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# TRANSFORM ME!

An Experience of Energy  
Consumption

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# Abstract

The consumption of energy in households is a large contributor to CO<sub>2</sub> emissions and one of the negative drivers of climate change. Denmark is one of the leading countries in promoting sustainability and sustainable actions from a national level. However, household energy consumption stands for almost a third of the total energy consumption in Denmark, hence, it can be argued that in order to reduce such energy consumption the responsibility also has to come down to an individual level. It has been seen that individuals are becoming more aware of sustainability issues and are ready to take actions to fight climate change. However, due to the fact that household energy consumption is often perceived as psychologically distant, consumers have a hard time understanding and relating the impact of these habitual behaviors to sustainability. Consequently, research on how to motivate and engage consumers to act more sustainably in the area of household energy consumption is needed.

This study takes an inductive and qualitative approach to gain insights into the behaviors of young consumers from the millennial generation in Denmark and investigate whether gamification can be used to transform these behaviors to become more sustainable. By investigating the full scope of their motivations and barriers towards household energy consumption and by analyzing their personal transformational experiences, the study aims to understand how a gamification experience should be approached to result in a change of behavior.

Based on our findings, we concluded that gamification can provide a transformation of the young consumers household energy behavior. However, the gamification needs to be designed as an engaging experience containing certain elements well known from the transformational theory in order to foster such a transformation. Subsequently, these findings can be used by both profit and non-profit actors with the purpose of further improving and encouraging transformations in consumers' behaviors in the area of household energy consumption.

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Ellen Frick



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*Copenhagen, May 2019*

# Table of Content

<b>1. Introduction.....</b>	<b>5</b>
<b>1.1 Background and Research Interest.....</b>	<b>5</b>
<b>1.2 Research Objective and Research Question.....</b>	<b>11</b>
<b>1.3 Research Approach.....</b>	<b>12</b>
<b>2. Methodology .....</b>	<b>15</b>
<b>2.1 Introduction.....</b>	<b>15</b>
<b>2.2 Theory of Science .....</b>	<b>15</b>
<b>2.3 Methodological Approach and Research Design .....</b>	<b>16</b>
2.3.1 Research Philosophy.....	17
2.3.1.1 Ontology and Epistemology.....	17
2.3.2 Research Method .....	18
2.3.3 Research Approach .....	19
2.3.4 Research Strategy.....	19
<b>2.4 Data Collection .....</b>	<b>20</b>
2.4.1 Choice of Respondents .....	20
2.4.2 Design and Conduction of Interviews.....	21
<b>2.5 Data Processing and Analyzing .....</b>	<b>23</b>
2.5.1 Transcribing .....	23
2.5.2 Analyzing Data .....	23
<b>2.6 Quality Criteria .....</b>	<b>24</b>
2.6.1 Coherency, Consistency, Precision and Transparency .....	24
2.6.2 Validity .....	24
2.6.3 Reliability.....	26
2.6.4 Ethical Considerations .....	26
<b>2.7 Limitations .....</b>	<b>27</b>
<b>3. Theory .....</b>	<b>30</b>
<b>3.1 Introduction.....</b>	<b>30</b>
<b>3.2 Sustainability .....</b>	<b>30</b>
3.2.1 Sustainability and Consumer Awareness.....	31
3.2.2 Young Consumers and Sustainability.....	33
3.2.3 Household Energy Consumption .....	35
3.2.4 Household Energy Consumption in Denmark .....	37
<b>3.3 Transformational Experiences.....</b>	<b>39</b>
2.3.1 The Experience Economy .....	39

3.3.1.1 The Experience Realms .....	40
3.3.2 The Transformational Economy .....	42
3.3.2.1 Transformations as a Consumer Need.....	44
3.3.2.2 Transformations as a Consumer Motivation .....	46
3.3.3 Nudging.....	49
<b>3.4 Gamification as Transformational Experience .....</b>	<b>50</b>
3.4.1 The Concept of Games.....	50
3.4.2 Gamification .....	51
3.4.2.1 Gamification Elements .....	52
3.4.2.3 Previous Research Areas with Gamification .....	54
3.4.3 Motivation.....	58
3.4.3.1 Self-Determination theory .....	58
3.4.3.2 Motivation and Gamification .....	59
<b>4. Analysis .....</b>	<b>63</b>
4.1 Introduction.....	63
4.2 Sustainability and Household Energy Consumption.....	64
4.3 Transformational Experiences.....	78
4.4 Gamification .....	82
<b>5. Discussion and Conclusion .....</b>	<b>96</b>
5.1 Introduction.....	96
5.2 Discussion of Research Subquestion 1 .....	96
5.2.1 Conclusion Research Subquestion 1 .....	98
5.3 Discussion of Research Subquestion 2 .....	99
5.3.1 Conclusion Research Subquestion 2.....	100
5.4 Discussion of Research Subquestion 3 .....	101
5.4.1 Conclusion Research Subquestion 3.....	103
5.5 Discussion and Conclusion of the Research Question .....	103
5.5.1 Suggested Framework.....	104
<b>6. Perspectives .....</b>	<b>107</b>
6.1 Introduction.....	107
6.2 Implications .....	107
6.3 Future Research .....	109
<b>7. References.....</b>	<b>112</b>
<b>8. Appendix.....</b>	<b>129</b>
8.1 The Interview Guide .....	129
8.2 Transcribed Interviews.....	132

# INTRODUCTION



# 1. Introduction

## 1.1 Background and Research Interest

In the last decades, the issue of climate change and global warming has been an emerging topic of the political, social and scientific spheres all around the world (Anderegg & Goldsmith, 2014; Milfont, 2010). Climate change refers to all changes that are occurring in the environment over the extended period of time. The increasing concentration of greenhouse gas emissions in the atmosphere is causing the global average temperature to increase. This is also known as the “greenhouse effect” (“Climate change causes”, 2019). Hence, the consequences are extreme changes in the weather conditions, rising sea levels, and warmer oceans, as well as the destruction of the forest and loss of the vital species (“Climate change causes”, 2019).

It has been long debatable if human activities are affecting and expanding the natural climate changes since environmental changes have always been present (European Environment Agency, 2017). However, since the industrial revolution, the level of greenhouse emissions has increased with a faster speed and today 97 percent of scientists are in consensus that humans are causing global warming (Intergovernmental Panel on Climate Change, 2015; European Environment Agency, 2017; Cook et al., 2013). The Fifth Assessment Report of IPCC (2015, p. 40), the Intergovernmental Panel on Climate Change concluded that:

*“Human influence on the climate system is clear, and recent anthropogenic emissions of greenhouse gases are the highest in history. Recent climate changes have had widespread impacts on human and natural systems.”*

Climate changes are happening, and humans are now facing one of the biggest challenges of their time to lower their impact on climate change (European Environment Agency, 2017). Governments are taking actions and the Paris Agreement in 2015 brought, for the first time, all nations into a common mission to, among many, keep the global temperature below 2 degrees over pre-industrial levels (United Nations 2015, 2015). The members of the EU have agreed to the 2020

climate & energy package, which includes goals to save energy, and to the 2030 climate & energy framework, where new goals are set for the increase of renewable energy and the decrease of emissions of greenhouse gases ("2020 climate & energy package", 2019; "2030 climate & energy framework", 2019). Also, many of the UN's 17 Sustainable Development Goals for 2030, which the member countries of UN have signed, address the climate issue and other relevant issues connected to it ("The Sustainable Development Agenda", 2019).

Even though extensive changes need to be initiated by governments, global organizations and business', the people are also the ones who have an impact and a responsibility to contribute to the changes that need to be made (Milfont, 2010). The way people impact environmental changes is through their consumption and lifestyle behavior (European Commission, 2014). Moreover, as they are the ones making the final decisions about their behavior, the market supply will depend on their demand. Thus, this will further influence the methods and the ways goods and services will be produced. Therefore, it can be argued that individual consumers have the power to choose a sustainable lifestyle and reduce their individual carbon footprint (Milfont, 2010).

Consumers today have, due to the increased climate debates, increasing awareness about how their lifestyle choices contribute to the evolving climate change issue (Collins, Steg & Koning, 2007; Jonkutė, 2016; Gadenne, Sharma, Kerr, & Smith, 2011; Francis & Davis 2015). There is a great amount of information from companies, governments, NGO's and institutions aiming to educate and foster people into living a more sustainable life, resulting in this high awareness (Intergovernmental Panel on Climate Change, 2015; Gadenne, Sharma, Kerr, & Smith, 2011). This can be seen in the rising trends of increased recycling, the use of alternative ways of transportations, the consumption of more sustainable certified products and organic food over conventionally produced goods (Intergovernmental Panel on Climate Change, 2015). Therefore, it is argued that awareness about the importance of taking different kinds of sustainable actions, is present.

As aforementioned, global studies have proven that individual's consumption patterns influence today's greenhouse gas emissions and climate change. Thus, it can be argued that in order to create a healthy and sustainable planet, it is necessary to observe everyday human patterns which can be



traced in their households. Household consumption takes part of a life-cycle approach, which argues that production in its end is furnished by consumers as they are the ones who make the last choice about which goods and services to consume (Hertwich, 2008). According to the European Environmental Agency (European Environment Agency, 2005) housing, food, mobility, and tourism are four major fields of household consumption with the largest environmental impact. In general, it is proven that between 60-80 percent of the negative impact comes from household consumption (Ivanova, Stadler, Steen-Olsen, Wood, Vita, Tukker & Hertwich, 2015), while the household energy usage contributes to one-quarter of all energy used in the EU (European Environment Agency, 2018).

In 2007 the European Union has made an Energy Efficiency Directive in which one goal is 20 percent energy saving by 2020 ("2020 climate & energy package", 2019). Hence, in 2018 the new directive was made for 2030, with a target goal of 32,5 percent energy saving (Eurostat, 2019). On the one hand, due to the enforcement of the policy measures such as mandatory energy efficiency certificates and technological advancements done by EU, during the past years, there has been a reduction in the average energy consumption per unit. On the other hand, a gap to energy efficiency target for 2020 continues to widen as the total energy consumption in the European Union continues to increase. According to numbers provided by Eurostat (2019, p.1), both primary and final energy consumption has been increasing by 1 percent since 2014, which indicates that implemented energy efficiency measures are not enough to ensure that the proposed 2030 or even 2020 targets will be met.

Denmark is one of the leading countries in promoting sustainable consumption (World Energy Council, 2018). Some of the positive impacts are already seen as the country is highly devoted to reach its sustainability goals. Moreover, 78 percent of the Danish population considers climate change as the main problem of today's society and 60 percent of them expressed that they take some kind of personal actions to fight climate change (European Commission, 2017). This can be mostly seen in the use of renewable energies, which account for around 32,7 percent of the actual total consumption in Denmark (Energistyrelsen, 2018), in the number of people cycling to work instead of using a car or other transportation vehicles, which in Copenhagen rounds up to 45 percent (City of Copenhagen, 2017), as well as in the organic food consumption, where more than

a half, more precisely 51,4 percent, of the population buy organic food every week ("Danes are second to none when it comes to buying organics", 2019). Such findings suggest that Danish people have awareness and intentions to act sustainably.

Nevertheless, household energy consumption stands for 30,4 percent of the total energy consumption in Denmark, being the second biggest energy user after the transportation sector (Energistyrelsen, 2018). Thus, this energy consumption accounts for 18,5 percent of the total CO<sub>2</sub> emissions in Denmark (Energistyrelsen, 2018). Comparing to the year before, 2016, the energy consumption was 0,8 percent lower, however, comparing to 1990, the total household energy consumption has increased with 4,8 percent (Energistyrelsen, 2018). Despite the positive progress seen in 2017, the Danish Energy Agency predicts that the energy consumption will, after a further decrease, increase again after 2021 (Danish Energy Agency, 2018). Therefore, we argue, that even though the existing awareness about environmental issues is seen to transform into certain sustainable actions among Danes, there is still a lack of sustainable behaviors in the area of energy consumption.

Despite efforts made by the Danish government and other institutions, such as information campaigns and taxation (Danish Ministry of Energy, Utilities and Climate, 2015; Danish Energy Agency, 2012), the household energy consumption will, as aforementioned, keep its increasing trend. Therefore, in order to lower the environmental impacts of energy consumption, it is necessary, in the long run, to not only enforce policies but also to observe and change consumers attitudes and their behaviors ("Household energy consumption", 2019). This is further enhanced by Caeiro, Ramos & Huisinigh (2012, p.73) who states that: *"Behavioural changes and innovation strategies have a strong potential to mitigate the environmental impacts of household consumption"*.

