash with the social values, yet in practical terms they adhered to social values. This means that climate communication must build a change in social values rather than the personal ones.

Another important relation to the findings is that people are capable of very strong self-control, if the motivation is right. People often explained that they do not have energy to do some actions that are beneficial for climate, but the research showed that when there is a strong motivation- health and feeling better about oneself are very strong motivations- people can do anything. Changing a habit does not represent a major problem, which comes as a surprise to many people- that it really is possible to live differently, and that it works. This means that for climate action either the right motivations should be identified, or it should be communicated as something beneficial for health, and something that can make people feel better.

The third key finding is that for people climate change and connections between personal behaviour and climate change effects are too vague to be on the mental map. Awareness of the climate problem is high, but awareness of the connections is poor; people see the problem, but not the connections. This means the lines between people's everyday actions and distant effects (distant either in time or in location) must be made clearer.

Another interesting reference to the psychological quirks is that for many people today security is a motivation of piling up items, which means that the feeling of security is one of the issues climate communication must address, not only from the aspect of being secure from extreme weather events, but also from the aspect that security must be increased through other means than just accumulation of items. Security also means knowing how to grow food or make useful items, but these aspects of security do not seem to count in today's world.

All in all, in order to guarantee successful climate action, it is necessary to move out of the climate change framework. Climate change should, first of all, be communicated as a part of the wider environmental agenda, and, second, as a part of even wider issue: change of the global economic system. Communicating climate change without communicating the need to significantly transform the economic system is bound to fail.

In order to start system transformation, the first step is to question some concepts that are taken for granted, such as growth, well-being or security. The next step is to stimulate people to rethink these concepts, and find out whether and how it would be possible for us, as society, to function outside of those concepts. The third step is to stimulate action for changing habits. Last step, but running in parallel to the previous steps, is to challenge the system and look for different solutions.

A key challenge in this endeavour is that a part of the people are relatively well aware that such changes are needed and ready to undertake the action to change the system to the core of it. Another part of the people, however, still believe that it is possible to continue to grow and expand people's wellbeing into eternity. It is not just a question of the politicians and corporations believing in everlasting expansion, but also regular people. This suggests a high likelihood of a civilization clash of somewhat different proportions than those that are normally discussed (religious clashes or clashes of poor against the rich): a clash of people who will want to adopt changes in order to secure survival on this planet and people who will not want this.

As mentioned several times throughout the text, awareness of the climate change is there and is rather high in Slovenia. Yet the depth of understanding is missing, and this is a relevant dimension of the awareness. Without it, it is hard to perceive the depth of needed changes. This is an area where communication will need to be increased in the future.

Slovenia is a small puzzle in the mosaic of the global capitalism, which is normally a reason for not believing that it can have any influence over such large institutions as the global capitalistic system, or even global climate deals. However, this should not represent a reason not to think of systemic changes in Slovenia. First: such changes could make Slovenia more self-reliant, and second: being more self-reliant would give Slovenia less dependency on the actions or inactions of the rest of the world. Having the advantages of a small country- flexible, easy to steer and innovative- Slovenia should start to seriously think of how to avoid further undesired effects of the global capitalistic system on its development.

6.1.5 Responding to the key research questions

By looking at the relevant parts of the research findings and conclusions, this section summarizes the findings and conclusions in a way as to answer the key research questions that were presented in section 2.2.

The first specific research question was: Is taking climate action closely related to a personal reward/punishment system or feeling? Findings from the research that answer this research question can be wrapped up in the following conclusion. The findings show that people do not like to be punished, but reward and recognition are welcome. People like to be awarded and stimulated for their 'good deeds'. People also change habits if it makes them feel better. However, it could not be clearly established that they would take climate action if they were personally rewarded for it or not take action if they had to sacrifice their comfort (in other words: be punished).

Rewards seem to be either of an emotional or of a rational (monetary) character. Cases of rational rewards are saving money or time, subsidies or discounts. Cases of emotional rewards are feeling better about oneself or the feeling of contributing to society. The rational rewards might be a stimulant for some action in the everyday life of people, but not in all cases. If climate action brings no real loss in comfort and people do not have to proactively do something, then rational reward will be stimulating enough to change people's ways (e.g. using energy saving appliances, getting subsidies, and reducing temperature). However, in actions that affect the personal happiness (having children or eating meat), or have the status of luxury comfort (exotic holidays), people will not be stimulated by the rational rewards, because they might seem like a punishment or loss of success to them. The emotional rewards, on the other hand, can be a strong motivator, but not in all cases either. In cases when people can look good in the eyes of the others or will feel better about themselves, emotional rewards will do the trick (e.g. feeling good because of doing some action for the environment or visibly showing your action). In cases when the action cannot be seen by others, emotional reward might not be the trigger for change.

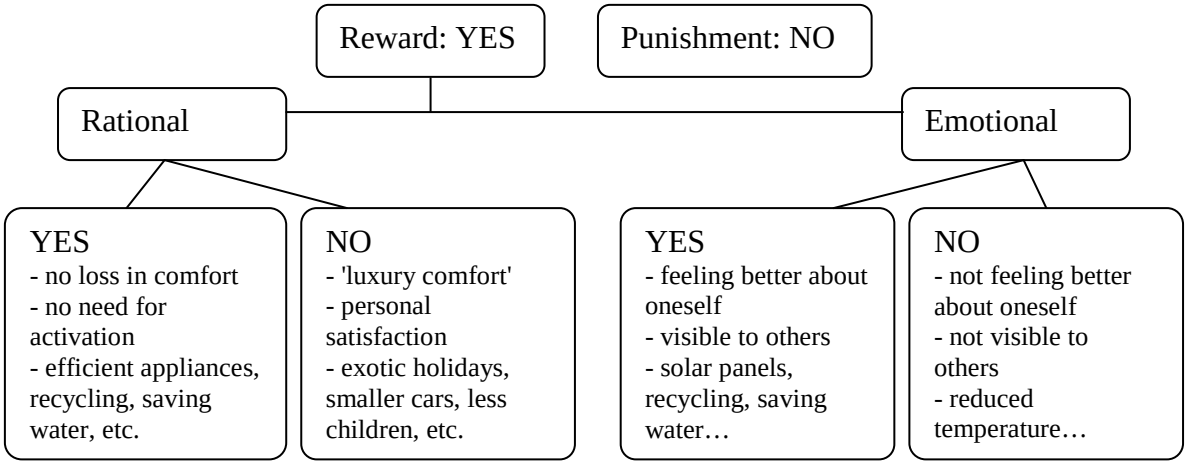


Figure 25: Scheme on motivations and demotivations for changing habits related to climate action, based on findings of the research
Slika 25: Shema motivacij in demotivacij za spreminjanje navad, povezanih s podnebnim ukrepanjem glede na rezultate raziskave

The key motivations for changing habits that the research puts to light are feeling better about oneself, doing something good for oneself and better health- basically people are motivated by personal wellbeing. The research also reveals that if proper motivation is found, limiting oneself is not a major problem for people, and they do not tend to have really bad feelings about limiting themselves. People claimed that they would be ready to give up a car, mobile phone, the Internet or music. It was stressed that it would be more acceptable to give up a car than a job, education or family.

The second specific research question was: Is a person who is affected by the consequences of climate change, or understands the connection between his/her behaviour and the consequences of climate change, more susceptible for changing habits than a person who is not affected or does not understand this connection?

The Eurobarometer studies, Europeans' attitudes towards climate change 2008 and 2009 (Europeans' attitudes towards climate change, 2008; Europeans' attitudes towards climate change, 2009a), both lead to believe that people, who understand the connection between their behaviour and climate change, or have been affected by the consequences of climate change, are more likely to change their habits. The two studies show that Slovenian people are informed better about consequences than solutions, and that they find climate change to be a very serious problem. 14% of the people claim to take climate protection actions, because they have been directly exposed to consequences of climate change. Also some of the Slovenian opinion polls (RTV Slovenija, 2010) show the connection between awareness or affectedness and action. Polls showed that people found climate change to be an important issue, that the extreme weather events are attributed to climate change and that people notice the consequences of climate change, while at the same time showing that people are willing to change habits. These include reducing car use to reduce CO_2 emissions or giving up hot water 3 times per week to save glaciers.

However, the next phases of research revealed a somewhat different picture. Firstly, only a few participants of the research said that they happen to question themselves about their influences on the environment, but not systematically. Secondly, the respondents mainly did not see a connection between the impacts in their lives and the climate change problem. People do not really see or believe there is a connection between their personal action and climate change; the link is not sufficiently proven for them. Being affected by climate change consequences was a motivation for some people to act, but most felt too powerless to make a difference, because personal action is not enough and they cannot change a lot on the global level. Thirdly, not many people felt the impacts of climate change in their lives, in spite of the fact that some of them did witness extreme weather events and have felt uncomfortable during those or even suffered serious damage. Even though they witnessed consequences of climate change, this does not seem to make them think about the cause or connection to climate change- and even less about action (only a few observed such links, the majority not). Some did not connect extreme weather events to climate change because of scepticism.

An interesting link to the research question was shown when talking to respondents about the impact of their lives on other people. They expressed the belief that their actions do not affect other people, because the connection with other parts of the world or future

generations is not proven. Many thought there was a connection, but until this connection is proven, they would not be willing to act.

The research showed that the groups that are likely to be more aware of the links between behaviour and climate change are more educated, rural and male people. The younger people are the least aware of the connections. The more educated participants tended to talk more about climate change, both about the problem and the possible solutions, while the less aware ones only talked about the problem occasionally. The younger age group hardly ever talks about the climate change issues. The more environmentally aware people and older people talk about the climate challenge because they are more affected. The older also talk about climate change, because they have a longer experience. They can see how the climate change consequences have developed.

In spite of showing attention for the climate problem, the more aware groups do not seem to see the big picture of how their actions connect to climate change. They do not feel further connections than the occasional extreme weather event. What is especially interesting is that the more aware groups talk and care about climate change, but when this has to be translated into practical action, there is no difference between the groups of more or less aware people.

All in all, it can be concluded that there is no close correlation in people' minds of their actions and climate change consequences. Basically people believe that they do not contribute a lot to the environmental problems, which is also the origin of belief that they cannot do a lot to resolve the present problems. This is why the understanding of connections between people's actions and climate change or affectedness with consequences do not seem to translate into increased motivation for changing climate damaging habits.

The third specific research question was: Is change of habits to implement climate solutions- and the scale of them- conditioned with factors such as the price, availability and quality of the product or services? The most important conclusion about this research question is that the question was not formed correctly. The research established that the question is not relevant in its current form, and the best way to gain insight into (de)motivations is to look back to the first research question. However, partial answers can be extracted from the research findings.

The desk research shows that the answer to the upper research question can be affirmative. It can be observed from Eurobarometer studies (Europeans' attitudes towards climate change, 2008; Europeans' attitudes towards climate change, 2009a) and RTV Slovenija (2010) polls that from one quarter to over one third of people engage in climate action, because taking action will reduce costs and hence save money. About 1/5 is likely to stop climate action because it is too expensive to take action, and a bit less than 1/5 would not be willing to pay more to have energy produced from sources that emit less greenhouse gases in order to fight the climate change.

The information obtained through the research also seems to provide a positive answer to the upper question. The most important factors to influence people's purchase decisions

are practicality or functionality, quality, price and recommendations or experiences. While studying the relevance of factors, it was clear that there are also factors that can exercise influence due to social conditions. Such factors are environment, durability and an impact on life. This means that while personal preference might be influenced mainly by practicality, price and quality, social preferences might also be shaped by the impact on environment and life or durability.

Analysis of factors that influence the changing of the habits shows that people mainly change habits to feel better about themselves (to feel better or to have a positive impact on health). A better living environment and better life for children seemed to be better motivators for changing habits than saving time or money, but in the last phase of the research it could be established that those were socially desired motivations. Saving money seemed to be a stronger motivation overall. This leads to conclude that some of the motivations have a social nature and some personal, yet both types should be used when triggering the change of habits.

To conclude, it can be estimated that the primary reason for taking climate action is not environmental or climate change concerned. Action is mainly still a monetary issue, the primary reason being to save money. Saving climate is a welcome by-product, but people still mostly do not understand how their action will contribute to stabilization of the climate system.

The key research question that this research tried to answer is 'What are the drivers and barriers that (de)motivate people to take personal action to fight climate change?'. While a detailed analysis of the drivers and barriers can be found in sections 5.2 and 5.3, here only a summarized answer to the key research question is provided. The key drivers that motivate action are monetary improvements (saving money or receiving subsidy) or improvements in personal comfort. Another key driver can be recognition of the actions (e.g. naming the persons who installed PV panels on the roof). The key barrier is the decrease of comfort, when one might have to sacrifice an easy going lifestyle to achieve change. Another important barrier is the feeling of powerlessness, which stops people from taking action, because they believe that their contribution is either too small (drop in the ocean) or that bigger actors must change first (governments and companies must act). Abundance is an important barrier, because people are able to lead satisfied lives, and do not have to care too much about the effects on the environment.

6.2 CONCLUSIONS AND RECOMMENDATIONS

6.2.1 Conclusions

This section outlines the key conclusions that can be drawn from the research. The first one is that social values override personal values in practice. Values are important as the driving force of people's decisions and ways of acting. People have their own individual values, which do not necessarily coincide with the values of society, but often the societal values prevail over personal values in practical aspects of their lives. In the case of environmental action, it seems that environmental protection is an important personal

value, but in practice mostly the socially imprinted activities (recycling and turning off water while brushing teeth) are taking place.

The next conclusion is that climate awareness is high, but in-depth understanding of the problem still lacks. The strongest awareness is associated with consequences of climate change and weather events, less awareness seems to be about solutions. Some understanding that system problems (capitalism) and social aspects (migrations, relations among people) are related to climate change was expressed. A better knowledge about how climate change is caused and what the solutions are is needed. However, what should be highlighted is that although awareness of the problem is high, there is also a high level of doubt of whether it is the human impact that causes climate change or not. In spite of this strong doubt, there was a rather strong agreement that even if it is not known how much of the climate change problem is natural and how much is human, it is better to act, because it cannot hurt to act.

One important highlight is that people are not aware that other people shape them, although this is the case. Similarly, people are not aware that they shape the lives of others. People do not tend to evaluate how their actions will impact other people (maybe on close family or friends, but that is all the influence they seem to perceive). Climate friendlier habits should be communicated as socially desired activities and focused on close people or locations, rather than distant people or locations. However, the link between people's behaviour and distant consequences should still be better established.

In relation to climate action, the key conclusion is that action is needed on all levels, but especially at the governmental level, because people feel a discrepancy between the seriousness of the problem and the lack of seriousness in responding to it, which creates confusion over the problem. Companies and politics have to move, because individual action will not be enough to make a difference. People expect the government to take a lead and set up framework for actions- both for companies and individuals.

In principle, people implement climate action, but the action in practice should be put under a question mark, nevertheless. It can be assumed that people tend to try to look better than they are, because this is what is socially expected from them. If people did all that they think they do, the climate system would be safe. The most popular actions tend to be those that do not affect people's wellbeing or comfort significantly, and are well known in the public because of awareness raising and subsidies.

The next important conclusion is that understandable and trustful information on climate change is needed. People want practical and preferably visual information on climate change: tangible consequences and practical solutions. Information must be easy to understand. If numbers and data are provided, they need to be interpreted to the people. Visual aids were also stressed. Sharing information in a sort of community approach is better for people than one way communication. Science should re-establish its position as the field that gives solid answers and not just opinions. Although it is impossible to give the ultimate truth and final facts in many of the scientific fields, and there are open questions, it would be better for people to rely on science as a solid field and not just an arbitrary opinion-maker. However, it remained an unresolved dilemma whether it was

better to make climate communication scientific and therefore trustworthy, or to make it more commercialized and therefore prone to critique. In the case of too a scientific approach, the problem was that it would not reach out to all people, while in the case of commercialization the problem would be the quality of the communication. This remains an open question for further research.

To address the problem of scepticism, climate communication must be based on logical, not alarming, well-interpreted, appealing to common sense, and sound data (more sources; trustful and credible sources), while aided with visuals and practical solutions. An interesting conclusion is also that no matter how much the science is sound and sources credible, some people will be following their 'gut feeling' for building a picture.

In regard to the change of habits, the key conclusion is that habits are changed only if the change is good for people. The changing of habits should be triggered by both individual motivations and social motivations, depending on how one communicates the message. Social motivational messages should be communicated in a social way, individual motivations in an individual way. Climate messages that will be delivered to groups of people, for example school lessons, should build on socially based motivations, such as the wellbeing of society. Climate messages that will be delivered to individuals, for example advertisement or article in a newspaper, should build on individual motivations, such as better health).

People like to be awarded and stimulated for their ‘good deeds’. People change habits if this makes them feel better, which means that protecting climate would mean a good experience for people if they would feel good about it. This is what should be achieved through communication for changing habits. People mainly change habits to feel better about themselves or because very close people wanted them to change their habits. The change of habits must evoke positive feelings in people. The message conveyed should be that people do something good for themselves by acting to protect climate; that it can make them feel better to protect the climate; and that they will be acknowledged for doing something good. The changing of one habit becomes a part of a bigger change because one starts to look at life differently. In combination with the ‘step by step’ approach that was highlighted by respondents, this sets a good basis for communicating a comprehensive change of lifestyle.

An interesting conclusion is that people perceive that they do not contribute to the climate problem, and can hence not contribute to the solution. There is no close correlation in peoples’ minds between their actions and climate change consequences (or environmental problems in general). People believe that they do not contribute a lot to the environmental problems. This is also the origin of belief that they cannot do a lot to resolve the present problems. There is a need for creating a stronger link between personal actions and climate consequences, as this link is likely to also strengthen the belief that actions by all people matter also when resolving the problem. However, there seems to be one crucial difference in the direction of contributing to the problem vs. contributing to the solution. While when contributing to the climate problem one is fully in line with the wider capitalistic system that makes you consume (using natural resources and leaving pollution), in the case of solving the problem one is almost fully against this system (reducing consumption, using

less polluting forms of transport, and eating local food). People do try to act with small contributions, but only very few will try to change the system as such or try to fully exit the system.

The last, yet very important conclusion is that climate communication must involve a demand for structural changes. What needs to be achieved in order for the climate communication to succeed is reform the global economic system. However, although this is a crucial recommendation, the practicality of it is at the moment unclear. In other words, literature review and research reveal marginal hints, if any whatsoever, on how to go about reforming the economic system. While there are numerous proposals how to start addressing the problem of having to revise the global capitalistic system (see for example Monbiot, 2003), one possible way to look at it is to redefine what 'quality of life' means. Namely, to start a deep change, one of the first steps is to redefine the most basic concepts. Today's definition of quality of life in practice is similar to the life of an over-average American family as seen on TV, and this definition is slowly becoming a worldwide definition. In order to create a more realistic version of quality of life, people need to reconsider their life- to evaluate its quality, to have a clear view on what contributes to quality and what not, to assess their social safety net etc. One key ingredient to defining quality of life is that people assemble their own pictures of what a good life is rather than to accept them as a pre-packed product that any of the media is offering.

A consumption lifestyle and related consumption is one of the important obstacles to leading a quality life. People are constantly chasing of something else, something better, leaving no time aside to be actively engaged around solving problems of today's societies. The political and economic system de-stimulates activation of people, and this leads to passivity of people, combined with disbelief in the possibility of change. This also leads to individualism and a low level of solidarity among people, along with low social interrelation and inclusion.

To reverse the listed trends, one step is to stimulate critical thinking among people, to make them challenge the pre-existing concepts and to make them redefine those concepts. The next step is to stimulate a change of lifestyles and habits, but together with this also to stimulate demand for a possibility for different lifestyles. This demand could constitute the beginning of change of the institutional framework that currently keeps the global capitalism possible. Demand must come for an institutional framework that allows conducting of different lifestyles.

When it comes to conclusions related to the emphasis on agriculture, they are summarised in the following few paragraphs.

People from rural areas have a few distinctly different characteristics than the urban people, which define them as a very different group for communicating climate change. Key distinctive lines are:

- being closer to nature and hence more aware of the changes in nature,
- that socially desired behaviour and actions are more visible than in cities,
- that the tempo of life and also tempo of change is slower,
- being more down to earth and in touch with reality and hence less naïve,

- being distrustful of information and novelties coming from 'outside',
- people are a source of information, also shop clerks, but they are being replaced by the Internet,
- being less saturated with information than the urban areas,
- practicality is a key decision factor, followed by quality and durability,
- being less aware that other people and media affect them.

Although rural participants claimed that they are not likely to be influenced by other people or media, let alone commercials, the most important characteristic of this group for climate communication is that it acts in line with socially desired behaviour. This means that if climate action is a rule, given by the people around them, they are more likely to take it up, even if they personally do not believe in it. At the same time, this group stands firmly in reality and is less naïve than urban people. Hence the solutions offered for the climate problem must be practical and realistic, otherwise they will be dismissed as an option.

There is another distinctive feature that should be considered in climate communication among the rural participants: they tend to show a high level of distrust of information, rules or guidelines coming from 'outside' their communities. Obeying the law is an arbitrary issue in rural areas, which means that even rules they will not take for granted, because it comes from outside. This is likely the reason for the climate scepticism to be more expressed in the rural areas. Because people receive opposing information, and this information mostly comes from 'outside', they like to believe that climate change is just another construct to make them worse off, because they have to change their ways and invest in new ways of working and living. Generally, they are more likely to be sceptical about whether some problems are real problems or are just exaggerated. An implication of this feature is that climate change should be communicated with the help of people who are within rural communities, and it should be linked mostly to the impacts observed around them, in their own area.

When stepping across a line, be it a socially or personally designed one, rural people are more likely to use punishment and very strong self-discipline. This means that in climate communication- award and praise is a must, but punishment is not completely out of question, like in the urban areas. Punishment should be educative and practical, an experience one can learn from. This should not mean that for any climate inaction there should be punishment, it merely means that if really necessary, punishment could be an accepted tool to secure action in rural areas.

Rural people seem to be slower in taking up novelties and changes, as traditions are more respected. They experience less stress and saving time is not a strong motivator for them. This means that strategy for climate communication must be planned on a very long term; novelties that trendsetters can promote are not a likely recipe for success.

Although rural respondents show a high awareness of climate change (and other environmental issues), they tend to lack knowledge about how the problem is created. They have very tangible associations of climate change - storms, floods and food - but do not see a clear link between their actions and the observed consequences. As the rural

people tend to build their climate knowledge in school and not so much from media, it seems that channels, which are institutionalised (evening classes, seminars for farmers, etc.) are the best way to provide in-depth understanding of the climate problem. Sources of climate information must be credible, and the information must be tangible, simple and understandable. The messages should be adjusted towards a personal action, not an action for society: the rural participants would act for themselves, but not for the society. However, if action is a socially desired one, it is likely to be taken up.

The last specific characteristic of the rural population, which should be harnessed in climate communication, is that rural respondents show understanding that there is a structural problem that keeps people going in the loop of an economic conveyor belt. They expressed the belief that one is forced to negatively impact the environment through consumption. This understanding could originate from the instincts of the rural people; they can see what is going on with nature and resources around them, and instinctively know that the consumption craze is destroying us. Another origin of this understanding might be in the fact that rural people tend to have more time to reflect upon what is going on around them and can think of where the real problems are. In any case, the implication of this characteristic is that climate change should certainly be communicated as a part of the wider, structural, change, which is needed for the current production and consumption system to be in line with the planet's limitations. Communicating climate change should be done in a way as to stimulate a general change of lifestyle towards more sustainable ones. In this communication, the motivations for changes can be built on the message that they are improving their living environment and ensuring a better life for their children by changing.

6.2.2 Recommendations

The following set of recommendations is composed for those who are interested in communicating climate change in Slovenia, be it that they are environmental activists, governmental officials or scientists. It hopes to offer a basis for formulating more effective climate change communication. In the end of the subchapter a few methodological recommendations are also provided for future research.

The key step in communicating climate change is forming the message correctly. Although the list of 'dos' and 'don'ts' is a long one, it is the most important to give practical and tangible information, but formulated in a positive and attractive manner- much like the general messaging or marketing.

The first important step is to define the target group and learn about it- how do they formulate their views, what is attractive to them, etc. When trying to change beliefs, find out from where the people get their beliefs. If the group leans towards self-generated belief, give them experiences or rational arguments. If they rely more on beliefs that are generated externally, communicate through experts or authorities. The message must be adjusted to the group: if the group shares a certain worldview, form the message accordingly.

The general tone of the message should not be alarming or create a feeling of guilt, blame or fear, as people will seek refuge in denial. Also it is important to avoid scaring people, rather provide realistic and practical information that is as tangible and visual as possible. Highlight benefits for the community and for personal life. Do not communicate a decrease of comfort, but instead an improvement of the quality of life. Make climate change an issue of now and here, not of the future in Bangladesh. Do not communicate that climate change is threatening, rather say 'we need to avoid the risks of climate change'.

To make the message noticed, or 'sticky', use stories and emotions along with unusual, and dramatic information. The message should be unique and distinctive. It must have relevance for people, and it must be close to people (familiarity). Spoken message and non-verbal communication should be harnessed.

As values are at people's core, those should be engaged in communication. However, today's values have no universally accepted definition, which provides space for interpretation on which consumption is based. This is why defining people's values is one key step. The next key step is bringing the fragmented values (we have one set of values as individuals and another set of values as society) back into wholeness.

As often there is a strong messenger-effect on people, the right people should be selected to act as messengers. Build on pro-social people and combine charisma with scientific message. As some people are more able to start an epidemic than others, they should be engaged: connectors- talented for connecting people; connoisseurs- talented for connecting information and spreading information; and sellers- talented for persuading people. It is vital that the messenger is a role model and provides an example to other people.

To trigger personal action, crucial changes are needed on a personal level. Instead of seeking 'the best', one must learn to seek what is 'good enough'. One must also learn to lower expectations, show gratitude for what ha/she has, regret one's decisions less and pay less attention to what others are doing. One also needs to question the rationality of people's habits and challenge the most basic assumptions. It is needed that one reflects on the real needs and use common sense in defining those. Personal goals need to be supported by strategy for reaching them. A change of habit must evoke positive feelings in people and contributions must be acknowledged.

On a social level, one can try to harness human herd mentality through human interaction, influence, word of mouth, building of values, beliefs and purposes along with letting other people co-create. People are happier in a herd, plus they make better decisions- group decision-making is inherent to human culture, because a group has memory or social knowledge and predictions. Decisions made by a group are better than the predictions of individuals. The involvement of people in forming solutions can yield better results

To make a social change, one needs to create an epidemic. When systems start to destabilise, even small events can lead into large changes: one should look for such events and connect the small, but right groups of people around them. One needs to make the path visible: the more walked a path is, the more interesting it is to others. It is important to form a large movement that motivates people to join.

Another possible action is employing the so-called 'push-pull' strategy. People generally belong into two groups: those who are willing to change their ways (but feel confined by society in doing so), and those who are not interested in introducing changes. At the same time, everybody seems to have the perception that the governmental institutions are not doing enough, which is the basis for applying the strategy. People who are willing to change, need to trigger (pull) action from the government, pressure the government to make changes and adapt new laws and rules. Based on this pressure the government pushes new legislation, which is the push, needed for the people who do not want to change their habits. Those that are willing to change will feel satisfied with new framework and will not continue to feel ridiculed by the society, while the others will be able to adapt. In this way a step by step circle to push changes forward can be created, the crucial point being to efficiently identify and engage those who are willing to change to create pressure for legislation changes.