However, in order for the existing energy system to sustain over time, it is additionally argued that *"not only technological innovations and substitution of fossil fuels on the supply side but also behavioral changes regarding the individual energy consumption on the demand side"* will be needed (Burger et al., 2015, p. 2). This is due to the fact that the gains from effective technological advancements were outweighed by the amount of household energy consumption (Gram-Hanssen,

2014). Additionally, studies by Gram-Hanssen, Christensen, and Petersen (2012), and Sorrel, Dimitropoulos, and Sommerville (2009) proved that people tend to neglect the need to save energy when their households are certified as energy efficient. Therefore, we argue that consumers' values and lifestyle should be observed when lower consumption of household energy wants to be achieved.

As aforementioned, most people are aware of the importance to act sustainably, however, they still struggle to turn their intentions into behavior. Thereby, it is argued that they do not need to be convinced about the importance of sustainable actions, but rather be transformed to engage in these (Hopper & Nielsen, 1991). Generally, people do not consume energy, they use the services or simply say that they are just recipients of energy services (Wilhite, Shove, Lutzenhiser & Kempton, 2006). This can be explained by the fact that energy is invisible and that energy consumption behaviors are mostly rooted in people's habits and values (Wilhite, Shove, Lutzenhiser & Kempton, 2006). This is additionally confirmed by Burgess and Nye (2008, p. 4454) who state that energy is *"doubly invisible as the concepts of the energy impact and its use are not transparent terms which makes it harder for households to conceptualize it with their daily energy-using activities"*. Moreover, the fact that energy is seen as invisible implies that consumers have a hard time relating to it. Therefore, they do not have the opportunity to *"experience the diminishing stock" and does not find themselves in control of their consumption*" (Fischer, 2008, p. 80). In addition, as the features of energy cannot be directly distinguished, it is hard for consumers to connect to their household energy consumption (Fischer, 2008). This all implies that encouraging energy-saving behaviors are difficult and that strategies need to be approached from a different angle. The majority of prior energy consumption behavior research has focused on affecting consumers attitudes, but have not fully succeeded to transform these attitudes into behavior and actions. Therefore, we will focus our research on how to transform consumers to behave more sustainably in the area of household consumption.

In the book "The Experience Economy: Work is a Theatre and every business is a stage", Pine and Gilmore (1999) introduced the Experience Economy as an economy of future progress. Here they argue that the experience economy is an essential way for value creation among consumers and for their "personal transformations". The main part of economic value progress is not to enforce

but to “guide a transformation” (Pine & Gilmore, 1999). Hence, transformations are not fully connected to experiences, as well as experiences are not detached to services, however, experiences are prerequisites for transformations since they are built on experiences. According to Pine and Gilmore (1999), transformations are individual since the subject that is being guided is “an individual”. Hence, consumers are the product as all the changes are occurring within them. Moreover, according to Kristensen (2009a), a transformation is “*a change in the basic set of personal criteria due to a process*” (para. 11) and a “*designed experience for an individual who seeks a sensory experience, an intellectual or virtuous challenge, or an intellectual or artistic insight*” (para. 21). Hence, a transformational experience is fostering the change of the needs, and the consumer who is the subject of it, in a result, will be transformed. This is further emphasized by Kristensen (2009a):

*“Life consists of a large number of personal changes which may be called transformations since there is no change of the person, but there is a new preference that is considered to be part of that same person”.*

Based on this, we argue that the creation of an individual experience fosters a transformation in consumer behaviors. Therefore, we find it interesting to investigate if this could be applied also in the case of household energy savings.

As aforementioned, many studies have been focusing on consumer attitude and have failed to trigger actual energy-saving, not just because they provided little information but because of the way information was conveyed (Moser, 2009; Reckien & Eisenack, 2013). Moreover, as it is argued above, since energy is hard to perceive due to its invisible character (Wilhite, Shove, Lutzenhiser & Kempton, 2006; Burgess and Nye, 2008) people have a hard time connecting to the real issue of its consumption. Therefore, we assert that focus should be on transforming consumers behavior in order to gain a sustainable decrease in energy consumption in the next couple of years. With the spread of technology and the rise of digital media, games and the use of its elements in the non-gaming world have gained larger attention. In research, this is also known as “gamification”. Games are often seen as “*pinnacle form of media that facilitates the emergence of enjoyable self-purposeful and motivating experiences*” (Hamari, Hassan & Dias, 2018, p. 42).

Therefore, we will use gamification as a tool for a transformational experience. Moreover, gamification was researched in various areas, such as education (Landers, 2014; Christy & Fox, 2014; Hamari et al., 2016), services provided by the government (Bista, Nepal, Paris & Colineau, 2014; Hassan and Nader 2016), health (Jones, Madden & Wengreen, 2014) and in the areas of internal organizational communication (Farzan et al. 2008; Jung, Schneider & Valacich, 2010), where its ability to motivate and engage was proven. Thus, we find it valuable to find out how gamification can be used to impact motivation and ultimately transform consumers behavior towards more sustainable behavior regarding their household energy consumption.

The research will be focused on younger people as those of Generation Y, also referred to as *Millennials*, born between 1980 and 2000 (Gurău, 2012). In Denmark, this generation represents 1,46 million people, roughly a quarter of Denmark's population (Statista, 2019). The reasons for studying this demographic group is partly due to the fact that they are the ones that are and will further experience the effects of climate change, and also due to the fact that they were “*brought up playing computer games and are comfortable with the language and metaphors of mobile, online and social gaming*“ (Jefferies, 2017, p. 25). Moreover, it is proven that this generation is additionally engaged and concerned with environmental issues (Singh & Dangmei, 2016), however, the connection between their own lifestyle and the environmental challenges are not clear to them (SPREAD Sustainable Lifestyles 2050, 2013). Hence, with all the above stated, we argue that gamification would be an interesting way to reach the younger generation and ultimately transform their energy household consumption behavior.

## 1.2 Research Objective and Research Question

The research background and interest presented above has revealed that there is a research gap if the creation of a transformational experience could increase young people's sustainable behavior in the field of household energy consumption. In addition, there has been limited research regarding the possible effects of using gamification to transform the behavior of young people in their households. Therefore, we find it highly interesting to study and combine the areas of transformational experiences, gamification theory, and sustainability. All of those areas of study awoken our curiosity to look into how we can make energy consumption more tangible for young

consumers in order to change their perspectives and make them act more sustainably. Moreover, it is of our personal interest to contribute to this area since it is of high relevance to the future sustainability of our generation.

The aim of the study is to contribute to the specific areas of behavioral changes and transformational experiences, namely if consumers behavior can be transformed to be more sustainable through the use of gamification. This will not only be useful for individual consumers, but also for governments and business' aiming to reduce the consumption of household energy. Hence, the proposed research question will be:

*Can the use of gamification transform younger people to take more sustainable actions to decrease their household energy consumption?*

In order to answer the research question three subquestions have been derived from the above background discussion:

- *What are the motivators and barriers of young people to act more sustainably in the area of household energy consumption?*
- *Does an individual experience have an effect on young people's motivation to act more sustainably in energy consumption?*
- *How can gamification be designed to transform young people to have a more sustainable household energy consumption?*

## 1.3 Research Approach

This research will aim to answer the stated research question being *if the use of gamification can transform younger people to take more sustainable actions to decrease their household energy consumption?*. This will be done by presenting and outlining relevant theories and conducting a study to collect empirical findings. These findings will, together with the theoretical framework, be analyzed according to the chosen methodological approach and a conclusion will be drawn for the previously discussed findings.

The first, and current, chapter will present the background for the research, which is relevant in order to understand the different areas and the research gap. Furthermore, the research statement and the research question including subquestions will be presented. The second chapter will outline the chosen *Methodological Approach*. This will be presented according to the different layers of the research onion (Saunders et. al., 2009), by first discussing the research philosophy, which will further lead into the chosen research method, research approach, and research strategy. Followed, we will discuss why qualitative research and interviews are chosen as our research method and research strategy.

Chapter three will present the chosen *Theoretical Frameworks* for the study, as well as previous research done within those areas. This section will be divided into three main parts, where the first one will go in-depth with the research regarding sustainability and young consumers and outline Denmark's energy household consumption. After, the theory about experiences and transformational experiences, including relevant research, will be presented. Lastly, the concept of gamification and research within this area will be outlined.

Chapter four, *Analysis*, will present the empirical findings from our study, which will be analyzed and discussed on the basis of the theoretical foundations. The analysis will be divided into three main parts, corresponding with the three main parts of the theoretical presentation and the research subquestions. In the fifth chapter, *Discussion and Conclusion*, the analysis will be further discussed and will ultimately evolve into a conclusion. The last chapter, *Perspectives*, will end with a discussion of implications of the research and it will propose possible future research within the area of interest.

# METHODOLOGY





## 2. Methodology

### 2.1 Introduction

The methodology chapter presents the applied methodological approach to our study. Firstly, we will present the chosen theory of science, where the perspective chosen to conduct our study will be addressed. We will continue by showcasing the methodological approach and research design, which will follow the layers of the research onion (Saunders, Lewis & Thornhill, 2009). Therefore, this section will touch upon the research method, research approach, and research strategy, hence, explain why we have chosen to conduct a qualitative study executed by interviews. Furthermore, the next part of this chapter, data collection, will indicate which participants we have chosen to include in our study, the reasons of such a choice, as well as how we have designed and performed our interviews, our empirical data. In line with this, we will subsequently elaborate on how we have decided to approach and examine our empirical data for further analysis. Once this is presented, we will highlight how the criteria of quality were strived to be achieved throughout the whole study. Lastly, we will conclude this chapter with the limitations of our study in order to provide a clear explanation of our study focus and the contributions that can be given to the chosen research fields.

### 2.2 Theory of Science

This study will be conducted from a phenomenological perspective. A phenomenological perspective is based on that all phenomenon are related to humans understanding of the world around them. Furthermore, this perspective acknowledges how those meanings should be interpretative by social science (Bryman, 2012). Therefore, the subject studied cannot be separated from the surrounding world, since the interpretation of the world can only be comprehended through the eyes of the subject (Bryman, 2012). By implementing this perspective as a part of our research, we acknowledge that experiences can only be understood and explained by the mind of consumers. Hence, the consumer's subjective perceptions are part of our study. Consumer's surroundings are influenced by their social and cultural context, which frame from which perspectives consumers will see and interpret their everyday experiences. The phenomenological

perspective will allow us to understand consumers' subjective perceptions about sustainability, household energy consumption and experiences more in-depth. Nevertheless, the study will not focus on finding objective facts, but rather gain insights into the subjective truths of consumers' perception of the aforementioned fields. Moreover, since consumers are influenced by their social world, they cannot be observed as single individuals separated from others. Hence, this further strengthens the subjectivity of a phenomenological perspective. By conducting this study from a phenomenological perspective, we argue that the consumers' perceptions are shaped by their social surroundings, and thus, will be incorporated and expressed in their reflections about sustainability, household energy consumption, and experiences.

## 2.3 Methodological Approach and Research Design

The methodological approach and research design are based on the research onion illustrated in Figure 1.