For society to act as one, communities and relations are needed; the disintegrated, individualistic society must be re-integrated. A disintegrated society cannot act, because it is just a mass of individuals, each with his/her own vision, but no shared story. Hence one needs to rebuild trust for cooperation and re-create social safety nets.

An important link between the global effects and people's actions must be established. People need to become aware that each of them contributes to the problem of climate change and as such can also contribute to the solution.

In relation to the specifics of agriculture, several recommendations can be highlighted. Strategy for climate communication must be planned on a long term. The life in rural areas 'moves' slower, and people like to take more time for understanding or changing. As they take more time for reflection, this can represent an opportunity to communicate climate change as a part of a wider, structural, change. Communicating climate change should be done in a way as to stimulate a general change of lifestyles towards more sustainable ones. The motivations for changes can be built on the message that they are improving their living environment and ensuring a better life for their children. Help of people, who are within rural communities, is needed for climate communication. The communication should initially be linked mostly to the impacts observed around them, in their own area. Channels that are institutionalised (evening classes, seminars for farmers, etc.) are a good way to provide in-depth understanding of the climate problem. Sources of climate information must be credible (preferably within their community and someone that speaks 'their' language and understands 'their' life). The information must be tangible, simple and understandable. The messages should be adjusted towards personal action, not action for society. The society should benefit through personal action.

From the methodological perspective, the key recommendation for future research is to explore more in detail on how to eliminate socially desired answers by the researched subjects. This research tried to eliminate the socially conditioned answers in a few manners.

Firstly, this was done through designing the interview guidelines in a way as to eliminate socially desired answers. The questions were formed in an objective manner, and the focus

of the research was revealed only at later stages of the interviews. The objective of the research was normally presented only at the end of the interviews.

The next step was estimating which of the answers are likely to be socially conditioned and crosschecking them in the focus groups. This turned out to be a quite effective method, as the focus groups have strengthened the effect of socially desired answers, which were observed in the analysis of the in-depth interviews. This was helpful to highlight which of the occasions from the interviews resulted in socially desired answers. Hence it can be recommended that focus groups are used to cross-check the situations in which socially desired answers could appear. Focus groups also helped in defining what would be the socially acceptable messages (e.g. in the case of a one child policy).

The last key methodological recommendation is to make use of projective techniques in situations when dealing with sensitive issues, such as values of people. This research used a fictive alien that had to be introduced to life on Earth, and it proved to be a good way to lead the respondents into talking about sensitive issues.

7 SUMMARY (POVZETEK)

7.1 SUMMARY

Research background and objectives

The problem of climate change reaches an unprecedented level of complexity already when viewed strictly from an environmental perspective. Viewing it as a side-effect of a dysfunctional economic system adds on the complexity of the issue. However, to properly address the problem, its dimensions should be known. This dissertation aims at providing a wider framework for understanding the dimensions of climate change in order to help formulate more effective solutions. After building such a framework, it researches the awareness and habits of people in Slovenia and tries to determine best strategies for triggering the change of habits.

The overarching objective of this dissertation is to provide guidance on communicating climate change in order to raise awareness on climate change among people, specifically in Slovenia and with an emphasis on the agricultural sector. In order to do that, the first specific research objective of the dissertation is to assemble as full a picture as possible of the climate change problem, whereby knowledge divisions are overcome and links are established not only between scientific fields, but also between global and local or personal and social. Building a multidisciplinary framework for climate change is, however, only a tool that helps to base the research on all relevant aspects. The second specific research objective is to identify the drivers and barriers that (de)motivate people to take personal action to fight climate change. Within this objective, exploring three specific aspects is the focus of the research: the connection of climate action with the personal reward / punishment scheme; the connection between climate action and being personally affected by the consequences of climate change or understanding the problem; and the connection of climate action with factors such as the price, availability and quality of the product.

The dissertation brings a number of contributions to science. It shows that climate destruction is inherent to the prevailing economic system. It looks at leverages from the psychology of an individual and society that can support climate action. It offers an overview of the key strategies for communicating the climate change issue. It researches how to best raise awareness and communicate climate change in Slovenia, and it tries to suggest how to control the extent of socially conditioned answers.

Methodology

This research was done through three key research phases. In the first phase, a desk research of the existing opinion polls was done. In the second phase, insight was gained into the barriers and drivers of climate action among people with the use of in-depth interviews. The last phase cross-checked the results of the first two phases and gained additional insight into a few issues through the debate in two focus groups.

Because it enabled an efficient exploration of the opinion of the people, the review of the existing opinion polls and research was used to form a good basis for answering research questions and finding out the areas where the available data is insufficient or of poor quality. The desk research looks at two Eurobarometer opinion polls on people's attitudes towards climate change. Next, a similar opinion poll, but done by a Slovenian agency, was studied. Further desk research was conducted on the climate-related opinion polls that are conducted on a weekly basis by the multimedia portal www.rtvslo.si.

17 in-depth interviews were conducted, whereby the following criteria was applied for selecting the interviewees: age (18-25, 26-35 and 36-55 years), education (professional/high school, bachelor degree and degrees higher than the bachelor degree), region (southwest Slovenia, central Slovenia and northeast Slovenia) and lifestyle (rural and urban). The analysis was done mainly by checking and comparing the answers of respondents to the different sections of the interview, analyzing the overall ideas and checking them against the socio-demographic characteristics. To analyse some of the topics and factors, simple quantitative methods were used.

Next, two focus groups were conducted to give a better insight on how people's interaction influences their decisions and behaviour. The criteria for the focus groups' participants were the same as for the interview, except that in education two levels were demanded (professional/high education and university diploma or higher) and the region was omitted as a criterion. One focus group was organized around participants coming from rural areas and one on participants from urban areas. Analysis was done mainly by checking and comparing the answers of participants to the different sections of the guide, analysing the overall ideas and messages. Both deductive and inductive analysis was used. It was observed that the focus groups have strengthened the effect of socially desired answers. In some cases this was helpful to highlight which of the intuitive feelings from the interviews are more than just an intuition. In other cases it was useful for defining what would be the socially acceptable messages.

During all the phases of the research, except in the literature overview, special attention was paid to the agricultural aspect. In the analysis of the findings, special attention was paid to the possible differences among the rural and urban participants. Where differences appeared, those were highlighted. Additionally, a review of all the findings was conducted in order to spot possible differences between rural and urban participants.

In spite of paying utmost attention to designing the research in an effective and objective manner, several problems appeared during the research- the three most important ones being that research participants were providing socially desired answers, they did not want to explain what they thought about some issues and that findings cannot be fully generalised.

Findings and conclusions

The first important conclusion that can be observed from the research findings is that people know what their values should be, but they do not live them, because they live by the socially conditioned values. The next conclusion is that people do not like to be

punished, but reward and recognition are welcome. People mainly change habits to feel better about themselves or to do something good for themselves. A change of habit must evoke positive feelings in people. It is estimated that there is a discrepancy between what people say that motivates them and what motivates them in reality. The strongest motivations are better feelings about oneself and better health. Similar to the discrepancy in motivations, there is an estimated discrepancy also in the factors that influence people's decisions. Practicality and quality seem to guide people's decisions, but it can be felt that the respondents often choose factors, which in practice do not play a role in their decisions. Climate communication may not be imposed or critical, but positive and rewarding. It can be communicated that people do something good for themselves or they can feel better if they act to protect the climate.

Associations to climate change show low knowledge of climate change. Many respondents relate climate change with weather or other consequences of climate change. The association with solutions is rather weak. Although generally low in Slovenia, there is a certain degree of climate scepticism present. However, as much as people might be sceptical about the cause of climate change, they are not sceptical about humanity's negative impacts on environment. This is a basis that should be used to direct climate communication from purely climate change communication to sustainability communication. When talking about informing about climate change, people want practical and preferably visual information on climate change.

The most popular measures tend to be those that do not affect people's wellbeing or comfort significantly, and are linked to saving energy or water (and consequently money): switching off lights, insulating, using efficient appliances, etc. The next group of measures is related to the actions that people in principle see as good ones and therefore believe they are doing them, but in reality still to a small extent (e.g. biking is claimed to be a popular measure, but only some actually did it). The third group of measures shows a great variety, but one characteristic is that it starts to demand more effort and has more impacts in life. The least popular group of measures is avoiding flying, be it long or short distance, eating less meat and having less children. Most of these measures go harshly against people's beliefs (e.g. meat is healthy).

People hardly ever consider what impact their actions would have on others (except on their kids) and even if they do so, they do not really believe the link until it is proven. People do not feel that they contribute to the problem, so they have difficulties also in understanding that they can help solve it. Communication should be oriented into establishing clear links between personal actions and consequences of climate change and overcoming the feeling of powerlessness to make a difference. People want the government to provide a framework for addressing climate change. People feel a discrepancy between the seriousness of the problem and the lack of seriousness in responding to it, which is creating confusion among people.

While a large part of action focuses on informing people about climate change and promoting solutions, there is not enough linkage with communication on the need to change the global market system. This reflects in the research findings in several points. The first is that there are some people, who are aware that a deeper change in the system is

needed. When they are faced with climate change communication without a link to the message about the need to restructure the system, they find the climate change communication irrelevant. The second point is that some people do wish to live according to their values, but are ridiculed by the society, or it is very hard to live according to their values (e.g. dysfunctional public transport). The third point where research comes back to reviewed literature is that without wanting it, people support the capitalist system, because they do not know all the implications of their habits or behaviour. People are not aware that their actions affect environment and other people because the links are not visible.

The research has shown that climate psychology indeed can play an important role in awareness of the problem. The first such example in the findings is that people are significantly more shaped by the society than they want to admit. This means that climate communication must build a change in social values rather than the personal ones. Another important conclusion is that people are capable of very strong self-control, if the motivation is right. This means that for climate action either the right motivations should be identified or it should be communicated as something beneficial for health and something that can make people feel better. The third path back to the psychology is that for people connections between personal behaviour and climate change effects are too vague to be on the mental map. Awareness of the climate problem is high, but awareness of the connections is poor. This means the lines between the everyday actions of people and distant effects must be made more clear.

The research provided the following answers to the key research questions. The answer to the first research question, on whether or not taking climate action is closely related to a personal reward/punishment system or feeling, is that it could not be clearly established if people would take climate action if they were personally rewarded for it, or not take action if they had to sacrifice their comfort. What can be said is that people do not like to be punished, but reward and recognition are welcome. Rewards seem to be either of emotional or of rational (monetary) character. The answer to the second key research question, on whether or not a person who is affected by the consequences of climate change, or understands the connection between his/her behaviour and the consequences of climate change, is more susceptible for changing habits than a person who is not affected or does not understand this connection, is that there is no close correlation in people' minds of their actions and climate change consequences. Basically people believe that they do not contribute a lot to the environmental problems, which is also the origin of belief that they cannot do a lot to resolve the present problems. In relation to the third research question, on whether the change of habits to implement climate solutions- and the scale of them- is conditioned with factors such as the price, availability and quality of the product or services, the research showed that the question was not formed correctly. Yet at least a partial answer can be extracted from the research findings: people do seem to engage in climate action, because this will reduce costs and hence save money. Saving climate is a welcome by-product, but people still mostly do not understand how their action will contribute to the stabilization of the climate system. The key research question that this research tried to answer, about what the drivers and barriers are that (de)motivate people to take personal action to fight climate change, shows that the key drivers that motivate action are monetary improvements (saving money or receiving subsidy) or improvements in

personal comfort. Another key driver can be recognition of the actions (e.g. awarding action). The key barriers are the decrease of comfort and the feeling of powerlessness.

Recommendations

The key recommendations for the interested public (communicators, environmental activists, scientists or decision-makers) can be summarised as follows:

- the key step in communicating climate change is forming the message right: the general tone of the message should not be scary or blaming, but rather realistic, with tangible and visual information, and clearly outlined benefits for community and personal life; use stories and emotions, as well as unusual and dramatic information,
- the target group should be well defined and its character well known to the communicator,
- the values should be engaged in communication; as today's values have no universally accepted definition, there is space for interpretation,
- carefully selected messengers: build on pro-social people and combine charisma with scientific message,
- a clear communication of the link between the global effects and people's actions,
- the teaching to seek what is ‘good enough’ rather than ‘the best’ to trigger personal action; change of habit must evoke positive feelings and contributions must be recognized,
- climate solutions should be build on a social level, in groups and through interaction and co-creation; for this, communities should be strengthened and people should be reintegrated,
- social change stimulated in an epidemic way: connect the small, but right groups of people; also the 'push-pull' strategy should be employed (people who are willing to change, need to demand (pull) action from the government, while people who do not want change should be pushed by new laws).

From the viewpoint of agriculture, the key conclusion is that people from rural areas represent quite a different target group for communication of climate change than the people in urban regions. Key characteristics of the group to keep in mind when designing the communication climate are the following:

- behaviour is consistent with social norms: if climate action is a social norm, people will take action, even if it is contrary to their beliefs,
- attitude is very close to reality and not naïve: climate solutions must be practical and realistic, otherwise they are not seen as credible,
- distrust of information that comes from the ‘outside’: climate communication should come from the community and should be linked to the effects that are visible in the community,
- punishment is an acceptable option: if praise and awards do not help, punishment is an acceptable option, but the penalty has to be educative and practical,
- following of traditions: climate communication must be planned in the long run, because novelties do not stick quickly,

- lack of understanding of the climate problem: a clear link between personal actions and the consequences of climate change should be established; climate information should be simple and practical,
- understanding of the structural problems: climate change should be communicated together with the demand for structural changes in the economic system; a change of lifestyle should not be linked only to the climate, but to sustainability.

7.2 POVZETEK

Ozadje raziskave

Problem podnebnih sprememb je izjemno zapleten že če ga gledamo strogo iz okoljskega vidika. Če ga obravnavamo kot stranski učinek delovanja gospodarskega in drugih družbenih sistemov, se zapletenost bistveno poveča. Da bi podnebni problem lahko ustrezno obravnavali, moramo poznati vse njegove razsežnosti. Pričujoča disertacija poskuša zgraditi širok okvir za razumevanje razsežnosti podnebnih sprememb, da bi tako pomagala pri oblikovanju bolj učinkovitih rešitev. Na osnovi interdisciplinarnega pogleda na podnebne spremembe poskuša naloga raziskati zavest in navade ljudi v Sloveniji ter poiskati najboljše strategije za spremembo navad.

Podnebne spremembe so stranski učinek napačno zastavljenega gospodarskega sistema. Zato je boj proti podnebnim spremembam obenem tudi način za reševanje gospodarskega (in s tem političnega) sistema, ki ušel iz vajeti. Da bi spremenili sistem, ki je globoko zakoreninjen v naših družbah in načinu življenja, bo potrebno doseči bistvene spremembe. Da bi lahko dosegli bistvene spremembe, je potrebno razumeti razvojne ovire in gonilnike, ki ljudem preprečujejo ali omogočajo spreminjanje. Psihologija posameznika in psihologija družbe sta pomembna elementa za razumevanje podnebnih sprememb, saj lahko v sistemu, ki ga poganjajo interesi kapitala, samo posamezniki, ki povzročajo socialne nemire, izpostavljajo probleme in zahtevajo njihovo rešitev. Potrebno je razumeti, kako motivirati ljudi, da sami zahtevajo spremembe in uvajajo spremembe v svoja lastna življenja. Pri obravnavanju podnebnih sprememb je psihologija posameznika in družbe prepogosto zanemarjena, čeprav igra pomembno vlogo.

Namen in cilji disertacije

Namen disertacije ni iskanje pomembnih novih ugotovitve v sami podnebni razpravi. Poudariti poskuša nekatere razloge za podnebno (ne)ukrepanje in vzpostaviti interdisciplinaren okvir za razumevanje globine problema podnebnih sprememb. Poglavitni cilj pričujoče disertacije je oblikovati smernice za boljše osveščanje o podnebnih spremembah, specifično za Slovenijo in s poudarkom na sektorju kmetijstva.

Zato je prvi raziskovalni cilj disertacije oblikovati kar se da popolno ozadje podnebnega izziva, ki presega meje med vejami znanosti ter vzpostavlja povezavo ne le med znanstvenimi področji, ampak tudi med globalnim in lokalnim ali osebnim in družbenim pogledom na podnebne spremembe. Oblikovanje takšnega ozadja je orodje za raziskavo

vseh pomembnih vidikov komuniciranja podnebnih sprememb. Drugi cilj raziskave je ugotoviti kaeri so gonilniki in ovire, ki (de)motivirajo ljudi, da osebno ukrepajo v boju proti podnebnim spremembam. Tukaj so v središču raziskovanja naslednji trije pogledi:

- povezava podnebnega ukrepanja z osebnim sistemom nagrajevanja/kaznovanja,
- povezava med podnebnim ukrepanjem in osebno prizadetostjo zaradi posledic podnebnih sprememb ali razumevanjem problema,
- povezava podnebnega ukrepanja z dejavniki, kot so cena, razpoložljivost in kakovost izdelkov ali storitev.

Prispevek k znanosti

Obravnava neločljive povezanostimed uničevanjem podnebnega sistema ter prevladujočim gospodarskim (kapitalizem) in političnim (demokracija) sistemom, je eden ključnih prispevkov za podnebne akterje na vseh ravneh. Le z razumevanjem te povezave je mogoče vzpostaviti rešitve problema in komunikacijo o rešitvah v pravi okvir. Drugi pomemben prispevek disertacije za podnebne akterje je obravnavanje povezave med psihologijo posameznika oz. družbe ter podnebno komunikacijo in ukrepanjem. Disertacija ponuja pregled ključnih strategij za komuniciranje podnebnih sprememb, kar predstavlja raziskovalno ozadje o načinih učinkovitegaosveščanja o podnebnih spremembah v Sloveniji. Kljub številnim študijam in javnomnenjskim raziskavam, ki zajemajo splošno mnenje Slovencev o podnebnih spremembah, v Sloveniji ni celovite študije dojemanja podnebnih sprememb med ljudmi, zlasti ne v povezavi z možnimi načinispodbujanja strukturnih sprememb. Disertacija zato poskuša ponuditi poglobljeno razumevanje dojemanja podnebnih sprememb med ljudmi v Sloveniji ter tako ponuditi vpogled v komuniciranje podnebnih sprememb in potrebe po nadaljnjem raziskovanju. Iz metodološkega vidika je doprinos disertacije v tem, da skuša odpraviti zgolj družbeno zaželene odgovore pri raziskovanju dojemanja podnebnih sprememb med ljudmi.

Interdisciplinarna slika podnebnih sprememb

Običajno na problem podnebnih sprememb gledamo kot na okoljski izziv, čeprav problem sega v vse vidike našega življenja vse socialne sisteme (politične, ekonomske ...). Če bi nanj gledali kot na stranski učinek delovanja gospodarskega sistema, kar tudi je, bi bilo jasno, da reševanje problema zahteva strukturne spremembe v samem gospodarskem sistemu.

Tokom 18. stoletja je gospodarska blaginja postala cilj, ne pa sredstvo za doseganje kakovostnega življenja. Spremenile so sevrednote in začelo se je masovno izkoriščati naravne vire. Da bi lahko proizvajali, je bilo potrebno trošiti in s pomočjo družbeno pogojenih mehanizmov (npr. moda) se je družba prelevila v potrošniško. Podjetja, predvsem mednarodna, so si uspela podrediti ne samo gospodarski sistem, temveč tudi druge družbene sisteme, kot so politika, mediji ali izobraževanje. Tudi politični sistem, ki je trenutno opredeljen kot najboljši razpoložljiv - demokracija - je sistem, ki ustreza tekočem traku proizvodnje. Ta tekoči trak temelji na predpostavki neskončne rasti, kar pomeni, da se rast ne sme ustaviti ali upočasniti, tudi če je jasno, da smo prekoračili različne omejitve, ki nam jih postavlja planet. Ne bi bilo prvič, da človek uniči svojo

osnovo za preživetje – zgodovina pozna neštete primere propadov civilizacij, ki so trčile ob meje svojih ekosistemov. Težava je danes v tem, da smo prvič trčili ob globalne omejitve planeta, ne le lokalne. Zato se soočamo z globalno grožnjo, ki zahteva reševanje problema na globalni ravni in korenite spremembe v vrtenju tekočega traku. Te spremembe zahtevajo tako osebne, kot tudi družbene spremembe.

Ena od osnovnih pogojev za spremembe je motivacija ljudi. Da bi vedeli, kaj motivira ljudi za spreminjanje, je nujno osvetliti številne psihološke faktorje. Različne študije navajajo naslednje ključne psihološke ovire za podnebno ukrepanje:

- nevednost: ljudje so bodisi ne zavedajo podnebnega problema, ali pa ga ne razumejo;
- negotovost: zaradi znanstvenih negotovosti ljudje podcenjujejo tveganje in odlagajo ukrepanje;
- nezaupanje: ljudje ne zaupajo sporočilom o spreminjanju podnebja;
- zanikanje: aktivno zanikanje problema in njegovih posledic;
- nasprotujoče si zavedanje: zavedamo se, da moramo ravnati drugače, pa vendar tega ne počnemo;
- prenašanje odgovornosti: prepričanje, da bo problem reševal kdo drug;
- podcenjevanje oddaljenih tveganj: tveganja, ki so oddaljena bodisi prostorsko bodisi časovno, podcenimo in ne ukrepamo pravočasno;
- pogled na svet: naš svetovni nazor pogojuje tudi pogled na podnebne spremembe;
- navade: zakoreninjene navade je težko spremeniti in to je ena glavnih ovir pri podnebnem ukrepanju;
- učinek prenašalca sporočila: če nam sporočilo prenese napačna oseba, ga ne jemljemo resno;
- neracionalnost: neracionalen pogled na informacije, primerjanje, načrtovanje;
- občutek nemoči: ljudje menijo, da ne morejo storiti nič za reševanje globalnega podnebja;
- povratni učinek: ljudje uporabljajo na primer bolj učinkovita vozila, ampak zato, ker vozijo bolj pogosto, je skupni učinek za podnebje negativen.

Poznavanje psiholoških dejavnikov lahko pomaga oblikovati načine komuniciranja podnebnih sprememb. Različni vodniki za komuniciranje navajajo naslednje ključne smernice za komuniciranje podnebnih sprememb, ki izhajajo iz psiholoških študij:

- spoznaj svoje občinstvo;
- postavi svoje sporočilo v pravi okvir;
- preoblikuj znanstvene podatke v konkretne izkušnje, vizualno in razumljivo;
- ne izkoriščaj čustev: ne straši ljudi, ne prenapihuj posledic...;
- pojasni znanstvene negotovosti in upravljanj z njim;
- motiviraj sodelovanje v skupini;
- olajšaj spremembe v vedenju (npr. kratkoročne spodbude ...);
- poskušaj doseči ljudi, ki niso "običajni osumljenci";
- pohvali ljudi za ukrepanje;
- ne uporabljaj denarja za motivacijo, saj ni dober motivator;
- motiviraj lovilce trendov in uporabi socialno učenje;
- vodi vladne politike v skladu s sporočili o podnebnih spremembah.

Metodologija

Raziskava je potekala v treh ključnih fazah. V prvi fazi je bil opravljen pregled obstoječih javnomnenjskih raziskav. V drugi fazi sem skozi poglobljene intervjuje poskusila pridobiti vpogled v ovire in gonilnike ljudi za podnebno ukrepanje. V zadnji fazi je bila preverjena uporabnost rezultatov prvih dveh faz in skozi razpravo v dveh fokusnih skupinah pridobiljen dodaten vpogled v pogled ljudi na podnebne spremembe in spreminjanje navad.

Poglobljeni intervjuji

Vzorec za intervjuje je bil izbran na podlagi naslednjih meril: starost, izobrazba, regija in način življenja. Raziskane so bile tri starostne skupine: 18-25 let, 26-35 let in 36-55 let. Mlajši niso bili upoštevani, saj njihova mnenja in vedenje še niso v celoti oblikovana, kar bi lahko imelo slab vpliv na raziskavo. Starostna skupina 55 + ni bila vključena, ker je navade te skupine težko spremeniti. Pri raziskavi so bile upoštevane tri stopnje izobraževanja: poklicna / srednja šola, univerzitetna diploma in stopinje višje od univerzitetne diplome. V zadnji skupini je bilo problematično najti zadostno število intervjuvancev, tako da ni enakomerno zastopana. Za namen raziskave je bila Slovenija razdeljena na tri glavne regije: jugozahod, osrednjo Slovenijo in severovzhod. Raziskana sta bila dva življenjskega sloga: podeželski in mestni.

Idealna velikost vzorca je bila določena med 15 in 18 anketirancev. V praksi je to pomenilo naslednjo grobo delitev, ki je bila smernica za iskanje intervjuvancev: za vsako od teh treh regij 5-6 anketirancev, od tega v najboljšem primeru 2 iz vsake starostne skupine, idealno polovica moških, polovica žensk ter minimalno 2 s srednješolsko stopnjo izobrazbe, 2 diplomirana in 1 s stopnjo, ki je višja kot univerzitetna diploma. Na koncu je bilo opravljenih 17 intervjujev, podrobnosti o delitvi pa so v Prilogi B.

Analiza je bila opravljena predvsem s preverjanjem in primerjavo odgovorov intervjuvancev glede na različne dele intervjuja, analizo krovnih idej in preverjanjem glede na socio-demografske značilnosti. Primerjalna analiza je bila opravljena glede na temo (npr. podnebne asociacije). Za analizo nekaterih tem in dejavnikov so bile uporabljene preproste kvantitativne metode.

Fokusne skupine

Fokusne skupine so bile v tej raziskavi uporabljene za globlji vpogled v raziskovalna vprašanja. Ta metoda omogoča boljši vpogled v to, kako interakcija med ljudmi vpliva na njihove odločitve in vedenje. Vzorec za fokusne skupine je bil izbran na podlagi naslednjih meril: starost, izobrazba in življenjski slog. Zopet so bile raziskane tri starostne skupine: 18-25, 26-35 in 36-55 let. Upoštevani sta bili dve ravni izobraževanja, strokovna / srednješolska in univerzitetna ali višja, ter dva življenjska sloga, podeželski in mestni. Regija ni bila uporabljena kot merilo, saj bi bilo zelo težko najti udeležence iz vseh regij, razen tega pa so poglobljeni intervjuji redko pokazali velike razlike med regijami. Ena fokusna skupina je zaobjela udeležence iz podeželskih območij, druga pa udeležence iz urbanih območij. Čeprav je bila kot idealna velikost skupine predvidena med šest in osem

udeležencev, je bila podeželska fokusna skupina sestavljena iz samo štirih udeležencev, kar je posledica nenadne odpovedi napovedanih udeležencev.

Analiza je bila opravljena predvsem s preverjanjem in primerjavo odgovorov udeležencev na različne dele pogovora ter analizo ključnih idej in sporočil. Uporabljena je bila tako deduktivna, kot induktivna analiza. Bilo je mogoče zaznati, da so fokusne skupine okrepile vpliv družbeno želenih odgovorov. V nekaterih primerih je bilo to koristno, saj je bilo mogoče ugotoviti, v katerih primerih iz intervjujev ni šlo le za občutek raziskovalca, da so podani le družbeno sprejemljivi odgovori. Koristno je bilo tudi zato, ker je bilo lažje opredeliti, kaj bi bilo družbeno sprejemljivo sporočilo (npr. v primeru politike enega otroka).