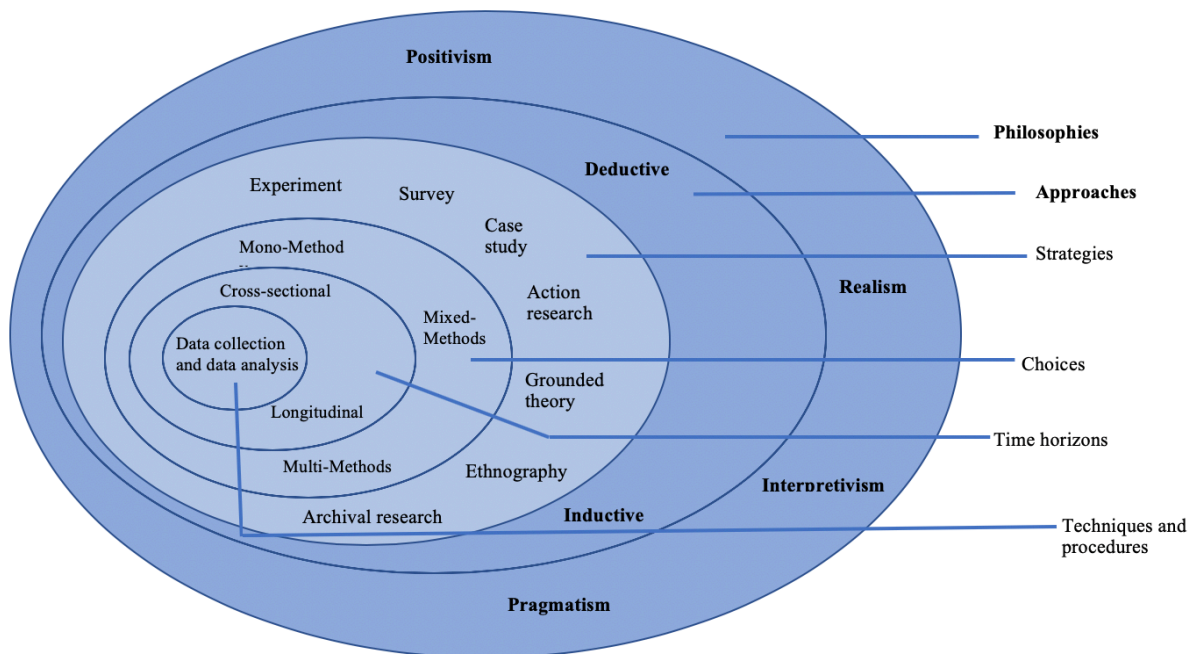


Figure 1. The Research Onion (own illustration based on Saunders et. al., 2009)

Saunders, Lewis, and Thornhill (2009) argue that the outer layers of the onion need to be “peeled off” before coming to the issue of strategies and data collection. Hence, this chapter will start with an analysis of the research philosophy relevant to our study and will lead to the research method and approach, and consequently to the research strategy. The purpose of the study is to do exploratory research which will allow us to seek new insights if gamification can be used to transform young consumers into taking more sustainable actions to decrease their energy household consumption (Saunders et. al., 2009).

### 2.3.1 Research Philosophy

Saunders, Lewis, and Thornhill (2009) argue that the research philosophy refers to the development of knowledge and the nature of knowledge. The research philosophy chosen affects and influences the way the research is designed and the research process. Therefore, it is important to carefully consider these aspects (Saunders et. al., 2009). This research is concerned about consumers behavior and their roles as social actors, hence an interpretivism philosophy is adopted. Interpretivism emphasizes the role of humans as social actors and the meanings they prescribe to their actions. Thus, interpretivism conducts research among people to understand the world from their point of view, which in turn represents the biggest challenge of such a philosophy. It is based on the phenomenology, which addresses the way humans see the world around us, and symbolic interactionism, which states that humans continuously interpret the social world, compare their actions to others and consequently adjust their meanings and behavior. Moreover, it is argued that an interpretivist perspective is important in the fields of marketing and human research, due to the complex and unique situation of studying individuals (Saunders et. al., 2009). Thereby, interpretivism approach is chosen as the right philosophy for our study.

#### 2.3.1.1 Ontology and Epistemology

Ontology is the nature of reality and refers to the view and the assumptions of reality that affect the way the world is interpreted (Saunders et. al., 2009). The ontology emphasizes how the researchers see and understand the world and how it operates. This research will adopt the subjectivism aspect of ontology. This aspect refers to the world as being socially constructed and aiming to understand subjective meanings and social phenomenon (Saunders et. al., 2009). This is also known as social constructivism (Bryman, 2012). In a subjectivist view, consumers are trying

to understand the world around them from their point of view (Saunders et. al., 2009). Social actors may perceive one situation in many different ways, hence these different points of views are likely to have an impact on their behavior and the social interplay with others. Consequently, they are seeking the meaning behind their interpretations, which in turn could also result as meaningful viewpoints for others. Therefore, in order for us to comprehensively understand the consumers' motives and actions in a meaningful way, a social constructivism ontology will be adopted in this research.

Epistemology refers to what is seen as acceptable knowledge in research and how the research should be done (Saunders et. al., 2009). The issue of epistemology concerns whether a social science study can be done with the same principles and procedures as a natural science study (Bryman, 2012). Arguing for such a scientific approach would lead to a positivist philosophy; applying the methods of natural science to social science. However, taking the stance that social science needs to be done with consideration to the social context – people and their institutions – makes it differ from the natural science approach. This characterizes, as aforementioned, the interpretivist epistemological position (Bryman, 2012). Hence, as in our research, we are not focusing on the tangible objects, such as smart meters for tracking the energy spending, instead, we are dealing with motivations and attitudes of consumers since the object of our study is researched as social phenomena. The authority is placed upon the details, the reality behind those details, their subjective meanings and motivating behaviors (Saunders et. al., 2009).

### 2.3.2 Research Method

Qualitative research concerns gathering words and non-numerical data rather than numbers, which would be in the case of quantitative research (Bryman, 2012). For studies aiming to understand the reasons for consumers' decisions, perceptions, and actions, a qualitative method is argued to be preferable (Bryman, 2012). This would, for example, include research aiming to answer the questions of *why* and *how* in the sense of human behavior. Moreover, the epistemological position of interpretivism and the ontological position as constructivism is often a noteworthy part of qualitative research. Furthermore, conducting qualitative research allows the use of the inductive approach to ground the foundation for collecting data (Bryman, 2012). Therefore, our research

will adopt such approaches and positions, and in order to answer our research question, a qualitative method will be applied.

### 2.3.3 Research Approach

The research approach concerns the design of the research project (Saunders et. al., 2009). By adopting an inductive approach in the research, the data is collected and analyzed in order to develop theories as a result. Hence, the theory will follow data in comparison to a deductive research approach, where studies are focused on testing theories (Bryman, 2012). Studies of an inductive approach aim to understand the nature of the problem and to answer questions of *why*, rather than *what*. This leads to a desire to understand the meanings humans attach to events and to acknowledge that the researcher is a part of the research, due to the situation of interviewing and interacting with the participants. Since our study is based on a qualitative research method and is focused on answering the question of why certain event trigger human motivation, an inductive approach is applied. This is further enhanced by the aforementioned implemented philosophy of interpretivism, which is argued to go hand in hand with our inductive research approach (Saunders et. al., 2009).

### 2.3.4 Research Strategy

In order to answer our proposed research question, we chose to implement a qualitative method, more specifically interviews. Hence, our choice was additionally based on the fact that qualitative methods are appropriate tools when we want to describe and understand phenomena in its specific context. With our research question and sub-questions aiming to comprehend why young consumers act in a certain way regarding consumption of household energy and if transformational experiences and gamification experiences can affect their behavior, interviews allow us to collect a wide range of data. With the purpose of our study being exploratory, we chose to conduct types of interviews called semi-structured interviews. Semi-structured interviews are argued to be the right research strategy when seeking new insights and when the aim is to understand decisions that the participants have taken, as well as the reasons behind their attitudes and opinions (Saunders et. al., 2009). Furthermore, we chose to do one to one and face to face interviews in order to establish more personal contact with our participants. Combining that with the open and flexible characteristics of semi-structured interviews, this allowed us to create a safe environment for them

to express their thoughts on the disclosed subject. Moreover, we employed the semi-structured form of interviews also due to the fact that it allowed us to adapt the questions depending on the situations. Hence, we conducted open questions for the interviews which would be covered in the so-called interview guide, but follow-up questions were depending on the context and the answers from the participants (Bryman, 2012). Another reason why only a qualitative research method of semi-structured interviews was done is due to the fact that when the data was collected, the interviews reached saturation. Therefore, a quantitative study, such as a survey was not further applied. However, when presenting and elaborating the collected data, secondary data from other surveys were used, with the purpose to further strengthen our findings.

## 2.4 Data Collection

### 2.4.1 Choice of Respondents

The respondents for the interviews were chosen according to Bryman (2012) theory of sampling in qualitative research. As argued by Bryman (2012), the research question of a study should give an indication of what kind of units that needs to be part of the sampling. With the research question aiming to understand how to transform *young people*, later on, defined as millennials, the respondents were chosen based on their belonging to this age group. Hence, our participants ranged from 21 to 29 years old. Since the study is aiming to understand if people could be transformed into a more sustainable behavior in Denmark, hence, all of the respondents are living in Denmark, Copenhagen. A total number of 10 interviews were conducted, as the number was chosen since it was large enough to provide the study with an appropriate and comprehensive amount of data. Furthermore, seven of our participants were women, in relation to three of them being men. The details of the participants are shown in table 1.

<b>Participant:</b>	<b>Age:</b>	<b>Gender:</b>	<b>Residency:</b>	<b>Occupation:</b>	<b>Nationality:</b>
<b>Astrid</b>	28	Female	Copenhagen	Student	Swedish
<b>Tudor</b>	22	Male	Copenhagen	Student	Romanian
<b>Daniel</b>	29	Male	Copenhagen	Working	Danish
<b>Maja</b>	21	Female	Copenhagen	Student	Swedish
<b>Hanna</b>	23	Female	Copenhagen	Student	Swedish
<b>Malin</b>	25	Female	Copenhagen	Student	Swedish
<b>Stefan</b>	23	Male	Copenhagen	Student	German
<b>Chiara</b>	25	Female	Copenhagen	Student	Italian
<b>Emma</b>	26	Female	Copenhagen	Student	Australian
<b>Luisa</b>	26	Female	Copenhagen	Student	German

*Table 1. The participants of the study*

## 2.4.2 Design and Conduction of Interviews

As aforementioned, we applied the semi-structured design of interviews when conducting them in our study. This allowed us, in all our executed 10 interviews, to have clear and open questions and to ask follow-up questions depending on the respondents' answers. For our interviews, we have designed an interview guide, seen in Appendix 1, which served us as help when conduction took place. The interview guide was structured in three sections, addressing sustainability and household energy consumption, transformational experiences, and gamification. The interview guide began with introductory questions regarding sustainability and tackled sustainability more in-depth in the area of energy household consumption. The interview guide further continued with questions within the areas of transformational experiences and gamification. We applied different kinds of direct and open questions, starting from introduction to specific, and if needed, follow-up questions, with the purpose of achieving openness in line with our exploratory approach (Bryman, 2012). The questions were formulated based on our theoretical framework and derived from the research question and the three research subquestions. However, when phrased, the focus was put upon the simplicity to secure participants' easy understanding of the questions. In order to avoid influencing the participants' answers, the questions were formulated in a neutral way, inviting the

participants to elaborate and explain their opinions (Saunders et. al., 2009). As interviewers, we acknowledged that our role was to be neutral, understanding and to listen to the participants (Saunders et. al., 2009).

The 10 interviews were conducted within the time period of one week, week 15, from the 8th of March to the 11th of March. They all took place at either group rooms provided by Copenhagen Business School, or at the privacy of our homes. The interviews were done in English by both researchers and each of them lasted between 25 to 35 minutes. All interviews started with us explaining to the participant what the interview would be about, and with an introduction of the three terms that have been used a lot; *sustainability*, *sustainable behavior*, and *gamification*. This was done in order for the participants to get a basic understanding of these concepts and to make them feel more relaxed (Bryman, 2012). After this, we asked the participants for their consent to be recorded and informed them about the purpose and use of the following interviews. In addition, to make sure the relaxing atmosphere would be present through the whole time, we initially told all of them that there are no right or wrong answers and they can feel free to take their time to answer the questions.

Nevertheless, we have, as aforementioned, conducted 10 interviews as the same pattern of information appeared, which implied that saturation was met (Saunders et. al., 2009). This implied that further interviews were not necessary, as the conduction of more interviews would not provide us with new insights. For example, the participants all rated the questions of the same, high importance and expressed the same spectrum of thoughts about the given topics. The same keywords, as well as the same sample of elaborations, kept appearing. Due to this saturation, we have concluded that an additional quantitative research strategy to gather primary data was not necessary, however, when analyzing and presenting our data, the secondary data from other surveys were used. Hence, this was done to further strengthen our empirical findings.



## 2.5 Data Processing and Analyzing

### 2.5.1 Transcribing

After all of the interviews were conducted, the process of transcribing the material began. The transcribed interviews can be found in Appendix 2. We choose to transcribe all of the interviews to get a coherent overview of the collected data, in order to build a foundation for further analysis of the data. We carefully transcribed the interviews manually to make sure that all spoken words were included.

### 2.5.2 Analyzing Data

After the transcribing process, the analysis of the empirical data began. The analysis was done in accordance with Rennstam and Wästerfors (2015) sorting, reducing, and arguing method. Firstly, we sorted the material into different categories by going through the transcribed material. We searched for repetitions and patterns, similarities and differences in the answers as well as sections where the theory could be applied. The sorting process allowed us to find frequent keywords, themes and important answers in the three aforementioned sections, which also represents our research areas. We have seen that the key answers from those three areas are not mutually exclusive, but rather they are interrelated with each other. Hence, when the analysis was done, the questions from different areas were applied into all of the corresponded three sections of the fourth chapter of our study, the analytical part.

Sorting also allowed us to reduce our data by eliminating materials which were not relevant for the aim of our study. Detecting significant keywords allowed us to get a greater perspective of consumers' subjective minds and subsequently resulted in giving answers to the three themes which are interrelated with the research subquestions. Moreover, reducing the given material created an opportunity to build up our findings, since those reduced parts hold answers to our research question (Rennstam & Wästerfors, 2015). Furthermore, organizing our empirical data, enabled us to argue our findings not only according to our data but also to the existing literature.

As this study is concerned with an interpretivism philosophy, the hermeneutical approach of understanding and interpreting written material can be applied (Bryman, 2012). The hermeneutical approach is suitable for our analysis as we aimed to obtain implicit meanings from our empirical material. Additionally, such an approach did not only enable us to interpret the received answers, but also to continuously re-interpret them in order to gain the full scope of the meanings. With the aforementioned theory of science being phenomenological, the focus was put upon the context of the situation and the understanding of the participants' subjective meanings.

## 2.6 Quality Criteria

### 2.6.1 Coherency, Consistency, Precision and Transparency

Throughout our whole study, we have strived to follow and obey all four given criteria of coherence, consistency, precision, and transparency (Bryman, 2012). To achieve the criteria of coherence, we have aspired to construct and organize elements of our study in a systematic and logical order, so that each of the parts connects to each other. We have strived to accomplish the second criteria, consistency, by using the terminology, corresponded concepts and theories of science relevant for our research, as well as methods and other research studies in a consistent manner. Hence, the criteria of precision, which goes hand in hand with consistency, was accommodated by making sure that all terms and concepts applied in this study are explained in a clear and precise way to our participants, as well as throughout the whole study. Lastly, in the aforementioned sections, we have clearly and openly presented how our study has been orchestrated in order to achieve the criteria of transparency. Moreover, we have made sure that the criteria of transparency are respected not only in the current chapter where all our methodological choices are presented and argued but also throughout our whole study.

### 2.6.2 Validity

Validity refers to whether the study observes, identifies and measures what it claims to research (Bryman, 2012; Saunders et. al., 2009). According to Bryman (2012), we can distinguish between internal and external validity. Internal validity refers to whether our observations and the interpretations of these correlate with the theoretical standpoints. Hence, as the center of our study

is consumers and their subjective meanings, internal validity refers to whether we as researchers meticulously and accurately reflect those perceptions in our study. Therefore, as argued by Bryman (2012), our skills as researchers are of high importance to ensure that internal validity is incorporated in every aspect of our study. Since the chosen focus is on the subjective meanings of consumers, we have chosen to collect data directly from them and, thus, ensure that the validity of our findings corresponds with the gathered insights. Therefore, the applied research method is considered to be appropriate for our study. Hence, when formulating the questions for our interviews, the internal validity was consistently taken into account. Moreover, during our qualitative study, the interviews, we have strived to obtain high quality and ensure validation by meticulously examining the participants' statements and confirming them when needed. Furthermore, it was taken in account that the participants might not share their actual viewpoints formed in their everyday life, but the ones which they, consciously or unconsciously, establish at the moment when they are confronted with the interview question. Nevertheless, their expressed statements can still be seen to add value and truth to how they perceive the research areas of sustainability and household energy consumption, transformational experiences and gamification (Bryman, 2012).

External validity refers to whether the results of our study can be generalized beyond the context that was researched (Bryman, 2012). We argue that our study and our findings could be generalized and applied to the millennial generation living in Denmark. Even though the participants of our study are situated in the capital of Denmark, Copenhagen, we assume that the external social context of Denmark, as well as the common perceptions of the given areas, are similar within the whole country. However, even though all of our participants are not born and raised in Denmark, we argue that due to the fact that they have been living in Denmark for a period of time, they have assimilated enough to the Danish mindset and the Danish way of living in order to provide valuable answers. In addition, since the study was conducted on the younger generation, millennials, in Denmark, the results should not be seen as generalizable for other age groups or other countries.

Lastly, the study's ecological validity needs to be addressed. Ecological validity refers to whether the social scientific results can be applied to the everyday life of consumers and their natural social context (Bryman, 2012). The participants that are students were interviewed at Copenhagen

Business School, which is for them their everyday natural setting. Hence, this was shown in their performance during the interviews, as they did not feel nervous due to the familiarity of the environment. The rest of the participants were interviewed at one of the researchers' home, where they have been before, which made them feel at ease and relaxed. Therefore, we assume that the findings of our study can be applied to other similar circumstances when communicating sustainability in terms of household energy consumption. Moreover, we argue that our study has a contribution to the peoples' everyday life as it concerns their habitual actions which are part of their being.

### 2.6.3 Reliability

Reliability refers to if the results from a study are repeatable, hence, if it will provide consistent findings (Bryman, 2012). Reliability can be divided into internal and external reliability, where the internal concerns if the consistency between the researchers exist, while external reliability involves to which degree the study can be replicated (Bryman, 2012). Reliability as criteria of quality is often used for quantitative research, which is characterized by positivism and objectivity. Hence, the influence of the context is minimized (Bryman, 2012). This is opposite to our applied phenomenological perspective, where we as researchers do not aim to obtain objectivity, but rather gain consumers' subjective perspectives in a specific context. Since consumers' subjective meanings are constantly influenced by ever-changing surroundings, we argue that our study is context-dependent. Hence, if a similar study would be conducted again by other researchers and in a different setting, the same results cannot be guaranteed.

### 2.6.4 Ethical Considerations

When conducting research, there are numerous ethical issues to consider (Bryman, 2012; Saunders et. al., 2009). Throughout the whole study, we have taken possible ethical aspects into consideration, as we are touching upon the personal lives of our respondents. Before conducting the study, we made sure that the overall scope and topic is of an ethical nature. Later, when conducting the study, we made sure to inform our participants about the purpose and content of our study as well as the use of the collected data. Furthermore, we also informed who will be able to access the collected data and the finished study. We further processed by obtaining the participants' consent to be recorded and use their personal data. In this regard, we choose to display

their first names, age, gender, occupation, city of residence and nationality, as this information is proven to be enough to construct a general understanding of who our target is.

We as researchers strived to create a safe and comfortable interview environment for the participants and eliminate possible feelings of stress. Also, we made sure to protect and respect the privacy of our participants, both during and after the study. In addition, we acknowledge that we as social researchers stayed neutral during the interviews in order to not probe or bias the participants. Lastly, in order for us as researchers not to misinterpret the interviews, we transcribed all the recorded material in written form. Hence, we eliminated the risk of making our standpoints to the participants' answers.

## 2.7 Limitations

It is important to consider the limitations of a study in order to understand the choices that were made regarding the theoretical framework, the methodology and the analysis (Saunders et. al., 2009). First and foremost, we have geographically delimited our study to Denmark, more precisely to its capital city, Copenhagen. Therefore, as we delimited our study to one country, the results cannot be generalized to other countries. This limitation was made due to the available resources we had in terms of financial ability and the time scope. Hence, all the participants in our study are living in Copenhagen. Moreover, the focus of the study were young consumers belonging to the millennial generation, and due to limited time resources, a more comprehensive study was not possible to conduct. However, the chosen focus on the millennial generation was due to the fact that they are the future generation and the generation that is often referred to as digital natives, due to the fact that they spend a great amount of their time online (Jefferies, 2017). Hence, it is relevant to conduct the study on this generation. Most of our participants were chosen from our social surroundings, which resulted in most of them being students, with the majority at Copenhagen Business School. This could have impacted the results since it can be argued that they could have had previous knowledge within the scope of the study. This can be due to the fact that Copenhagen Business School is an institution which is oriented to promote sustainability in a positive manner. Furthermore, even though the participants are residents of Copenhagen, they were not all born and raised in Denmark. Hence, the results of the study could have been influenced by the participants'

different cultural backgrounds, values, and social norms. Furthermore, in line with our phenomenological perspective, we have narrowed down our focus to the subjective perceptions of individuals belongs to the millennial generation. With such research, it is a risk that the participants are not displaying their actual perspectives. Instead, they can, consciously or unconsciously, express the subjective meanings that they formulate at the moment of being questioned.

In regard to the area of sustainability, we only defined the term as environmental sustainability. Hence, other definitions as social sustainability or financial sustainability were not considered, which narrowed the possibility to observe sustainability from all angles. In addition, we chose to focus on the area of household energy consumption within the field of sustainability, which represents a specific context. Furthermore, the areas of transformational experiences and gamification were also based within the aforementioned field, hence, if the study was applied to another sustainability area such as recycling, the results might differ. In the area of gamification, another limitation was that we did not address all the gamification elements in the interviews. Thus, interesting subjective points of views might have been delimited.

As aforementioned, the study was conducted using a qualitative research method and the data collection was executed by conducting interviews. Due to the mentioned reached saturation in the interviews, it was decided that additional primary data was not needed to be collected. However, conducting quantitative research, a survey, could have provided the study with a broader scope and further straighten its qualitative findings. Hence, quantitative research could lay the foundation for further research within these fields of study. However, to further strengthen our finding we have used the secondary data from surveys conducted by trustworthy sources such as the European Commission and the World Business Council for Sustainable Development. Those surveys were found to be of a great contribution to our study and have supported our conclusions.

# THEORY



## 3. Theory

### 3.1 Introduction

In the previous chapters, we introduced the research area of our interests, which combines sustainability and consumers behaviors with transformations through experiences and gamification. This chapter will focus on the theoretical foundations and the relevant theories within these areas, which will ultimately be applied in the study with the purpose to answer the research question of this thesis. Hence, the main fields of the theoretical part will include relevant theories regarding sustainability, transformational experiences, and gamification. These three areas form the structure of the theoretical foundation and have been chosen due to their relevance to the topic and the research question. Furthermore, this same structure will also be applied in the later analysis.

The first main section will focus on creating a general understanding of sustainability and consumers perception of it. Thus, the chosen area of sustainability that the focus will be put upon is within the field of household energy consumption. For this purpose, relevant research and facts in this area will be presented. The second main section consists of theoretical frameworks in the field of experiences, transformational experiences and transformations. These theories are chosen as they are the most relevant for the overall purpose of our study. The third and last section will present the area of gamification, a relatively new and progressing field of research. Each of the sections does not only represent separate entities but are rather integrated and interrelated with each other. This will enable us to build the theoretical foundation needed for the analysis of this study.

### 3.2 Sustainability

This section will start with an introduction of sustainability as a concept. Furthermore, it will outline the perceptions of consumers towards sustainability, and more precisely, household energy consumption. Relevant information regarding household energy consumption in Denmark will also be presented.



### 3.2.1 Sustainability and Consumer Awareness

“Sustainability” as a concept is one of the mainstream terms of the twenty-first century (Schaefer & Crane, 2005). The concept was for the first time addressed on a global scale at the United Nations (UN) Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992, where frameworks of unsustainable consumers’ and organizations’ behaviors were acknowledged as the key factors impacting the world’s unsustainable development (Jonkutė, 2016). According to the UN World Commission on Environment and Development (WCED), known as Brundtland Commission, “sustainability” or more precisely “sustainable development” is defined as *“development that meets the needs of the present without compromising the ability of future generations to meet their own needs”* (World Commission on Environment and Development, 1987, p. 43). Moreover, in 1994, Oslo Symposium elaborated even further, defining sustainable consumption as *“the use of services and related products which respond to basic needs and bring a better quality of life while minimizing the use of natural resources and toxic materials as well as emissions of waste and pollutants over the life cycle of the service or product so as not to jeopardize the needs of future generations”* (United Nations, 2019, para. 3). Hence, in this study, both of the aforementioned statements will be adopted as the definitions of “sustainability”.