Poudarek na kmetijstvu

V vseh fazah raziskave, razen v pregledu literature, je bila posebna pozornost namenjena kmetijstvu. V pregledu obstoječih raziskav so bili vidiki, povezani s kmetijstvom, deležni posebne pozornosti (npr. pojavi ekstremnih vremenskih dogodkov). Poglobljeni intervjuji in fokusne skupine so bili zasnovani tako, da je bilo mogoče iskati morebitne razlike med podeželskimi in mestnimi udeleženci. V obeh fazah so podeželski udeleženci predstavljali mešanico tistih, ki živijo od kmetijstva (polno zaposleni v kmetijstvu), in tistih, ki jim kmetijstvo predstavlja dodatek k redni zaposlitvi (od majhnih vrtov do večjega obsega kmetovanja). V analizi ugotovitev je bila posebna pozornost namenjena iskanju razlik med podeželskimi in mestnimi udeleženci. Poleg tega je bil pregled vseh ugotovitev izveden tako, da je bilo mogoče ugotoviti razlike med podeželskimi in mestnimi udeleženci.

Omejitve raziskave

Kljub temu, da je bil veliko truda vloženega v oblikovanje učinkovite in objektivne raziskave, se je med raziskavo pojavilo nekaj omejitev oziroma težav. Ključne težave so bile:

- podajanje družbeno pričakovanih odgovorov s strani udeležencev raziskave;
- udeleženci raziskave niso želeli pojasnjevati, kakšen je njihov pogled na nekatera vprašanja in
- ugotovitev raziskave ni mogoče posploševati.

Razprava o ugotovitvah

Prva pomembna ugotovitev raziskave je, da sicer vemo, kakšne naj bi bile naše vrednote, vendar jih ne živimo. Vrednote posameznika ne sovpadajo z vrednotami družbe. Vrednote, ki jih živimo, so ustvarjene s strani družbe. Svoje življenje si organiziramo v skladu z vrednotami, ki jih ima družba. Ker smo nenehno pod pritiskom, ravnamo tako, kot od nas pričakuje družba, čeprav bi sami morda želeli ravnati drugače. Če bi bili ljudje manj zaposleni, bi imeli več časa za razmišljanje o tem, kako narediti stvari drugače in živeti svoje osebne vrednote. To je najbolj očitno pri starostni skupini od 26-35, ki je najbolj obremenjena in pod pritiskom.

Druga pomembna ugotovitev je, da ljudje ne marajo kazni, radi pa slišijo pohvalo ali priznanje. Če želimo opozoriti na to, da odstopamo od pomembnih vrednot, je to potrebno izraziti pozitivno in nuditi podporo. Če vedenje ljudi ni v skladu s pričakovanim vedenjem, ljudje želijo, da se jim to pojasni na strpen način. Podnebne spremembe je zato potrebno razlagati na strpen in pozitiven način, ne pa z vzbujanjem občutka krivde (oz. kaznovanjem).

Tretja pomembna ugotovitev je, da ljudje spremenijo navade, če imajo zaradi tega boljši občutek o lastni samopodobi ali pa storijo nekaj dobrega zase. Sprememba navad mora spodbujati pozitivne občutke pri ljudeh. To pomeni, da morajo podnebne komunikacijske kampanje trajati dovolj dolgo, da lahko takšne občutke izgradijo .

Opaziti je mogoče, da obstaja neskladje med tem, kar ljudje pravijo, da jih motivira in tistim, kar jih v resnici motivira. Udeleženci raziskave so izbrali motive, ki jih v resnici ne motivirajo, vendar pa bi bili videti slabi, če jih ne bi izbrali (npr. pomoč drugim, varstvo okolja...). Pohvala je bila opredeljena kot zelo šibak motivacijski dejavnik, vendar pa so udeleženci vseeno dejali, da si želijo pohvale in da jih le-ta motivira. Ključna motivacijska dejavnika sta boljši občutek o samem sebi in boljše zdravje. V bistvu so ljudje motivirani s povečanjem osebne blaginje.

Podobno neskladje se pokaže pri dejavnikih, ki vplivajo na odločitve ljudi. Praktičnost in kakovost sta vsekakor dejavnika, ki vodita naše odločitve, vendar pa so udeleženci raziskave pogosto izbrali tudi dejavnike, ki v praksi niso pomembni pri odločitvah, vendar pa bi vprašani izpadli kot slabi, če jih ne bi izbrali (npr. okolje, etičnost...). Nadaljnja raziskava bi lahko pokazala, ali zaznano neskladje v resnici tudi obstaja. Opaziti je bilo mogoče, da je tudi ukrepanje za zaščito okolja družbeno želena dejavnost. Udeleženci raziskave so namreč pogosto naštevali okolju prijazne ukrepe, ki pa jih v praksi izvajajo le redko. Ljudje so se tako ponovno poskušali pokazati boljše, ker se to v družbi pričakuje od njih.

Med odnosom ljudi do podnebnih sprememb in splošnimi vidiki njihovega življenja je mogoče potegniti vzporednico. Tako kot živimo družbene vrednote kljub zavedanju zaželenih, živimo podnebju neprijazno življenje, čeprav se zavedamo, da bi morali imeti podnebju prijaznejši življenjski slog. Asociacije na podnebne spremembe kažejo nizko raven znanja o podnebnih spremembah. Ozaveščenost je večinoma povezana z izobrazbo (visoka izobrazba - visoka zavest) in splošno okoljsko ozaveščenostjo posameznika. Veliko ljudi povezuje podnebne spremembe z vremenom. Povezava s posledicami podnebnih sprememb je še relativno močna, povezava z rešitvami pa je precej šibka.

Ljudje le redko pomislijo, kakšen vpliv ima njihovo ravnanje na druge. Tudi če pomislijo na lastne vplive, ne verjamejo, da so povezave s podnebnimi spremembami močne. Zato je potrebno izboljšati razumevanje povezav med obnašanjem in posledicami podnebnih sprememb. Podnebne spremembe ne vplivajo na naša življenja dovolj, da bi nas to skrbelo. Večina ljudi ne čuti vplivov podnebnih sprememb v svojem življenju, razen občasnih ekstremnih vremenskih dogodkov. Zdi se celo, da udeleženci raziskave čutijo posledice bolj zaradi medijske pozornosti na posledice, kot zaradi posledic samih.

Ugotovitve o obveščanju o podnebnih spremembah kažejo, da ljudje želijo praktične in po možnosti vizualne informacije o podnebnih spremembah. Internet je najboljše orodje za obveščanje, predvsem za mlade in tiste, ki so okoljsko manj ozaveščeni. Med mediji je dobro orodje televizija, ne smemo pa podcenjevati tudi pomena radijskih oddaj, še posebej pri starejših ljudeh in moških. Čeprav je na splošno nizka, obstaja v Sloveniji določena stopnja podnebnega skepticizma. Pomembna ciljna skupina za zmanjšanje stopnje nezaupanja so moški, ki so končali izobraževanje in živijo na podeželju. Za odpravo nezaupanja mora podnebna komunikacija temeljiti na zanesljivih podatkih (več virov, verodostojni viri), biti mora logična in privlačna za zdrav razum. V luči skepticizma je pomembno sporočilo to, da so ljudje lahko skeptični glede vzroka podnebnih sprememb, niso pa skeptični o naših negativnih vplivih na okolje. Zato je pomembno podnebno komunikacijo usmeriti v komunikacijo o trajnostnem razvoju.

Naslednja ključna ugotovitev v zvezi s komuniciranjem podnebnih sprememb je, da ne smemo biti kritični, temveč pozitivni. Ljudje bodo pripravljeni narediti nekaj dobrega za podnebje, če bo to dobro tudi zanje, če se bodo zaradi tega bolje počutili in če jih bo kdo pohvalil, ker so naredili nekaj dobrega. Zato je potrebno poudarjati, da so podnebju prijazni ukrepi dobri za ljudi (in njihove družine ali prijatelje). Spreminjanje navad je mogoče sprožiti skozi druge ljudi. Pomembno je tudi širjenje sporočil od ust do ust. Nekateri motivi za spremembe so družbene narave, nekateri pa osebne. Obe vrsti motivacije je treba uporabiti, vendar jih je potrebno uporabljati na različne načine: družbeno motivacijo naj se prikaže na družaben način, osebne motivacije pa na oseben način.

Raziskava je pokazala, da so najbolj priljubljeni ukrepi pogosto tisti, ki nimajo negativnega vpliva na počutje ali udobje ljudi, ter so povezani z varčevanjem z energijo ali vodo (in posledično z denarjem): ugašanje luči, izolacija, raba učinkovitih naprav, tuširanje namesto kopanja ali odprava rabe v stanju pripravljenosti (stand-by). Hkrati je mogoče opaziti, da so najbolj priljubljeni ukrepi tisti, ki so dobro znani v javnosti zaradi osveščanja in subvencij. Naslednja skupina ukrepov se nanaša na stvari, ki jih ljudje načeloma vidijo kot dobre in zato verjamejo, da je to treba početi, vendar pa v resnici ukrepe izvajajo v manjši meri. Kot primer: kolesarjenje je priljubljen ukrep, vendar pa veliko udeležencev raziskave ne kolesari, ker je avto bolj uporaben v mnogih situacijah. Tretja skupina ukrepov je zelo raznolika, skupno pa jim je, da ukrepanje zahteva več napora in bolj vpliva na življenjski slog. Ta skupina ukrepov ni povezana z zmanjšanjem izpustov toplogrednih plinov in je tudi manj sprejemljiva za ljudi. Najmanj priljubljena skupina ukrepov je izogibanje letenju, pa naj bo na dolge ali kratke razdalje, prehrana z manj mesa in zmanjšanje števila otrok.

Ker ljudje nimajo občutka, da prispevajo k podnebnemu problemu, imajo težave pri razumevanju, da lahko pomagajo pri reševanju problema. Med prispevanjem k problemu in reševanjem problema obstaja pomembna razlika. Medtem, ko je prispevanje k podnebnemu problemu popolnoma v skladu s potrošniškim življenjskim slogom, je reševanje problema v nasprotju z osnovnimi načeli potrošniškega življenjskega sloga. Ljudje sicer poskušajo prispevati k rešitvi, vendar je le malo takih, ki bi poskušali spremeniti gospodarski sistem ali celo poskušali izstopiti iz sistema. Zato je potrebno podnebno komunikacijo usmeriti v premagovanje občutka nemoči in nezmožnosti

posameznika, da bi naredil spremembo. Potreba po strukturni spremembi gospodarskega sistema mora postati del podnebne komunikacije, saj se le tako lahko odpravi neskladje med potrebami za ukrepanje in nezmožnostjo ukrepanja.

Razprava s poudarkom na kmetijstvu

Ljudje, ki so bližje naravi in živijo z njo, so bolj občutljivi na ekstremne vremenske razmere, vendar pa se jim obenem ekstremni vremenski dogodki zdijo manj ekstremni kot mestnim ljudem. Ljudje iz podeželja se bolj zavedajo okoljskih vprašanj na splošno, vendar pa so bolj dovzetni za podnebni skepticizem. Ljudje s podeželja imajo manj stresa in so manj odprti za novosti in spremembe. Tradicija in stare vrednote so bolj cenjene med ljudmi na podeželju, prav tako so ljudje s podeželja bolj v stiku z realnostjo kot mestni ljudje. Zaradi vseh teh lastnosti so ljudje iz podeželja bistveno drugačna ciljna skupina za komunikacijo podnebnih sprememb.

V podeželskih območjih so ljudje pomemben vir informacij, vendar pa jih počasi kot vir informacij nadomešča internet. Ljudje na podeželju so manj kritični do informacij, kot v mestih, vendar imajo vseeno veliko mero nezaupanja do nekaterih informacij, sploh takšnih, ki so v nasprotju z njihovimi prepričanju. Podeželje je ponavadi manj nasičeno z informacijami, kot urbana območja. Ljudje s podeželja želijo več podnebnih informacij, sporočila je potrebno prilagoditi v smeri osebnega ukrepanja, ne pa ukrepanja v dobrobit družbe (ljudje s podeželja bi delovali zase, ne pa tudi za družbo). Izrazili so tudi, da ne povezujejo ekstremnih vremenskih pojavov s podnebnimi spremembami, saj naj bi bili taki pojavi precej normalni.

Med dejavniki, ki vplivajo na njihove odločitve, ljudje s podeželja uvrščajo predvsem praktičnost, kakovost in vzdržljivost, medtem ko mestni ljudje prednost dajo kakovosti. Med dejavniki za spreminjanje navad je na podeželju izboljšanje življenjskega okolja in boljše življenje za otroke pomembnejša motivacija kot v mestih. Pri spreminjanju navad so ljudje s podeželja bolj strogi do sebe oz. imajo več samodiscipline kot ljudje iz urbanih področij. Na splošno je seznam stvari, ki se jim ljudje ne bi odpovedali zaradi podnebne krize, na podeželju nekoliko daljši, kot v mestih. Stvari, ki se jim ljudje na podeželju ne bi odpovedali so eksotične počitnice in potovanje z letali (čeprav to dejansko počne le redko kdo med njimi) ter otroci. Zanimivo je tudi, da bi se ljudje s podeželja težje odpovedali velikim napravam z veliko funkcijami, kot njihovi mestni kolegi, čeprav so jim ročna opravila bistveno bolj sprejemljiva kot prebivalcem urbanih področij.

Izstopa tudi ugotovitev, da imajo podeželski udeleženci razprave večinoma oprijemljive asociacije na podnebne spremembe (nevihte, poplave, hrana ...). Asociacije so pogosto bolj senzacionalistično obarvane (katastrofa, nevihte...). Ljudje s podeželja so na splošno pokazali višje zavedanje o podnebnih spremembah, vendar pa imajo po drugi strani najmanj znanja o podnebnem problemu. Svoje znanje o podnebnih spremembah pridobijo večinoma v šoli, ne pa toliko iz medijev, kot to velja za ljudi iz urbanih področij. Informacije o spreminjanju podnebja dobijo bolj iz opazovanja lastnega okolja, kot iz medijev. Zanimivo je, da je podnebni skepticizem bolj izražen med podeželskimi udeleženci raziskave. Razlog je v tem, da dobivajo nasprotujoče si informacije. Ker ne vedo, v kaj verjeti, se raje izogibajo poslušanju o problemu ali pa so prepričani, da so

podnebne spremembe samo še en konstrukt, ki jih bo spravil v še slabši položaj, ker bodo morali spremeniti svoje navade in vlagati v nove načine kmetovanja.

Splošna razprava

Medtem, ko se velik del podnebne komunikacije osredotoča na obveščanje ljudi o podnebnih spremembah in spodbujanje rešitev – od obnovljivih virov energije do kolesarjenja – je le redko moč zaznati sporočilo o nujnosti strukturnih sprememb v globalnem gospodarskem sistemu. Raziskava se tega dotika na več točkah. Prva je ta, da obstajajo ljudje, ki se zavedajo nujnosti strukturnih sprememb.Zanje je podnebna komunikacija brez zahteve strukturnih sprememb prazen nič. Druga točka je ugotovitev, da nekateri ljudje želijo živeti v skladu s planetarnimi omejitvami, vendar pa so tarča posmeha v družbi ali pa težko živijo v skladu s svojimi vrednotami (npr. nedelujoč javni prevoz). Oddaljitev od potrošniškega sistema jemlje veliko energije in truda. Tako je včasih lažje, da ljudje ostanejo ujeti v sistemu, za katerega vedo, da je napačen. Tretja točka, kjer nas raziskava vrne nazaj na ugotovitve iz pregleda literature je to, da podpiramo kapitalistični tekoči trak, ne da bi to v resnici tudi želeli, ampak preprosto zato, ker ne poznamo vseh posledic naših dejanj. Ljudje se ne zavedajo, da njihova dejanja vplivajo na okolje in druge ljudi, ker povezave niso dovolj vidne ali neposredne.

Raziskava je prav tako pokazala, da lahko psihologija igra pomembno vlogo pri osveščenosti o podnebnem problemu. Prvi tak primer je ugotovitev, da nas družba oblikuje precej bolj, kot smo si to pripravljeni priznati. Za veliko ljudi so osebne vrednote v nasprotju z družbenimi, vendar pa se v praksi tesno oklepajo družbeno sprejemljivi vrednot. To pomeni, da je potrebno podnebno komunikacijo vezati na spremembo družbenih vrednot, ne pa toliko osebnih. Druga pomembna ugotovitev je, da so ljudje sposobni zelo močne samokontrole, če je motivacija primerna. Ljudje pogosto pojasnjujejo, da nimajo energije narediti dejanja, ki so koristna za podnebje, vendar pa raziskava kaže, da so ljudje sposobni drastičnih sprememb, če je le motivacija prava. Zdravje in boljši občutek o samemu sebi sta dva zelo močna motiva. To pomeni, da je za podnebne ukrepe potrebno iskati primerno motivacijo ali pa podnebno ukrepanje prikazati kot nekaj, kar je koristno za zdravje in boljše počutje. Naslednja točka, kjer se raziskava vrne k psihologiji, je to, da je povezava med osebnim vedenjem in posledicami podnebnih sprememb preveč nejasna in nedokazana, da bi se znašla na duševnem zemljevidu ljudi. Zavest o podnebnih spremembah je visoka, vendar pa je zavedanje povezav med nami in posledicami podnebnih sprememb zelo nizko; ljudje vidijo problem, ne pa tudi povezav z njimi samimi. To pomeni, da je potrebno povezave med našimi vsakdanjimi dejavnostmi in daljnimi posledicami podnebnih sprememb učinkovito pojasniti skozi podnebno komuniciranje. Še ena zanimiva ugotovitev je, da za veliko ljudi varnost predstavlja razlog za kopičenje stvari. Občutek varnosti mora zato podnebna komunikacija nujno nasloviti, ne le iz vidika varnosti pred ekstremnimi vremenskimi pojavi, ampak tudi iz vidika povečanja varnosti na druge načine, na primer s pridelovanjem hrane ali znanjem za izdelavo potrebnih dobrin. Ta vidik varnosti je v današnjem svetu zanemarjen.

Da bi zagotovili uspešno podnebno ukrepanje, se je treba premakniti iz tradicionalnega okvirja podnebne komunikacije. Podnebne spremembe bi bilo potrebno najprej komunicirati kot del splošnega odnosa do okolja, nato pa tudi kot del širših strukturnih

sprememb (sprememba svetovnega gospodarskega sistema, političnega sistema itd.). Komuniciranje o podnebnih spremembah brez komunikacije potrebe po strukturnih spremembah gospodarskega sistema je obsojeno na neuspeh.

Odgovor na ključna raziskovalna vprašanja

Odgovora na prvo vprašanje raziskave, ali je podnebno ukrepanje tesno povezano z osebnim sistemom za nagrajevanje / kaznovanje, ni bilo mogoče jasno razkriti. Mogoče je ugotoviti, da ljudje ne želijo biti kaznovani, nagrade in priznanja pa so dobrodošla. Nagrade so lahko čustvenega ali racionalnega značaja. Primeri racionalne nagrade so prihranki denarja ali časa, subvencije in popusti. Primeri čustvene nagrade so boljši občutek o samem sebi ali občutek, da prispevaš nekaj dobrega za družbo.

Drugo ključno vprašanje raziskave, ali oseba, ki je prizadeta zaradi posledic podnebnih sprememb in/ali razume povezavo med lastnimi dejanji in posledicami podnebnih sprememb, bolj dovzetna za spreminjanje navad kot oseba, ki ni prizadeta zaradi posledic podnebnih sprememb ali ne razume povezave ponuja naslednji odgovor. V dojemanju ljudi ne obstaja tesna povezava med njihovimi dejanji in posledicami podnebnih sprememb. V bistvu ljudje verjamejo, da ne prispevajo veliko k okoljskim problemom, kar je tudi izvor prepričanja, da ne morejo storiti veliko za reševanje trenutnih podnebnih težav. Zato je razumevanje povezav, ali vpliv posledic, težko prevesti v večjo motivacijo za spreminjanje navad. Skupine, ki se bolj zavedajo povezave med vedenjem in posledicami podnebnih sprememb, so bolj izobraženi ljudje, ljudje s podeželja in moški.

V zvezi s tretjim vprašanjem raziskave, ali na spremembo navad za izvajanje podnebnih rešitev (in obseg spremembe) vplivajo dejavniki, kot so cene, razpoložljivost in kakovost izdelka ali storitve, je raziskava pokazala, da vprašanje ni bilo pravilno oblikovano. Iz izsledkov raziskave je mogoče dobiti le delni odgovor, ki je predvsem pritrdilen. Zdi se, da se ljudje angažirajo v podnebnem ukrepanju zato, ker jim ukrepanje prinese zmanjšanje stroškov in s tem prihranek v finančnem smislu. Reševanje podnebnih težav je dobrodošel stranski produkt, čeprav ljudje še vedno večinoma ne razumejo, kako lahko njihovo ukrepanje prispeva k stabilizaciji podnebnega sistema.

Ključno raziskovalno vprašanje je poskušalo ugotoviti, kateri so gonilniki in ovire, ki (de)motivirajo ljudi, da sprejmejo osebno ukrepanje v boju proti podnebnim spremembam. Mogoče je ugotoviti, da so ključni dejavniki, ki spodbujajo ukrepanje, denarne narave (prihranek denarja ali prejem subvencije) in izboljšanje osebnega udobja. Naslednji ključni gonilnik je pohvala ali priznanje za podnebno ukrepanje. Ključna ovira je zmanjšanje udobja oz. žrtvovanje udobja z namenom doseganja načina življenja, ki je prijaznejši do podnebja. Pomembna ovira je tudi občutek nemoči, ki ljudem preprečuje ukrepanje, saj menijo, da je njihov prispevek premajhen (kapljica v morje), ali pa da morajo bolj pomembni akterji (vlade in podjetja) narediti prve korake. Izobilje je ovira za ukrepanje in sicer zato, ker nam za dosego udobja ni treba skrbeti za okolje oz. celo nasprotno: skrb za okolje utegne zmanjšati naše udobje.

Zaključki in priporočila

Ključne zaključke raziskave lahko strnemo v naslednje:

- družbene vrednote preglasijo osebne vrednote v praksi. Zato so popularni podnebni ukrepi. ki imajo družbeno vrednost (npr. ločevanje odpadkov);
- zavest o podnebnih spremembah je visoka, vendar je poglobljeno razumevanje problema še vedno nizko; ozaveščenost je povezana predvsem s posledicami podnebnih sprememb (ekstremni vremenski dogodki), ne pa tudi z rešitvami;
- ne zavedamo se vpliva drugih ljudi na nas, kar pomeni, da je podnebno ukrepanje lahko bolj uspešno, če postane družbeno zaželeno ravnanje;
- sprememba navad je pogojena s pozitivnim vplivom na nas: le, če je to dobro zame, bom spremenil/a svoje navade;
- od vlade se pričakuje podnebno ukrepanje, saj neukrepanje v luči tako resnega problema ustvarja zmedo med ljudmi;
- podnebno ukrepanje se načeloma izvaja, vendar v praksi veliko manj, kot ljudje mislijo;
- podnebne informacije morajo biti razumljive in vredne zaupanja, zelo dobrodošle so vizualne in praktične informacije;
- ljudje menijo, da ne prispevajo k podnebnemu problemu, kar je vir prepričanja, da ne morejo prispevati niti k reševanju problema; povezavo med osebnimi dejanji in posledicami podnebnih sprememb je potrebno okrepiti;
- podnebna komunikacija mora vključevati zahtevo po strukturnih spremembah ter na splošno bolj trajnostnem življenju in strukturah, ne pa samo zahtevo po podnebnem ukrepanju.

Ključna priporočila za zainteresirano javnost (komunikatorji, okoljski aktivisti, znanstveniki in odločevalci) je mogoče povzeti z naslednjim:

- ključni korak pri obveščanju o podnebnih spremembah je oblikovati pravilno sporočilo; splošen ton sporočila ne sme biti alarmističen, strašljiv ali obtožujoč, ampak realen, temelječ na podatkih, otipljiv, vizualen; jasno je treba opisati koristi za skupnost in osebno življenje;
- sporočilo mora biti vidno, skozi uporabo zgodb in čustev ter nenavadnih in opaznih informacij;
- ciljna skupina mora biti dobro opredeljena; poznati je treba njene značilnosti;
- komunikacija mora temeljiti na vrednotah; današnje vrednote nimajo splošno sprejetih definicij, kar odpira prostor za razlilne interpretacije,
- prenašalec sporočila mora biti previdno izbran; iskati je treba družabne ljudi, ki lahko povežejo znanstvena sporočila s karizmo;
- povezava med osebnimi dejanji in globalnimi posledicami podnebnih sprememb mora biti jasno komunicirana;
- ljudi je treba naučiti, da iščejo tisto, kar je "dovolj dobro" in ne "najboljše", ter tako sprožiti osebno ukrepanje; sprememba navad mora vzpodbuditi pozitivne občutke in mora biti prepoznana ter pohvaljena;
- podnebne rešitve je treba graditi na družbeni ravni, v skupinah in s pomočjo interakcije in soustvarjanja; zato moramo okrepiti skupnosti in ponovno povezati ljudi;

- družbene spremembe je mogoče spodbujati podobno, kot se dogajajo epidemije; povezati je treba majhne, a prave skupine ljudi; graditi je treba tudi na "push-pull" strategiji (ljudje, ki so pripravljeni na spremembe, morajo spremembe zahtevati (pull) v ukrepanju vlade, pri ljudeh, ki sprememb ne želijo, pa je treba potiskati (push) z novimi predpisi).

Iz vidika kmetijstva je ključna ugotovitev, da so ljudje s podeželja precej različna ciljna skupina za komuniciranje podnebnih sprememb od ljudi iz urbanih območij. Ključne značilnosti skupine, ki jih velja upoštevati pri snovanju podnebne komunikacije, so naslednje:

- obnašanje je v skladu z družbenimi normami: če je podnebno ukrepanje priznana družbena norma, bodo ukrepali, tudi če je to v nasprotju z njihovimi prepričanji;
- realizem: stojijo na trdnih tleh, zato morajo biti podnebne rešitve praktične in realistične, sicer ne bodo uporabne;
- nezaupanje do informacij, ki pridejo 'od zunaj': podnebna komunikacija naj pride iz skupnosti in naj bo vezana na vplive, ki jih zaznavajo v svoji skupnosti;
- kaznovanje in strogost kot sprejemljivi opciji: če pohvale in nagrade ne zaležejo, je kaznovanje sprejemljiva opcija, vendar pa mora biti kazen poučna in praktična;
- oprijemanje tradicij: podnebno komuniciranje mora biti zastavljeno na dolgi rok, saj se novosti ne primejo hitro;
- pomanjkanje razumevanja podnebnega problema: vzpostavljena mora biti jasna povezava med osebnimi dejanji in podnebnimi posledicami; informacije morajo biti preproste in praktične;
- razumevanje strukturnih problemov: podnebne spremembe niso osamljen problem, zato morajo biti komunicirane skupaj z zahtevo po strukturnih spremembah v gospodarskem sistemu; sprememba življenjskega sloga naj ne bo vezana le na podnebje, temveč na trajnostni razvoj.

8 REFERENCES

Ariely D. 2009. Predictably irrational. New York, HarperCollins Publishers: 349 p.

Arts B. 1998. The political influence of global NGOs. Case studies on the climate and biodiversity conventions. Utrecht, International Books: 352 p.

Baer P., Athanasiou T., Kartha S. 2007. The right to development in a climate constrained world: The greenhouse development rights framework. http://www.ecoequity.org/GDRs (12 March 2010)

Baker C. 1997. Membership categorization and interview accounts. In: Qualitative research. Theory, method and practice. Silverman D. (ed.). London, Sage Publications: 162-176

Ball P. 2005. Critical mass. How one thing leads to another. London, Arrow Books: 644 p.

Baudrillard J. 1998. The consumer society. Myths and structures. London, Sage Publications: 208 p.

Bertman S. 1998. Hyperculture. The human cost of speed. Westport (Connecticut, US), Praeger: 266 p.