Although consumers’ consumption represents one of the most significant factors which impacts economic growth, it also has a great influence on the everyday environmental surroundings (Abeliotis, Koniari & Sardianou, 2010; Tukker et al., 2008). Hence, the aforementioned unsustainable patterns of consumption and production are recognized to have a large influence on climate change, degradation of natural resources and biodiversity. Consequently, global migration crises and differences in economic and social welfare between and within countries have emerged (Lorek & Spangenberg, 2014). Moreover, the increased levels of consumption lead in the increased level in production, which accordingly demanded bigger inputs of energy and raw materials (Kletzan, Köppl, Kratena, Schleicher & Wüger, 2002). All of those facts have given rise to numerous research studies which asserted and framed sustainability in the context of marketing, environmental science, politics and sociology (Kilbourne, McDonagh & Prothero, 1997; Heiskanen & Pantzar 1997). Accordingly, companies, non-profit organizations and other institutions started to showcase and provide information to their consumers in order to promote, educate and foster sustainable lifestyles (Intergovernmental Panel on Climate Change, 2015;

Gadenne et. al., 2011). This sustainable behavior can also be defined as a pro-environmental behavior, which is defined as *"behavior that consciously seeks to minimize the negative impacts of one's actions on the natural and built world"* (Kollmuss & Agyeman, 2002, p. 240). Moreover, media covers, the release of numerous documentaries and speeches from influential activists (Soroka, 2003) have resulted in an increase of consumers' awareness about how their lifestyle choices contribute to the evolving climate change issue. This is additionally confirmed by AccountAbility and Consumers International (2007) and Swim et al. (2010) whose studies indicate that consumers today believe that climate change is a global consumer issue and that they are concerned about global warming. Hence, according to a research done by Yale University in 2018, the majority of Americans, 73 percent, believe that global warming is an issue of nowadays, while 59 percent of registered voters think that people are the main cause (Leiserowitz et al., 2018). A survey by the European Commission (2017) states that 74 percent of people in the European Union consider climate change to be a "very serious" issue. However, when looking at Denmark, the country holds a high place, where 78 percent of the population holds this opinion. Furthermore, 29 percent of the population consider climate change to be the single most serious issue facing the world, compared to the EU average of 12 percent. Additionally, the survey by Yale University noted that of those who expressed a change in their mind about the climate change, 8 percent of them stated that they are becoming more concerned every day about the issue (Leiserowitz et al., 2018). In the European Union, the survey showed that the share of respondents seeing climate change as a very serious problem has risen by 5 percentage points since 2015 (European Commission, 2017). Thus, when asked to elaborate, most of the respondents stated that this is due to their direct experience of the impact of climate change, that they are getting more informed about the current issues, and that it is a term that they are hearing often in their everyday surroundings (Leiserowitz et al., 2018). In a survey by The Guardian (2010), consumers stated that new media, government, friends, and family are big influencers for their understanding of climate change. Moreover, the change in the attitude and behavior has been mostly seen in the areas of recycling, in the use of alternative ways of transportations, the consumption of more sustainable certified products and dietary options (Intergovernmental Panel on Climate Change, 2015). This is especially seen in one of the pioneer countries in promoting sustainability, Denmark (World Energy Council, 2018), where the progress in consumers' consumptions is highly noted. In Denmark, a survey showed that 39 percent of the population consider the individuals as personally

responsible for tackling climate change (European Commission, 2017). This is seen in their actions, where 60 percent of the Danish population express that they have personally taken actions to fight climate change, which is an increase of 7 percent since 2015 (European Commission, 2017). According to Danish reports, around 45 percent of people are cycling to work instead of using a car or other transportation vehicle (City of Copenhagen 2017), 51,4 percent of the population buy organic food every week ("Danes are second to none when it comes to buying organics", 2019), while the use of renewable energies account for 32,7 percent of the actual total consumption in Denmark (Energistyrelsen, 2018). All of those findings suggest that awareness in consumers is present and that intentions to act sustainably are on the rise. Furthermore, the aforementioned data regarding Denmark's devotion to becoming a leading country in all areas of sustainability triggered our interest and resulted in us focusing on consumers and their behaviors in Denmark.

### 3.2.2 Young Consumers and Sustainability

As aforementioned, over the last couple of years, consumers' consumption has been identified as a factor which does not only results with a social, but also with an environmental, impact (Hume, 2010). When observing different age groups, it was proven that younger generations, those of Generation Y, also known as Millennials, are highly aware of their potential impact on the environment (Singh & Dangmei, 2016). This is supported by the survey done by the European Commission (2017), which highlights that this age group is more likely to perceive climate change as the single most serious problems of today. Thus, according to Fien, Neil, and Bentley (2008), young consumers are essential drivers when sustainable behavioral patterns need to be established. Moreover, in their study, they argue that young consumers are a specific group of people who are exposed to the fast-changing current surroundings which makes them the biggest potentials to behave as representatives of a change (Fien, Neil & Bentley, 2008). Hence, this can be explained by their characteristics of being open to changes while at the same time getting inspired by the new upcoming ideas (Brusdal & Langeby, 2001). This is reasoned by their freedom of responsibility, as they are most keen to study longer, which consequently results in their late entry into working life as well as in starting a family, hence an appreciation for their own personal freedom is of high importance (Brusdal & Langeby, 2001). Another reason lies in the reverse learning process. Nowadays, knowledge is no longer just transferred from older to the younger

generation, but due to the fact that older generations can also receive valuable inputs from the younger ones, it is argued that young people have a high ability to impact consumption of their peers, especially in their households. In addition, Fien, Neil and, Bentley (2008) argues that the consumption patterns that younger generation have are important to observe as they are the ones who will create an environment for the lives of future generations. Nevertheless, in their further study, they conclude that they are three socio-psychological factors which imply that young people have a potential power to transform consumption behaviors (Fien, Neil & Bentley, 2008). Firstly, they are highly concerned about the changes that are occurring in the environment, secondly, their longing to be part of a group creates in them an urge to appeal to others, which consequently can result in them creating long-lasting trends. Lastly, with being constantly exposed to a large range of media which *“play an important role in promoting and reinforcing consumer values*, they showcase large literature media skills (Fien, Neil & Bentley, 2008, p. 58). Therefore, this study will focus on the young generation, born between 1980 and 2000, known as Millennials (Gurău, 2012).

Moreover, despite that it is argued that young people are highly aware of climate change and the impact that their everyday habits have on the environment, it is proven that most of the time those attitudes do not necessarily translate directly into an actual behavior (López, Garcia & Rodriguez, 2007; Vinkhuyzen & Karlsson-Vinkhuyzen, 2014; O’Rourke, 2008). This is due to the fact that most of the times the connection between their own lifestyle and the environmental challenges are not clear to them (SPREAD Sustainable Lifestyles 2050, 2013), as well as that their behavior largely depends on their habits and preferences, which are hard to change (Tan & Lau, 2009). A survey done by the World Business Council for Sustainable Development (2008) showed that the most important barriers for consumers to adopt sustainable behaviors are the lack of information and knowledge, holding 30 percent, and that consumers do not want to compromise with their lifestyle, holding 15 percent of the total answers. Leiserowitz (2006) additionally argued that most people are not acting according to their attitudes, known also as the attitude-behavior gap (Boulstridge & Carrigan, 2000), which is due to the lack of empowerment and motivation. Besides, even after the acknowledgment of the lack of motivation to act sustainable exists, there is still an insufficient number of studies which concentrate on what actually motivates consumers to act and change their behavior. Therefore, we argue that in order to lower the attitude-behavior gap, it is

necessary to study the reasons behind consumers choices and behaviors as well as the factors that motivate people to transform their choices into more sustainable ones.

With all that being said and considering the fact that the half of the world's population is under the age of 30 (Hewko, 2018) and that young people represent roughly a quarter of Denmark's population (Statista, 2019), we argue that it is of a high importance to observe and understand the consumer behavior of this generation.

### 3.2.3 Household Energy Consumption

Research within sustainability is a big and emerging field and a lot of research has been done studying consumers behavior within the field of energy consumption, and specifically household energy consumption. According to Steg (2008), encouraging consumers to take action to a sustainable consumption and lifestyle is important for the success of climate change reduction. Actions are needed on both an individual and a governance level since they are interrelated: governments can make policies in favor of a sustainable lifestyle, but it is the consumers that actually need to act according to them (Steg, 2008). Burger et. al. (2015) underlines that the individual energy consumption in industrialized countries in Europe has, despite efforts, remained at about the same level in the last decade.

Previous researches in the field of household energy consumption focus on environmental beliefs and attitudes, environmental drivers, environmental norms, environmental behavior and environmental barriers (Gadenne et. al., 2011). Studies have shown that individuals with stronger pro-environmental beliefs and attitudes tend to engage more in pro-environmental behaviors. Moreover, pro-environmental norms are shown to have a positive effect on individuals' intention to adopt sustainable behavior (Gadenne et. al., 2011). Caeiro et al. (2012) highlight the strong potential of changing the behaviors of household energy consumption in order to lower the environmental impact. Furthermore, Burger et. al. (2015) argues that the understanding of the motivators and barriers for reduced household energy consumption needs to be studied in order to encourage people to save energy.

Previous scientific studies have identified many different barriers to reduce energy consumption, among them lack of information, lack of motivation and the perception of energy as something invisible (Burger et. al., 2015). The issue of energy being perceived as invisible and intangible is highlighted in many studies (Shove, 1997; Burgess & Nye, 2008; Wilhite, Shove, Lutzenhiser & Kempton, 2006). Furthermore, Fischer (2008) argued that consumers feel that they are not in control of their energy consumption, which makes it hard for them to relate to their consumption. Another reason for the lack of motivation to save energy comes from the relatively small financial benefits in terms of lower energy bills (Burger et. al., 2015).

A great part of the individuals' energy-related behavior is shown to be the result of habits and routines (Burger et. al., 2015; Caeiro et al., 2012). Understanding these habits is key in order to understand consumers and to change their behaviors (Caeiro et al., 2012). In addition, Burger et. al. (2015) also argues that behaviors are shaped by the social context. Furthermore, reduction of energy consumption among consumers has not, like other behaviors such as eating meat and traveling, evolved to become a discussed driver of the climate issue (Shove, 1997). This represents a challenge for household energy consumption to be perceived as an issue of high importance among consumers. It is proven that social influence and social norms have a big impact on individuals' behavior in most fields. This is confirmed by a survey from the European Commission (2013) regarding consumer attitudes towards green products and their purchase reasons, which confirms that social context and social pressure are both motivating and influencing factors for deciding on sustainable behavior. When buying green products, 64 percent of Danes agree that their social surroundings are impacting their decisions to purchase (European Commission, 2013). Yet again, the habits individuals develop are shaped and influenced by the social environment (Caeiro et al., 2012). An example is the implementation of messages in hotels encouraging guests to reuse their towels done by the statement of social norms such as that a majority of guests reuse their towels (Goldstein, Cialdini & Griskevicius, 2008). This has been proven to be an effective way to trigger a change in consumer behavior. Hence, this shows the power social norms and social influence could have on shaping consumer minds. The use of social influence was also researched within the field of household energy consumption, where it showed that using comparison techniques to neighbors and providing feedbacks could result in a reduction of the household energy usage (Burger et. al., 2015; Abrahamse et al., 2005).

Another barrier to adopting a sustainable behavior within household energy consumption is seen to be the lack of information. It is argued that due to the lack of information, consumers have the perception of sustainable behaviors being time-consuming (Gadenne et. al., 2011). This is confirmed by a survey from the European Commission, which identifies receiving information as the second most important factor that would motivate consumers to tackle environmental issues (European Commission, 2014). In Denmark, a total of 34 percent holds this opinion, while the average on the EU is 31 percent (European Commission, 2014). Other studies also confirm that individuals need to be well informed and familiar with the environmental issue, as well as have the knowledge of how to act, before being able to adopt a sustainable behavior (Kollmuss & Agyeman, 2002; Frederiks, Stenner & Hobman, 2015). However, as previously argued, young consumers belonging to the millennial generation are well informed about the general climate issue (Singh & Dangmei, 2016). Therefore, convincing them about the importance of sustainable actions is not enough. Instead, it is argued that they need to be transformed in order to engage in sustainable actions (Hopper & Nielsen, 1991). Hence, we argue there is still a great need for studying consumers' motivations and behaviors towards sustainability due to the lack of result in changing consumers' sustainable behaviors. This could be done by applying new theoretical perspectives, which we will further discuss in the later chapters.

### 3.2.4 Household Energy Consumption in Denmark

Denmark is one of the world's pioneering countries in promoting sustainability (World Energy Council, 2018). It is a country that is highly engaged in reaching sustainable goals and implementing sustainable solutions in different areas of society. The European Environment Agency (2005) has concluded that there are many fields that are impacting the environment, among the largest ones being the energy consumption. The consumption of energy is a big contributor to CO<sub>2</sub> emissions, due to the production and distribution of energy (Energistyrelsen, 2018). Denmark is, together with the other Scandinavian countries, in the forefront with the development and the usage of renewable energy sources. A total of 32,7 percent of the actual energy consumption in Denmark is sourced from renewable sources like wind or biofuel (Energistyrelsen, 2018). However, the household energy consumption in 2017 translated to CO<sub>2</sub> emissions was 18,5 percent of the total CO<sub>2</sub> emissions in Denmark (Energistyrelsen, 2018). Thus, the consumption of energy in households in Denmark is the second largest energy user after the transportation sector, which

as defined by Energistyrelsen (2018) includes the consumption of heating, water, electricity and the use of electrical appliances in the household environments. This was particularly seen in the numbers from 2017, where energy household consumption stood for 30,4 percent of the total energy use in the country (Energistyrelsen, 2018).

The household energy consumption is usually stable, but it can also be affected by the weather and the climate; years with warmer weather correlates to lower energy consumption, and the other way around for colder years (Energistyrelsen, 2018). Comparing the energy usage from 2017 to the year before, 2016, the energy consumption in households had decreased with 0,8 percent. However, compared to 1990, household energy consumption has shown an increase of 4,8 percent (Energistyrelsen, 2018). Even though currently there is a decrease in energy consumption, the Danish Energy Agency (2018) predicts that after 2021, the energy consumption will start to increase again.

As aforementioned, there is a predicted trend of increased consumption which needs to be addressed. This increase could be traced back too many different reasons. One of the concrete reasons could, for example, be the increasing number of consumers owning electronic gadgets and appliances, which are predicted to increase annually by 1,8 percent (Danish Energy Agency, 2018). Household electrical appliances are due to technological advancements getting more and more efficient. However, the gains for this efficiency is outweighed by the increasing amount of energy consumption and also due to the researched facts that consumers tend to neglect to save energy when they have the knowledge that their household is more energy efficient (Gram-Hanssen, Christensen & Petersen, 2012; Sorrel, Dimitropoulos & Sommerville, 2009). Furthermore, it has also been argued that energy is perceived as invisible and therefore consumers have a hard time relating to it (Burgess & Nye, 2008).

The government in Denmark have been trying to reduce energy consumption by information spreading and taxation (Danish Ministry of Energy, Utilities and Climate, 2015; Danish Energy Agency, 2012). Nevertheless, the prediction is still showing that energy consumption will have an increasing pattern in the nearest future (Energistyrelsen, 2018). Moreover, as argued, consumers consumption behaviors have an impact on what will be produced and offered on the market. Hence,



their household behaviors are deeply rooted in their habits and daily routines (Hertwich, 2008; Wilhite, Shove, Lutzenhiser & Kempton, 2006).

## 3.3 Transformational Experiences

The theory above has outlined consumer behavior regarding sustainability and household energy consumption in Denmark. Henceforth, the theory will focus on experiences and transformations and how that can lead to a change in consumers behaviors and actions.

### 2.3.1 The Experience Economy

Consumers have moved from demanding different kinds of economic values; from commodities, to products, to services and lastly, to experiences (Pine & Gilmore, 1999). Kotler (2003) mentions this as the concept of *the marketing of experiences*. Pine and Gilmore were the pioneers that defined the experience economy as the new, emerging economic offering back in 1999 in their book “*The Experience Economy*” (1999). They talk about the fourth economic offering, experiences, that is distinctly different from the three other offerings of commodities, goods, and services (Pine & Gilmore, 1999). The progression of the economic value that is being offered through experiences has opened up a whole new way of businesses. Pine and Gilmore’s (1999) main practical key takeaway for business’ was that work is a theatre, and every business is a stage, referring to that companies’ stage experiences when they engage consumers in personal experiences. The experience economy circles around offering and staging experiences instead of offering services or products to the consumers (Pine & Gilmore, 1999). A service is delivered by the provider and is customized and intangible for the client. An experience, on the other hand, is staged and memorable and personal for the guest (Pine & Gilmore, 1999). The main point of difference is found between customized and personal, since two persons cannot have the same experience, however, two persons can enjoy the same service (Pine & Gilmore, 1999). This individual experience may consist of service, but it is the way this service is delivered that makes it an experience. Pine and Gilmore (1999) state the example of how the service of being transported from point A to point B in a taxi becomes an experience when the taxi driver is giving out drinks and food, giving a guided city tour and playing music. Suddenly, consumers do not pay for the transport, they pay for the experience of going with this specific driver and experience his show,

staged in the taxi (Pine & Gilmore, 1999). This experience will be remembered longer than the simple service of transportation would have been. The experience engages and connects with the consumers in order to accomplish this memory (Pine & Gilmore, 1999).

The experience economy is nothing new; experiences have been created and sold as long as humans can remember (Boswijk, Thijssen & Peelen, 2008). The emergence of the experience economy is to be seen in all kinds of business; from themed restaurants and cafés like Hard Rock Café and the Rainforest Café to stores like Nike Town and amusement parks like Disney World and Tivoli in Denmark. They all offer something that is beyond the service or a product; they give the consumers an experience that is memorable and rememberable for each individual (Pine & Gilmore, 1999). It is not the actual service of riding the roller-coaster in Tivoli that people are paying for, it is the experience of wandering around the beautiful park and having fun at the attractions.

#### 3.3.1.1 The Experience Realms

Pine & Gilmore (1999) argues that transformations are built upon experiences, hence experiences are the pre-condition for a transformation. Therefore, in order to understand a transformation, the experience needs to be understood. Pine and Gilmore (1999) developed a framework for designing an engaging experience, *The Four Realms Model*, with two dimensions of scale. The first dimension is how actively the consumers are participating in the experience; if they are passively or actively participating. When consumers are active, they can influence and affect the experience, versus if they are passive and do not contribute to co-creating the experience (Pine & Gilmore, 1999). The second dimension describes the environmental relationship and the connection that the consumers have with the experience. The spectrum on this dimension goes from absorption, where the experience goes into the consumers' minds, to immersion, where the consumers physically become a part of the experience (Pine & Gilmore, 1999). These dimensions make up for four realms of experience: entertainment, educational, esthetical and escapist (Pine & Gilmore, 1999). The model is illustrated in Figure 2. For an experience to be rich and engaging it needs to contain elements from all four dimensions, hitting the so-called “sweet spot” (Pine & Gilmore, 1999).

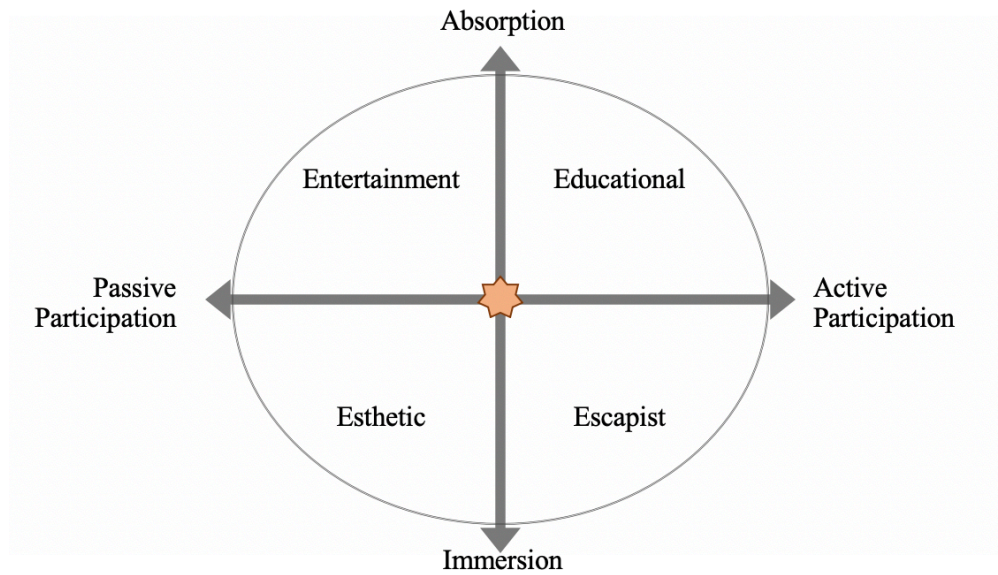


Figure 2. The Four Realms Model of an Experience (own illustration based on Pine & Gilmore, 1999)

The entertainment experience is passively absorbed by the consumer, a commonly used way to make an experience. This is one of the oldest forms of experiences and could be reading, listening to music, watching a TV-show or a performance (Pine & Gilmore, 1999). The heart of entertainment is *to enjoy*, a pleasant emotion that consumers desire (Pine & Gilmore, 1999; Tan, 2008). The educational experience circles around when consumers actively absorb and engage in an experience, for example in school or at an intellectual event where the consumers *want to learn* (Pine & Gilmore, 1999). The opposite to the entertainment experience is the escapist experience, where the consumers participate actively and get immersed in the experience, which could be visiting a theme park, going to a casino or play a sports game. The focus is *to go and to do* and the consumers are participating and affecting the experience. The last realm of experiences is the esthetical one, for example visiting a museum or an art gallery or visiting a café. Consumers are immersing into the experience, but they are passively participating since they cannot affect the environment of the event. The main goal of the esthetic experience is *to be* (Pine & Gilmore, 1999).

Even though some experiences primary only consists of one realm, many are in fact a blurred mix of all four (Pine & Gilmore, 1999). The riches experiences encompass aspects and characteristics from all realms, referred as to as “the sweet spot”, being positioned in the middle of the framework.

Such an experience delivers a package that fully manages to engage and involve consumers (Pine & Gilmore, 1999).

### 3.3.2 The Transformational Economy

Pine and Gilmore (1999) also predicted the rise of the next economical offer; transformations. According to them, the rise of the transformational economy has, at the time of the publishing of their book, already begun (Pine & Gilmore, 1999). They observed a gap in the economic value offered by the experience economy, which is that not all experiences are, at the point of an event; enjoying, enlightening, immersing or ravishing. As a matter of fact, many experiences did not only offer one or several of the four realms, instead, they offered the consumers to be affected and changed by the experience (Pine & Gilmore, 1999). There are more reasons for going through a challenging education or pressuring your body through a hard gym program than just the experience of it. The goal for these kinds of experiences is that consumers want to transform themselves and change into becoming a different version of themselves (Pine & Gilmore, 1999). They seek something more than a memory or any product or service can offer: transformations (Pine & Gilmore, 1999). As the nature of offering for the economic offering of experiences is memorable, transformations are effectual. Hence, they are the only economical offering whose consequences lasts beyond the moment of event or moment of consumption (Pine & Gilmore, 1999).

The guiding and the offering of a transformation is the extension of and built upon experience, however, the difference between a transformation and an experience is as distinct as the difference between an experience and a service (Pine & Gilmore, 1999). As aforementioned, two persons cannot have the same experience, due to its personal nature. However, the *same person* cannot have the same transformation, because after he undergoes the first transformation; he is not *the same person anymore* (Pine & Gilmore, 1999). Transformations cannot be undone and there is no other economic offer that has such a long-lasting effect after the time of consumption as transformations (Pine & Gilmore, 1999; Kristensen & Horváth, 2012). Kristensen and Horváth (2012, p.222) argue that “*a transformation changes the character of the need satisfaction*”. Moreover, Pine and Gilmore (1999) state that an aspirant of a transformation seeks to be changed and guided with a specific aim and purpose that affects the being of the aspirants. Transformations

can only be guided; the elicitor of the transformations cannot force the consumer to transform; it is the consumers themselves that actively have to make the change. This is explained as *the customer is the product* who wants to be changed (Pine & Gilmore, 1999). Figure 3 illustrates the three different economic offerings of services, experiences, and transformations.

<b>Economic Offering</b>	<b>Services</b>	<b>Experiences</b>	<b>Transformations</b>
<b>Economy</b>	Service	Experience	Transformation
<b>Economic Function</b>	Deliver	Stage	Guide
<b>Nature of Offering</b>	Intangible	Memorable	Effectual
<b>Key Attribute</b>	Customized	Personal	Individual
<b>Method of Supply</b>	Delivered on demand	Revealed over a duration of time	Sustained through time
<b>Seller</b>	Provider	Stager	Elicitor
<b>Buyer</b>	Client	Guest	Elicitor
<b>Factors of Demand</b>	Benefits	Sensations	Traits

Figure 3. The economic offerings (own figure based on Pine & Gilmore, 1999)

Kristensen and Horváth (2012) describe the transformation economy as a development of our needs and demands. They argue that the growth of the experience economy in Denmark did not account for as big of a share of the GNP as predicted and therefore, the transformational economy is offering the true economic value (Kristensen & Horváth, 2012). They outline three basic elements important in order to understand the transformation economy. These are the creative individuals with skills, a domain constituting a system and the people being engaged, the so-called field. Kristensen (2009a) also stresses the importance of consumers co-creation in transformational experiences. Co-creation of an experience is when the consumer becomes involved and engaged to actively participate in the experience (Prahalad & Ramaswamy, 2000). This can be linked to the realm of active participation in Pine and Gilmore's four realm model, presented above (Pine & Gilmore, 1999). Boswijk, Thijssen, and Peelen (2008) discuss the development of co-creation into

the strategy of today's businesses and how consumers by co-creating create personalized and unique value to the experience.