Black R. 2009. COP15: Climate 'scepticism' and questions about sex. http://www.bbc.co.uk/blogs/thereporters/richardblack/2009/12/cop15_questions_about_sex.html (8 December 2010)

Broswimmer F.J. 2002. Ecocide. A short history of the mass extinction of species. London, Pluto Press: 204 p.

Bryman A. 2001. Social research methods. Oxford, New York, Oxford University Press: 748 p.

Campbell C. 2001. Romantična etika in duh sodobnega porabništva. Ljubljana, Studia Humanitatis: 382 p.

Caldwell L. K. 1990. International environmental policy: emergence and dimensions. Second edition. Durham, Duke University Press: 367 p.

Changingminds. Belief formation. http://changingminds.org/explanations/belief/belief_formation.htm (3 December 2009)

Climate change 2007: the physical science basis. Summary for policymakers. 2007. http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf (17 January 2012)

Climate resistance. 2010.
http://www.climate-resistance.org/ (25 March 2010)

Clark I. 1997. Globalization and fragmentation. International relations in the twentieth century. Oxford, Oxford University Press: 220 p.

Cohen S. 2001. States of denial: knowing about atrocities and suffering. Malden (USA), Blackwell Publishers Inc: 344 p.

Conca K. 1996. Greening the UN: Environmental organizations and the UN system. In: NGOs, the UN and global governance. Weiss T., Gordenker L. (eds.). London, Lynne Rienner Publishers: 103-120

Corner A. 2009. Psychology is the missing link in the climate change debate.
http://www.guardian.co.uk/environment/cif-green/2009/oct/26/psychology-of-climate-change (12 March 2010)

De Groot J. I. M., Steg, L. 2008. Value orientations to explain beliefs related to environmental significant behaviour: how to measure egoistic, altruistic, and biospheric value orientations. Environment and Behaviour, 40, 3: 330-354

Diamond J. 2005. Collapse. How societies choose to fail or succeed. London, Penguin Books: 573 p.

Dickens P. 1996. Reconstructing nature. London, Routledge: 224 p.

Dobra klima za promjene. 2008. Klimatske promjene i njihove posljedice na društvo i gospodarstvo u Hrvatskoj.
http://klima.hr/razno/priopcenja/NHDRsazetak_hr.pdf (5 January 2012)

Dunning D. 2004. On the motives underlying social cognition. In: Emotion and motivation. Hewstone M., Brewer M. B. (eds.). Malden (MA, US), Blackwell Publishing Ltd: 137-164

Eagly A. H., Chaiken S. 1993. The psychology of attitudes. Belmont (US), Wadsworth: 794 p.

Earls M. 2007. Herd. How to change mass behaviour by harnessing our true nature. West Sussex, John Wiley&Sons Ltd: 348 p.

Edwards T. 2000. Contradictions of consumption. Buckingham, Open University Press: 204 p.

ESOMAR. 2003. Worldwide qualitative research. Marketing demands, qualitative insights: rising to the challenge. Amsterdam, ESOMAR: 410 p.

European Commission. 2010. Public opinion. http://ec.europa.eu/public_opinion/index_en.htm (20 August 2010)

Europeans' attitudes towards climate change. 2008. http://ec.europa.eu/public_opinion/archives/ebs/ebs_300_full_en.pdf (14 March 2009)

Europeans' attitudes towards climate change. 2009a. http://ec.europa.eu/public_opinion/archives/ebs/ebs_322_en.pdf (14 March 2009)

Europeans' attitudes towards climate change. 2009b. Eurobarometer 72.1 results for Slovenia. http://ec.europa.eu/public_opinion/archives/ebs/ebs_322_fact_si_en.pdf (14 March 2009)

Fazio R.H., Olson M.A. 2003. Implicit measures in social cognition research: their meaning and use. Annual Review of Psychology, 54: 297-327

Featherstone M. 1991. Consumer culture & postmodernism. London, Sage Publications: 164 p.

Filho W. L. 2009. Communicating climate change: challenges ahead and action needed. International Journal of Climate Change Strategies and Management, 1, 1: 6-18.

Finger M. 1994. NGOs and transformation: beyond social movement theory. In: Environmental NGOs in world politics: Linking the local and the global. Princen T., Finger M. (eds). London, Routledge: 48-68.

Fromm E. 2004. Imeti ali biti. Ljubljana, Vale-Novak: 183 p.

Fromm E. 2009. The fear of freedom. London, Routledge: 260 p.

Galbraith J. K. 2004. The economics of innocent fraud: truth for our time. London, Penguin Books Ltd: 62 p.

Garvey J. 2010. Green living is not about doing the right thing for the wrong reason. http://www.guardian.co.uk/environment/cif-green/2010/mar/22/green-living-self-interest (3 December 2010)

Gladwell M. 2004. Prelomna točka: kako imajo lahko majhne stvari velike posledice. Ljubljana, Orbis, Založba poslovnih uspešnic: 214 p.

Godina V. 2009. Nesreča v času osamljenosti. http://www.mladina.si/tednik/200951/nesreca_v_casu_osamljenosti (5 August 2010)

Goodall J. 2007. Jane Goodall on what separates us from the apes. http://www.ted.com/talks/jane_goodall_on_what_separates_us_from_the_apes.html (23 March 2010)

Goodman D. J., Cohen M. 2004. Consumer culture. Santa Barbara, ABC-CLIO: 251 p.

Gould K. A., Pellow N. D., Schnaiberg A. 2004. Interrogating the treadmill of production: everything you wanted to know about the treadmill but were afraid to ask. Organization Environment, 17, 3: 296-316

Gough C., Shackley S. 2001. The respectable politics of climate change: the epistemic communities and NGOs. International Affairs, 77, 2: 329-345

Gowdy J. M. 2008. Behavioural economics and climate change policy. Journal of Economic Behaviour & Organization, 68: 632–644

Gram-Hanssen K. 2010. Standby consumption in households analyzed with a practice theory approach. Journal of Industrial Ecology, 14, 1: 150 – 166

Greer J. M. 2009a. The human ecology of collapse, part one: Failure is the only option. http://www.energybulletin.net/50942 (2 August 2010)

Greer J. M. 2009b. After money. http://thearchdruidreport.blogspot.com/2010/05/after-money.html (2 August 2010)

Greer J. M. 2010. The cost of community. http://thearchdruidreport.blogspot.com/2010/01/costs-of-community.html (3 December 2010)

Grohol J. M. 2010. Fighting cognitive dissonance and the lies we tell ourselves. http://psychcentral.com/blog/archives/2008/10/19/fighting-cognitive-dissonance-the-lies-we-tell-ourselves/ (6 December 2010)

Hagens N. 2009. The common link with climate change, peak oil, limits to growth, etc. - belief systems. http://www.theoildrum.com/node/6031 (6 December 2010)

Halady I. R., Rao P. H. 2010. Does awareness to climate change lead to behavioural change? International Journal of Climate Change Strategies and Management, 2, 1: 6-22.

Hannigan J. 2006. Environmental sociology. Second Edition. London, Routledge: 194 p.

Harrell M., Bradley M. 2009. Data collection methods. Semi-structured interviews and focus groups. http://www.rand.org/pubs/technical_reports/TR718.html (2 March 2010)

Healy S. 2003. Public participation in the performance of nature. In: Nature performed. Environment, culture, performance. Szerszynski B., Heim W., Waterton C. (eds.). Oxford, Blackwell Publishing: 94-107

Held D., McGrew A. 2002. Globalization/anti-globalization. Malden (USA), Blackwell Publishers Inc: 158 p.

Holstein J. A., Gubrium J.F. 1997. Active interviewing. In Qualitative research. theory, method and practice, ed. Silverman D. London, Sage Publications: 140-161

Horton D. 2003. Green distinctions: the performance of identity among environmental activists. In: Nature performed. Environment, culture, performance. Szerszynski B., Heim W., Waterton C. (eds.). Oxford, Blackwell Publishing: 63-77

Information is beautiful. 2010. http://www.informationisbeautiful.net/visualizations/climate-change-deniers-vs-the-consensus/ (25 March 2010)

Joyce C. 2010. Belief in climate change hinges on worldview. http://www.npr.org/templates/story/story.php?storyId=124008307 (26 March 2010)

Kahneman D. 2010. The riddle of experience vs. memory belief. In: Climate change hinges on worldview. http://www.ted.com/talks/daniel_kahneman_the_riddle_of_experience_vs_memory.html (5 March 2010)

Kazmierska K. 2004. Narrative interview as a method of biographical analysis. In: Qualitative research: different perspectives, emerging trends. Fikfak J., Adam F., Garz D. (eds.). Ljubljana, Založba ZRC: 153-171

Kramer R., McClintock C.G., Messick D.M. 1986. Social values and cooperative response to a stimulated resource conservation crisis. Journal of Personality, 54: 101-117

Levit S., Dubner S. J. 2005. Freakonomics: a rogue economist explores the hidden side of everything. New York, Morrow: 242 p.

Lynas M. 2008. 6º. Ljubljana, Modrijan založba d.o.o.: 286 p.

MacNeill J., Winsemius P., Yakushiji T. 1991. Beyond interdependence. Oxford, Oxford University Press: 159 p.

Maibach E. W., Roser-Renouf, C., Leiserowitz, A. 2008. Communication and marketing as climate change–intervention assets. American Journal of Preventive Medicine, 35, 5: 488–500

Marshall G. 2001. The psychology of denial: our failure to act against climate change. http://www.ecoglobe.ch/motivation/e/clim2922.htm (6 December 2010)

Miller J., Glassner B. 1997. The ‘inside’ and the ‘outside’. Finding realities in interviews. In: Qualitative research. Theory, method and practice. Silverman D. (ed.). London, Sage Publications: 125-139

Monbiot G. 2003. The age of consent. London, Flamingo: 274 p.

Monbiot G. 2010. After this 60-year feeding frenzy, Earth itself has become disposable. http://www.guardian.co.uk/commentisfree/2010/jan/04/standard-of-living-spending-consumerism (2 August 2010)

Morphet S. 1996. NGOs and the environment. In: The conscience of the world: the influence of non-governmental organisations in the UN system. Willetts P. (ed.). London, Hurst & Company: 116-146

Mullainathan S. 2004. Psychology and development economics. http://www.economics.harvard.edu/faculty/mullainathan/files/PsychDev.pdf (12 March 2011)

Mullainathan S. 2009. Solving social problems with a nudge. http://www.ted.com/talks/sendhil_mullainathan.html (23 March 2010)

Naish J. 2009. Enough. Canada, Hodder & Stoughton: 301 p.

New rules: new game. Communications tactics for climate change. 2005 http://www.futerra.co.uk/downloads/NewRules_NewGame.pdf (7 January 2012)

O'Neill, S. and Nicholson-Cole, S. 2009. Fear won't do it: Promoting positive engagement with climate change through visual and iconic representations. Science Communication, 30: 355. http://scx.sagepub.com/cgi/content/abstract/30/3/355 (25 March 2010)

Peräkylä A. 1997 Reliability and validity in research based on tapes and transcripts. In: Qualitative research. Theory, method and practice. Silverman D. (ed.). London, Sage Publications: 283-303

Poznavanje problematike podnebnih sprememb med prebivalci Slovenije. 2009. http://www.umanotera.org/upload/files/Mediana_podnebje.pdf (10 January 2010)

Princen T., Finger M. 1994. Introduction. In: Environmental NGOs in world politics: Linking the local and the global. Princen T., Finger M. (eds.). London, Routledge: 1-29

Psychology and global climate change: Addressing a multi-faceted phenomenon and set of challenges. A report by the American Psychological Association's task force on the interface between psychology and global climate change. 2009. http://www.apa.org/science/about/publications/climate-change-booklet.pdf (25 January 2010)

Punch K.F. 2006. Developing effective research proposals. Second edition. London, Sage Publications Ltd: 164 p.

Rapaille C. 2006. The culture code. New York, Broadway books: 213 p.

Revkin A. C. 2010. 'Shrinking' the climate problem. http://dotearth.blogs.nytimes.com/2010/10/28/shrinking-the-climate-problem/ (28 October 2010)

Ridderstrale J., Nordstrom K. 2002. Funky business: talent makes capital dance. Stockholm, Bookhouse Publishing: 288 p.

Rifkin J. 2000. The age of access: the new culture of hypercapitalism where all of life is a paid-for experience. New York, Jeremy P. Tarcher / Putnam: 312 p.

Ritzer G. 2001. Explorations in the sociology of consumption. London, Sage Publications Ltd: 257 p.

Roberts D. 2010 Changing behaviour: it ain't easy. http://www.grist.org/article/2010-11-16-changing-energy-behavior-it-aint-easy (6 December 2010)

RTV Slovenija. 2010. Anketa. http://www.rtvslo.si/modload.php?&c_mod=poll&op=polls&func=list&c_menu=23&c_parent=23&page=45 (28 December 2010)

Schnaiberg A. 1980. The environment: from surplus to scarcity. USA, Oxford University Press: 478 p.

Schwartz B. 2004. The paradox of choice. New York, HarperCollins Publishers Inc: 265 p.

Science for environment policy: European Commission DG Environment News alert service, edited by SCU, The University of the West of England, Bristol. News Alert Issue 183. 2010. http://ec.europa.eu/environment/integration/research/newsalert/pdf/184na3.pdf (5 January 2012)

Sennett R. 2003. Respect in a world of inequality. New York, W.W.Norton&Company: 288 p.

Sieder R. 2004. The individual and the societal. In: Qualitative research. Fikfak J., Adam F., Garz D. (eds.). Ljubljana, Založba ZRC: 49-66

Slonep. 2009. Anketa. http://www.slonep.net/info/razpisi/okoljske-nalozbe?view=anketa&id_ankete=8 (6 December 2010)

Smith R.E. 1993. Psychology. Minneapolis/St.Paul, West Publishing Company: 664 p.