It is our experiences that we have and to them attached meaning that forms and transforms people (Boswijk, Thijssen & Peelen, 2008). Personal transformations replace experiences by being not only personal and memorable, but individual and effectual (Pine & Gilmore, 1999). As well as experiences have always been present throughout history, the same goes for transformations. Writing and printing techniques are good examples of how changes transformed people's way of acting and understanding the world around them (Kristensen, 2009a). In modern history, inventions as the portable music player, the mobile phone and IKEA's flat furniture packages have been major user transformations in their respective fields. Kristensen (2009a) argues that individual transformations can benefit and create value for the individuals, and also for the society at a macro-level perspective. Hence, using transformations to change people's actions and thoughts is an interesting field to research due to the increasing demand from consumers of such transformations. It is specifically interesting to study how this could be used to transform consumers into a sustainable behavior since consumers are proven to have the awareness and will of such behavior.

### 3.3.2.1 Transformations as a Consumer Need

An important and driving factor of the development of the transformational economy is that people in the developed world, like Denmark and Scandinavia, do not face the need and problems of surviving (Kristensen & Horváth, 2012). People do not struggle to find food, shelter, and safety. Maslow's hierarchy of needs illustrates humans' basic needs for surviving, where developed countries can be placed on the top, which in his model is the need for self-actualization (Maslow, 1943). Even though there are exceptions with poor people even in Denmark, generally the population is blessed with living a life of good standards. It is argued that since we "have it all" we now want to realize ourselves through an experience that changes and makes something with us (Kristensen & Horváth, 2012). The aspirants of a transformational experience are experiencing the need for self-actualization and are seeking to transform themselves. Maslow (1943) describes this state of self-actualization as seeking for personal development as the need for motivation.

Individuals have a need to strive to reach their full potential of achieving what they can possibly become, after fulfilling their basic lower needs.

The need for self-realization can also be seen in the way we consume. Ariely and Norton (2009) introduced the concept of conceptual consumption, outlining how human consumption has changed to become more complex. They argue how consumption has gone from fulfilling the basic needs of consuming physical objects to consuming concepts. Ariely and Norton's (2009) research combined with Maslow's (1943) hierarchy of needs shows interesting findings of how consumption get influenced when humans are at the self-actualization need. Today, even the simple act of buying food has switched focus from eating for surviving, to focus on what the individual's' consumption choices reflect of them to society (Ariely & Norton, 2009). Consumption has to become increasingly important to highlight consumers personality and identity; your choice of consumption shows who you are and what you believe in. The physical object being consumed is not the important factor; it is the concept around it that is the reason for consuming it (Ariely & Norton, 2009).

Conceptional consumption is impacted by four important aspects, being expectations, goals, fluency and regulatory fit (Ariely & Norton, 2009). Expectations influence consumption to a high degree; expectations shape perceptions and behavior. Consumers' expectations are a powerful tool since it often becomes an unconscious self-fulfilling prophecy (Ariely & Norton, 2009). Many studies have shown that expectations of consumption strongly affect the experience of the consumption, for example, the famous Coca Cola versus Pepsi blind testing. When the test persons knew it was Coca Cola that they were drinking they liked it more than Pepsi, however, when they blind tested the beverages, they liked Pepsi the most. This illustrates the power of conceptual consumption over physical consumption – when you expect something to be in a certain way, you often end up feeling that way (Ariely & Norton, 2009). Hence, branding and advertising play an important part in shaping consumers' expectations.

The second aspect of conceptual consumption is the influence of goals. According to Ariely and Norton (2009), setting goals serve as a strong motivator and has the power to shape consumers behavior. Consumers' wish to consume goals is due to the extra utility they experience from it.

When given a goal, consumers are motivated to overcome obstacles and they also tend to spend more. However, their study also suggests that consumers desire to consume concepts can lead to a decrease in physical consumption if that is the goal given (Ariely & Norton, 2009). The third aspect of conceptual consumption is the impact of fluency on consumer behavior. Fluency is the feeling when things are “feeling right”, which is shown to influence judgment and behavior. Studies suggest that the more exposure people get to a certain stimulus, the more positive their reactions regarding that stimuli become. Thus, the more familiar something is, the more people tend to like it (Ariely & Norton, 2009). Fluency is argued to be an important factor in consumers behavior of choice and how consumers process an experience. Reber, Schwarz, and Winkielman (2004) suggest that the more fluently people can process experience, the more positive their response is. Their research concerned the processing of fluency in order to achieve aesthetic pleasure. Referring back to Pine and Gilmore’s (1999) model of the four realms, fluency needs to be considered for esthetic experiences due to their nature of immersing consumers into a passive state of being. Similar to the consumption of fluency is the consumption of regulatory fit. This last aspect of conceptual consumption is when a person has the feeling of “just right” when consuming and his actions are in line with his motivations (Ariely & Norton, 2009).

Additionally, Ariely and Norton (2009) argue that conceptual consumption can be used to improve consumer behavior in order to enhance consumer consumption. The usage of conceptual consumption in transformational experiences can be argued to create benefits and a more positive experience for the consumers. The four aspects of conceptual consumption appeal to what is needed for consumers to choose a transformational experience, moreover the aspects are argued to contribute to change consumers’ behavior. Hence, combining them within a transformational experience could lead to an increased level of transformation.

### 3.3.2.2 Transformations as a Consumer Motivation

Transformational experiences are not only a result from consumers need, but it also derives from consumers motivations for such experience (Pine & Gilmore, 1999). Consumers have different kinds of motivations for undergoing a transformational experience. Experience needs to be meaningful in order to achieve a transformation for the consumer (Pine & Gilmore, 1999). Michael Kubovy (1999) argues that an important part of an experience is the phenomena of *pleasures of*



*the mind*. Kristensen (2009b) further state that in order for a transformational experience to succeed, the pleasure of the mind is crucial. In contrast to the *pleasure of the body*, that is given by the contact and distant senses, the pleasure of the mind is the collection of emotions over time (Kubovy, 1999). With Kubovy's (1999) example of a how a consumer could enjoy a fancy dinner, pleasure of the mind can be described as the setting and the experience around the fancy dinner, which is including much more than the food itself, which is offering the pleasure of the body. The pleasure of the mind and the pleasure of the body can be closely intertwined, as the pleasure of the body can play a role in achieving the pleasure of the mind (Kubovy, 1999). Kubovy (1999) starts with stating two types of present emotions that create a pleasure of the mind; curiosity and virtuosity. Curiosity is deeply rooted in our behavior and individuals get pleasure from exploring the unknown and learning what they previously did not know (Kubovy, 1999). Thus, curiosity is a fundamental motivation for individuals to explore and learn (Kubovy, 1999). Virtuosity is also rooted in our behavior and described as the pleasure individuals get from performing (Kubovy, 1999). When succeeding and doing good at a task, individuals experience a pleasure of mind tracing back to the mastering of his learnings (Kubovy, 1999). The emotion of virtuosity is similar to what Csikszentmihalyi (1992) describes as the feeling of flow, which will be further elaborated below. The drivers of curiosity and virtuosity motivates consumers to learn and master new skills to enjoy the pleasure of mind.

Kubovy (1999) further discusses two other emotions, indeed as important as curiosity and virtuosity, for achieving the pleasure of mind. These are sociality and nurturing, being the pleasure of belonging to a social group or social context, and the pleasure of taking care and nurture for living things. The emotion of sociality emphasizes the strive to belong and to be socially accepted by others, aiming for the highest need for self-realization (Maslow, 1943). People like to share and talk about their experiences and enjoy them in the company of others (Kubovy, 1999). They also, as aforementioned, seek to get acknowledged and accepted from the social context by their consumption (Ariely & Norton, 2009). Hence, sociality plays an important role in consumers choice of consumption and behavior, moreover, affecting the possibility of a transformational experience.

With similarities to Ariely and Norton's (2009) description of fluency, as mentioned above, is Csikszentmihalyi's (1992) work with the flow. Csikszentmihalyi (1992) states that flow is the state of mind when a person immerses himself so deeply in a task or an experience that he forgets all about time and place. He often refers to the example of an artist losing himself totally in his work, spending hours and hours per day working with deep concentration, just to lose interest when he is done. Csikszentmihalyi (1992) describes this total focus as flow. Flow is achieved when there is a perfect match between challenge and knowledge matching the individual's level of skills. The experience of flow is a pleasuring experience due to its nature of total focus and dedication (Csikszentmihalyi, 1992). Working hard to achieve knowledge and due to the work in itself being rewarding – to experience flow – is according to Maslow's (1943) theory a way for individuals to strive for self-actualization (Csikszentmihalyi, 1992). Flow can be achieved through fluency when the individual perceives the process as just right and at ease (Ariely & Norton, 2009). An experience with fluency is perceived as positive and more familiar, enhancing the consumers' pleasure for it (Ariely & Norton, 2009). As stated, consumers tend to be more positive about what they know (Reber, Schwarz & Winkielman, 2004). If consumers expect something to be complex and end up experiencing flow and fluency, the experience is even more pleasurable (Csikszentmihalyi, 1992). The more fluently the perceiver can process an object or an experience, the more positive his or her aesthetic response is (Reber, Schwarz & Winkielman, 2004). Reber, Schwarz, and Winkielman (2004) further argue that fluency is influenced by expectations. A transformational experience needs to have the perfect amount of demanding elements for consumers to immerse into a flow (Csikszentmihalyi, 1992). Thus, according to the theory of processing fluency, individuals tend to have a positive perception of what they know and understand (Ariely & Norton, 2009).

In sum, transformational experiences have been argued to have an impact on consumers' needs and behaviors, moreover, the consumers themselves desire the transformational experiences hoping to realize themselves. These experiences can differ in creation, but the framework provided by Pine and Gilmore (1999) outlines elements needed for creating the foundation to build the transformational experience on. Furthermore, consumers need for transformational experiences can be understood together with the work of Maslow (1943) and how consumption has developed into the concept of conceptual consumption according to these needs (Ariely & Norton, 2009).

Hence, transformational experiences guide the economic offering of effectual on an individual level to transform the consumers' core and sustain through time (Pine & Gilmore, 1999). This transformational experience needs to be fluent and immerse consumers into a flow to reach the pleasure of mind for the consumers, and ultimately, a transformation of the consumer (Ariely & Norton, 2009; Csikszentmihalyi, 1992; Kubovy, 1999).

### 3.3.3 Nudging

Nudging is often mentioned when consumer behavior is discussed. Nudging is the design and architecture of choices, aiming to influence consumers into a certain pick of desire of the sender without limiting the freedom of choice for the consumers (Chriss, 2015). Furthermore, it is concerning how to present choices, and the effects of how choices are presented, during the consumers' decision making (Goldstein, Johnson, Herrmann & Heitmann, 2008). Thaler and Sunstein (2008) defined nudging in their book “Nudge” as creating a decision environment *“that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives”* (Thaler & Sunstein, 2008, p.8.) The use of nudging is also present in designing the choice environment and creating a guiding choice architecture (Goldstein et. al., 2008). This could include directing consumers into healthier food choices, engage in certain behavior, voting or being more physically active (Chriss, 2015). Nudging is used in many different ways, spanning from the use of hidden options (where the consumer only is presented one choice, but there are hard-to-find options) to persistent defaults (where the consumer is presented as a choice similar to the latest choice he made) and benign defaults (where the consumer is presented the most chosen choice) (Goldstein et. al., 2008). Research has shown that just by changing the default of a choice where people often do not have strong preferences, the outcome can shift dramatically (Johnson & Goldstein, 2003).

An example of a well-succeeded nudging usage is the organ donation choice in Austria. In Germany, citizens must actively choose to be an organ donor, resulting in 12 percent of Germans signing up as organ donors (Goldstein et. al., 2008). In Austria, on the other hand, citizens must actively choose *to not be* an organ donor, making 99,98 percent of the population organ donors (Goldstein et. al., 2008). The theory of nudging can be traced back to the fact that humans tend to avoid making active decisions (Goldstein et. al., 2008). Instead, they find it much easier and less

energy consuming to follow “the high road” and choose the recommended choice or the choice most people make (Lehner, Mont & Heiskanen, 2016; Chriss, 2015). Nudging also corresponds with the influence of social norms on people behavior, as outlined above. People get nudged by their social environment into taking decisions they understand as the most common and taken ones (Nordic Council of Ministers, 2016).