Soper K. 2007. Re-thinking the 'good life': the citizenship dimension of consumer disaffection with consumerism. London Metropolitan University Journal of Consumer Culture, 7, 2: 205–229

Stern N. 2007. The economics of climate change: The Stern review. http://webarchive.nationalarchives.gov.uk/+/http:/www.hm-treasury.gov.uk/independent_reviews/stern_review_economics_climate_change/stern_review_report.cfm (12 April 2012)

SURS. 2010a. Regije. http://www.stat.si/doc/pub/REGIJE-2010.pdf (6 December 2010)

SURS. 2010b. Statistični letopisi. http://www.stat.si/publikacije/pub_letopis_prva.asp (6 December 2010)

Suzuki D., McConnel A. 1999. The sacred balance. Vancouver, Greystone Books: 259 p.

Szerszynski B. 2003. Technology, performance and life itself. In: Nature performed. Environment, culture, performance. Szerszynski B., Heim W., Waterton, C. (eds.). Oxford, Blackwell Publishing: 203-218

Štefančič M. 2010. Kritika konspirološkega uma ali zakaj ne preprečimo ničesar, čeprav vemo vse. http://razgledi.net/2010/01/13/marcel-stefancic-jr-kritika-konspiroloskega-uma-ali-zakaj-ne-preprecimo-nicesar-ceprav-vemo-vse/ (14 January 2010)

Tan, C. K., Ogawa, A., Matsumura, T. 2008. Innovative climate change communication: Team minus 6%. Global Environment Information Centre (GEIC) working paper series 2008-001. http://geic.hq.unu.edu/ENV/Files/2008/WP2008_001.pdf (5 January 2012)

Tang, Z., Hussey, C. M., Wei, T. 2009. Assessing local land use planning's awareness, analysis, and actions for climate change. International Journal of Climate Change Strategies and Management, 1, 4: 368-381.

The psychology of climate change communication: A guide for scientists, journalists, educators, political aides, and the interested public. 2009. New York, CRED: 54 p.

The rules of the game. 2005. http://www.futerra.co.uk/wp-content/uploads/2011/09/RulesOfTheGame.pdf (7 January 2012)

Trzyna T. C., Margold E., Osborn J. K. 1996. World directory of environmental ogranizations. 5th ed. London, Earthscan Publications: 263 p.

Uzzell D., Rathzel N. (2008). Transforming environmental psychology. Journal of Environmental Psychology, Article in Press, Accepted Manuscript. http://surrey.academia.edu/DavidUzzell/Papers/253880/Transforming_Environmental_Psychology (16 January 2012)

Van Vugt M., Van Lange P. A. M., Meertens R.M. 1996. A social dilemma analysis of travel mode judgements. European Journal of Social Psychology, 26: 375-95

Walker G., King D. 2008. The hot topic. London, Bloomsbury Publishing: 309 p.

Wapner P. 1997. Governance in global civil society. In: Global governance: drawing insights from the environmental experience. Young O. R. (ed.). Cambridge, Massachusetts Institute of Technology: 65-84

Weisman A. 2009. Svet brez nas. Ljubljana, Modrijan založba d.o.o.: 333 p.

Zivcic L. 2001. The role of environmental non-governmental organisations in forming international environmental instruments. Master of Science thesis. Budapest, Dept. of Environmental Sciences and Policy, Central European University: 111 p.

Personal Communication

Pirotte C. 2010. "Doing in-depth interviews and focus groups." Ljubljana (personal communication, 4 January 2010)

Šmitran S. "Preparing and implementing focus groups." Ljubljana (personal communication, 3 April 2010)

ACKNOWLEDGEMENTS

I kindly thank everyone who contributed to this dissertation in any way. In the first instance my appreciation goes out to the mentor of this dissertation, Prof. Dr. Lučka Kajfež Bogataj, the chair of the commission for evaluation and defence, Prof. Dr. Majda Černič Istenič, and the member of the commission for evaluation and defence, Prof. Dr. Josef Eitzinger. Next I wish to thank those who made the research possible: the interviewees and focus groups participants. My last thanks goes to all the people who helped me with reviewing, suggesting improvements, finding ideas, developing methodology, searching for research participants, proof reading, formatting, creating figures and supporting me in all possible ways. And of course, my apologies to those who tolerated my creative crises and changing moods.

ANNEX A

In-depth interview guide

Introduction

- Calming down interviewees: assuring safe and relaxed atmosphere (assure anonymity, reasons for taping and observing, no right and wrong answers, everyone has its own opinion, critic is welcomed)
- Introduction of moderator, reason for interview and explanation that purpose of the research will be revealed in the end
- Short presentation of interviewee: age, education, occupation, hobbies, family…

Changing of habits

- the alien
- If you would get a visit of an alien and you would 'raise' him/her what would you try to teach him to get through life? Which values, how to behave, ...
- How would you ensure that his/her behaviour is in line with those values?
- How would you motivate him/her to improve his/her behaviour? Would you reward or punish him?
- How would you teach him to live among us?
- lifestyle exploration
- Take me through a regular day of your life, from morning till evening. What do you do?
- [Relate to previous answers] Do you feel that you are often too busy? Would you do things differently if you had more time?
- In what ways do you get information and how much value do you assess to it? Probes: TV, commercial, friends, family, newspapers, internet…,
- Do you have a feeling that you have too much, just right or not enough information, things, commercials, everything?
- How do you choose things to have or do? How do you prioritize them?
- the spider net
- This is a spider net. List the factors that influence you when buying something or deciding on a service. List them in a way that most important ones are close to the centre, least important ones at the periphery.
- Are those decisions influenced in any way? How? By whom? TV, opinions of other people?
- Is there a certain group/type of people you feel close/connected to? Why?
- Do you think your choices have an effect on e.g. environment or other people? In what way?
- cards with factors that influence decisions on product/service
- Please take a look at these elements. Which of those do influence your decisions when you buy or choose products or services? Why those? Why not the others?
- change of habit
- Have you ever changed some habit? Why?
- How did that make you feel? What was the most important discovery?
- How did you start changing the habit? What motivated you to change your habits?
- Do you comfort yourself when you do something bad?

- Do you ever make self-limitations? How?
- give cards with motivations for changing a habit
- Which are for you potential motivations to adjust or change behaviour and which not? Why?

Understanding of the climate change problem

- Sun ray associations: climate change
- Your task is to put down all associations on those rays. Don't think; just write down anything that comes to your mind. You don't have to fill in every ray. Why did you write this down?
- Information and communication
- When did you first hear of climate change?
- Do you feel you get informed about climate change? In which way do you get information about it?
- Is this enough? In which way do you think you should get information or better information?
- Do you look for information proactively or not? If yes, where?
- Do you think that communication about the problem is a right one? Why (not)?
- Who is the best actor to inform you? Who is the most trustworthy in the communication- science, politics, media, sceptics?
- What would you think would work better, both in ways of communicating and for actors?
- Do you discuss these problems with friends or colleagues? Why (not?)
- Did your understanding of the problem change over time? Did information influence this change?
- Consequences
- Do you believe there are consequences to it? (If needed)
- Do you feel in any way that your personal life is influenced by climate change consequences? How so? Can you elaborate? How does/did it make you feel?
- Do you think there is any connection between your personal actions/behaviour and climate change?
- If you knew your personal actions would negatively influence climate would you still do them?
- Do you think people elsewhere are influenced by it? Are you bothered by it?
- Does this influence your behaviour? Why (not)?
- Do you think future generations will feel any consequences of climate change? Does it bother you?
- Have you ever personally witnessed some consequence of climate change, e.g. storm, flood? What were your feelings? How, if at all, did this affect you? Did you make any changes? If yes, how long did the change last?
- If not witnessed: Do you know someone who has? The same as above.
- Who should be responsible to act to solve the problem? Government, companies, people?

Actions for solving the problem

- Give cards with solutions
- Put cards in piles: I do this or would do this, I sometimes do this, I do not do this and would not do it.
- Why do you think those are part of solution and the others not?
- Make then piles with solutions that you do or that you would do.
- Are there some habits you would never change? What and why?
- What are the barriers for those that you do not do? What would be motivators?
- To what extent would you be willing to change your habits?
- What kind of actions would reduce your feeling of comfort? Give a choice of actions.

Personal action

- Is personal action only what you do at home and work or also means raising awareness of other people or even influencing politics?
- Are you a member of group (Greenpeace...)? Why (not)? Did you ever consider? Why(not?).
- Would you vote for greens? Do you ever punish a politician by not voting him/her at next elections?

Conclusion

- Summary of conversations. If interviewee still wants to say anything, let him/her talk.
- Give details on the research.
- Thank and give incentive to interviewee.

ANNEX B

List of in-depth interviewees

Cipher	Age	Education	Region	Gender	Lifestyle
01	24	high-school	NE Slovenia	male	rural
02	18	high-school	NE Slovenia	female	urban
03	27	high-school	NE Slovenia	male	rural
04	29	bachelor deg.	NE Slovenia	female	urban
05	54	bachelor deg.	NE Slovenia	male	rural
06	38	high-school	NE Slovenia	male	rural
07	22	high-school	SW Slovenia	female	rural
08	24	bachelor deg.	SW Slovenia	male	rural
09	35	bachelor deg.	SW Slovenia	male	rural
10	34	bachelor deg.	SW Slovenia	female	urban
11	45	high-school	SW Slovenia	male	rural
12	55	bachelor deg.	SW Slovenia	female	urban
13	21	high-school	Central Slovenia	male	rural
14	22	high-school	Central Slovenia	female	urban
15	29	PhD	Central Slovenia	male	urban
16	27	bachelor deg.	Central Slovenia	female	urban
17	36	bachelor deg.	Central Slovenia	female	rural

ANNEX C

Focus group guide

Intro – 10 min

- Calming down participants: assuring safe and relaxed atmosphere (anonymity, reasons for taping and observing, no right and wrong answers, everyone has its own opinion, critic is welcomed)
- Introduction of moderator, reason for focus groups
- Short presentation of participant: age, education, occupation, hobbies, family…
- Associations on climate change: please write your associations with climate change

Values – 10 min

- Statement: We all know the values that we are supposed to know, but life teaches us that we live more successfully among people with a different set of values.
- How much can you agree with this statement?
- If yes: Why is there a difference in values that we believe in and values that we live by? Why don't you adjust your life to your values or the opposite?
- If no, move on to the next question

Effects on you and other – 20 min

- Do you ever feel that your actions have effects on other people? Which actions and how?
- Is there any example when someone else's behaviour inspired you to change yours? What, why?
- Do you feel that you affect only people close to you or also the ones that live in other parts of the world? In what way?
- Do you ever feel that your actions have effects on environment? Which action and who?
- Do you feel in any way that your personal life is influenced by climate change consequences?
- Do you think there is any connection between your personal actions and climate change?
- If you knew that the ball you are buying was manufactured by a child in Asia, would you still buy it?
- If you consider your personal habits and lifestyle and those of the people close to you – family, friends, acquaintances, how big a problem do you think climate change is? Select differently sized balloons

Motivations to change habits – 25 min

- Would you say that you are satisfied with your current level of comfort in your personal life? Could you live with less comfort in your life? Give me an example. Relate to the following three examples.
- What would be your motivations for
    - using bike or public transport instead of your car?
    - installing photovoltaic panels? (subsidy?)
    - buy same sized appliances? (tax deduction?)

- Take out 5 motives that would most motivate you
- How could changing a habit related to climate change make you personally feel better? How could it represent a positive experience for you?
- If you knew that buying bigger appliance leads to Maldives disappearing under the sea, would you still buy and use it? Relate to the answer on the question with ball: ball you would not buy, but appliance yes. How so? Why do you believe the child is manufacturing the ball? Why don't you believe there is no proof for the other?

Climate information – 10 min

- Where do you notice information about climate change?
- Think about this information. Do you believe this information?
- Think about the information that you do believe. What is it that makes you believe it? (Probes: credible people, source, pictures, reports, statistics, because you have personal experience?)
- Think about the information that you do not believe. What is it that makes you not believe it?

Communication – 10 min

- Do you think that communication about climate change is a right one? Why (not)?
- Imagine that you are a reporter. What approach would you use to communicate something about climate change in a way that the other people would believe it? (Probes: use experts, use visuals, use climate change witnesses, share personal experience…)
- If you take only communication of climate change in the media into consideration, how big problem do you think that climate change is? Select differently sized balloons.

Action – 15 min

- What do you think of Chinese one child policy? Is it necessary in other places? What about here? Why (not)?
- Do you think that people fly too much – business or holidays? Why? Are you willing to give up flying and take other means of public transport? Would you consider travelling less?
- What do you think about vegetarians? Have you ever considered giving up meat? Why (not)?
- We were discussing before the use of public transport, also putting off lights, recycling…
- If you change such a habit, is that for you an isolated event or a part of a process of changing lifestyle?
- For those who have it as a part of process: Does this changing lifestyle conflict with your wished or required consumption level?
- To what extent would you be willing to change your lifestyle to taking such actions to prevent further climate change consequences? Show on a scale.

Inaction – 10 min

- If you consider only the actions that happen on political level, in Slovenia, Europe and global level, how big do you think that the climate change problem is? Select differently sized balloons.
- Do you think that the changes you make personally have an impact on the overall picture? Why (not)?
- You know the saying Kamen na kamen, palača, zrno na zrno pogača. So, how would you suggest to overcome the feeling of powerlessness of one individual?

Wrap-up

ANNEX D

Focus groups' participants

Focus group 1 ('rural')

Cipher	Age	Education	Gender
01	25	bachelor deg.	female
02	32	bachelor deg.	male
03	24	bachelor deg.	female
04	37	bachelor deg.	female

Focus group 2 ('urban')

Cipher	Age	Education	Gender
01	26	high-school	male
02	20	high-school.	female
03	49	high-school	male
04	25	high-school	male
05	20	high-school	female
06	48	bachelor deg.	female

ANNEX E

Audio files of the in-depth interviews and focus groups, minutes from the interviews and focus groups, and table with analysis of the in-depth interviews