Hence, guiding a consumer through a decision process, or transformational experiences, by using nudging is argued to be effective and at the same time helping consumers to make better decisions. This also includes nudging consumers to take more sustainable choices and actions in favor of the environment (Lehner, Mont & Heiskanen, 2016). Research within this field has proven an increase in the actions of sustainable behavior, ranging from the choice of electricity source to the purchasing of organic food and the amount of food waste done (Lehner, Mont & Heiskanen, 2016).

## 3.4 Gamification as Transformational Experience

This section will outline the research within the field of gamification, and furthermore present how this is connected to transformational experiences, and how it can be used as a tool for creating transformations.

### 3.4.1 The Concept of Games

In order to understand the new phenomena of gamification and its purpose, it is important to first look into the concept of games. Kapp (2012, p.7) defined a game as *“a system in which players engage in an abstract challenge, defined by rules, interactivity, and feedback, that results in a quantifiable outcome often eliciting an emotional reaction”*. McGonigal (2011) additionally argues that all games have these four elements in common; rules, goals, feedback and voluntarily participation of the users. Thus, when all of those elements collide the full experience of the game will be created (Kapp, 2012). According to Salen and Zimmerman (2004, p.34), the aim of a great game design is *“creation of meaningful ‘play’ which is achieved by creating game-play that enables discernible and integrated interaction by the player”*. Thus, a play is argued to be a *“free activity standing quite consciously outside ‘ordinary’ life as being ‘not serious’, but at the same time absorbing the player intensely and utterly”* (Huizinga, 1949, p.13). Therefore, it is argued

that games should be fun, which is confirmed by Deterding, Dixon, Khaled, and Nacke (2011), who claim that the games are produced to entertain and engage people. Furthermore, Hunicke, LeBlanc, and Zubek (2004) states that different kind of games will appeal to different users if they contain sensation, fantasy, narrative, challenge, fellowship, discovery, expression and submission as their fun elements.

Looking at the game elements, there is a distinction between formal and dramatic elements. Formal elements are players, objectives, rules, conflict, boundaries, and outcome, while dramatic elements are challenge, play, premise, story and character (Fullerton, 2008, p. 49; p.89). While formal elements should be always present, dramatic elements are the one who enriches the game and makes the user emotionally connected with the game (Fullerton, 2008). In addition, it is proven that users connect to the game if it is presented as a free choice and challenge which they ultimately can resolve, and if it gives them a creative space where they can be producers and not just users (Gee, 2013). Combining all the aforementioned elements together, games foster play, and ends with motivation and learning outcomes. Hence, this can ultimately lead to the user experiencing a flow (Csikszentmihalyi, 1992). Thus, Juul (2012) asserts that games are a perfect tool for the learning experience as they allow users to experience a state of failure without having to be worried about the consequences in their real life. Therefore they can freely explore the cause-effect correlation and expose new behaviors.

### 3.4.2 Gamification

The term “gamification” was not created by researchers, but rather by computer programmer Nick Pelling, who developed a game-like interface for ATM and vending machines and used the term gamification as “deliberately ugly” (Pelling, 2012). Even though the concept emerged in 2002, it only started gaining attention and being adopted as a well-known term a few years later, in 2010 (Kamasheva, Valeev, Yagudin & Maksimova, 2015). As the concept is relatively new, there is still no consensus about the definition of “gamification” (Liu, Santhanam & Webster, 2017). The most known definition is coined by Deterding et.al (2011), who understand gamification as “*the use of game design elements in non-gaming contexts*” (p.1). On the one hand, this definition focuses on the most important components of the following concept, such as game, elements, design and non-gaming context (Deterding et.al, 2011), but on the other hand it does not cover the multiple goals

that gamification can have. In order to further expand the definition and tackle the purpose of gamification, Huotari and Hamari (2012) defined gamification as *“a process of enhancing a service with affordances for gameful experiences in order to support user's overall value creation”* (p. 19). The main difference in the two aforementioned definitions is in the goal of gamification. While Deterding et.al (2011) does not specifically state the purpose of gamification, Huotari and Hamari (2012) assert that gamification evokes further benefits such as changes in consumer minds and their behaviors. This is additionally enhanced by Kapp (2012) who argued that the goal of gamification is *“to engage people, motive action, promote learning and solve a problem”* (p.23).

According to Juul (2005, p.36), a game is *“a rule-based system with a variable and quantifiable outcome, where different outcomes are assigned different values, the player exerts effort in order to influence the outcome, the player feels emotionally attached to the outcome, and the consequences of the activity are negotiable”*. Thus, taking this definition and the aforementioned information about the games, it can be argued that gamification is connected with the goal and the rule-based orientation of the games (Deterding, et al., 2011).

Gamification is still largely confused with the terms such as serious games. However, even though it has a connection with the games through the use of the game elements, gamification differs from serious games. Gamification is not a full-fledged game, but it is the application of certain game elements and implementation of them in the non-gaming environment (Deterding et al., 2011). Even though serious games are also applied in the non-gaming context, they are designed as a “real” game, therefore gamification and serious games cannot be considered as the same term. The non-gaming context of the definition refers that the design of the gamification should not be used to design other games but rather applied in the areas such as marketing.

#### 3.4.2.1 Gamification Elements

Game design elements are the main factors which influence whether gamification is applied or will be applied in the right manner. Gamified elements can be defined as *“building blocks of gamification application”* (Sailer, Hense, Mayr & Mandl, 2017, p. 372) or as *“any given elements that reflect the purpose, interactivity, competitors, goals and allows for attack”* (Crawford, 2003, p.68). Over the course of the years, many authors have identified different kinds of game elements

in the field of gamification (Werbach & Hunter, 2012; Reeves & Read, 2009; Kapp, 2012; Zichermann & Cunningham, 2011). For instance, Reeves and Read (2009) identify ten elements for successful games. These are: self-representative (avatar), three-dimensional environments, narrative context, feedback, reputations, ranks, and levels, marketplaces and economies, competition under rules that are explicit and enforced, teams, parallel communication are systems that easily configured, and time pressure. Moreover, according to Werbach and Hunter (2012), there are fifteen elements which can be used in designing gamification. Hence, among those fifteen, they highlighted points, badges, and leaderboards as the most used ones and have named the group “The PBL Triad”, which represents an acronym for points, badges, and leaderboards.

Points are basic game elements, which can be collected by users over a period of time for the successful performance of the taken activity in the gamified environment (Sailer et al., 2017). Points are typically used as a motivator for users to accomplish the goal and as a visual representation of the current users' progress (Werbach and Hunter, 2012). This is all due to their characteristic of easy comparison to those of the competitors. Moreover, there can be identified several different kinds of points which will differ among themselves, hence they will not only differ in their representation, but also in the purpose they serve (Werbach and Hunter, 2012). For instance, those kinds of points are experience points, redeemable points, skill points, and reputation points (Zichermann & Cunningham, 2011). Points, additionally, serve as a source of feedback, which is important for good game design and as rewards of the user's in-game behavioral progress (Werbach and Hunter, 2012). The collection of points triggers the feeling of virtuosity when users feel the pleasure of performing and learning (Kubovy, 1999). According to Kubovy (1999), this serves as a motivator for individuals to reach to the pleasure of the mind.

Badges are “*visual representation of achievement with the gamified process*” (Werbach & Hunter, 2012, p.74). They represent users’ achievements and visually display their level of accomplished goal (Antin & Churchill, 2011). They have several functions, they serve as feedback, as the points do, they serve as a goal if the conditions to collect them are known, they can serve as a symbol of social status among the players, and an instruction in which way the activities should proceed (Antin & Churchill, 2011; Montola, Nummenmaa, Lucero, Boberg, & Korhonen, 2009). As individuals tend to have stronger positive feelings towards what they know and understand, the

visual representation serves an important function in motivating consumers (Ariely & Norton, 2009; Reber, Schwarz & Winkielman, 2004). In general, badges do not have “*narrative meaning and collecting them is not compulsory*” (Sailer et al., 2017, p. 373), however, they can increase users’ motivation to achieve and finish the given task (Wang & Sun, 2011).

Leaderboards are “*a list of participants in a competition that are ordered according to a variable, such as highest to the lowest scores*” (Costa, Wehbe, Robb & Nacke, 2013, p. 1). They regulate who performs the best in the given activity by comparing it with the rest of the users. According to Webach and Hunter (2012), leaderboards are more likely to be motivating if the users have few points left to finish or if they have the same performance level as their competitors, however, they also argue that it can be the most tricky game element if it is not used in a right manner. In order to perform, it is important for users to be on an equal level as their competitors since this will trigger the creation of virtuosity and furthermore motivate the participants (Kubovy, 1999). Hence, the competitive element of leaderboards can create a social pressure where obtaining points is all that matters while the content of the game is neglected.

Although all the previously mentioned game elements are important for a successful gamification, Reeves and Read (2009) argue that they cannot be taken as elements that work in any given gaming situation and that without identifying the right situation used element might not serve any purpose.

#### 3.4.2.3 Previous Research Areas with Gamification

Gamification as a concept was researched and proved to be efficient in several different non-gaming areas, such as education (Landers, 2014; Christy & Fox, 2014; Hamari, Sjöklint & Ukkonen, 2016), health (Jones, Madden & Wengreen, 2014) and in internal organizational areas (Farzan et al. 2008; Jung, Schneider & Valacich, 2010).

In the educational area, many studies forecasted that gamified learning materials will become a common method to foster engagement among students (Barzilai & Blau, 2014; Brom, Bromová, Děchtěrenko, Buchtová & Pergel, 2014; Liu, Cheng, & Huang, 2011). Hence, it is argued that gamifying education improves the learning process by increasing engagement, motivation and stimulate social learnings (Muntean, 2011), as well as encourage teachers to integrate these



methods into their classrooms (Jones, 2010; Kaya, 2010). Due to the fact that a majority of students nowadays lack motivation to engage and express themselves in a classroom (Garris, Ahlers, & Driskell, 2002), most of the aforementioned studies were focusing on fostering engagement. Hamari (2015) asserted that engagement can be divided into three different dimensions, behavioral, cognitive and emotional. Thus, according to Pellas (2014), those engagements were proven to be connected with a game-based learning environment. In a game-based environment, Collier and Shernoff (2009) discovered that undergraduate engineering students whose course was presented in a gamified format were far more engaged than from the ones who had traditionally designed class. Moreover, Kapp (2012) argued that gamification can result in an enhancement of student's engagement throughout the learning process. He addressed storytelling and feedback which were proved to have a successful result on students' engagement. Hence, he identified that in order to achieve a successful gamified learning project, there should exist a balance between "learning" and "playing". This is additionally confirmed by Raymer (2011) who stated that giving frequent feedback, rewarding efforts made by students, measuring their progress as well as the progress of others can help students to feel motivated to actively engage in the given activity. Nevertheless, it is additionally proven that the more frequent feedback and the clearer information is provided, the greater the learning experience (Raymer, 2011). Thus, such a situation is proven to be important for attaining the state of flow (Csikszentmihalyi, 1992). Kumar and Khurana (2012) discovered that students feel discouraged to learn program languages as most of the time classrooms are design in a "boring" way. In their gamifying approach to education, students could progress through several levels, stages, gain points and receive badges. Those elements were used in order to foster students' motivation. The result of the study showed that student engagement was increased and they argued that the aim of gamifying education will not be fully accomplish unless the intention of "learning with fun" is included into gamified experience. Moreover, rewards and prizes, as game elements, are proven to have a positive impact on learning (Brewer et al., 2013). Raymer (2011) highlighted that in order to provide a successful gamified learning experience, timing and scale of the rewards should take into an account. Hence, rewards should be given several times in a smaller dosage during the learning process rather than packed in one large prize, as well as they should be evenly distributed during the whole learning experience (Raymer, 2011).

In the health domain, gamification has proved to have positive outcomes on people's wellbeing. It has been argued that gamifying the health industry can result in the creation of attraction, encouragements and motivations to change people's behavior (Reynolds, Schwanda Sosik & Cosley, 2019). According to Chen and Pu (2014), people's motivation to engage in physical activities is largely enhanced through fun activities which incorporate competition, cooperation, and social interactions, namely sharing a common purpose with peers. This is additionally confirmed by Hamari and Koivisto (2015) who argue that social norms and recognition may be seen as two main factors, in gamification, influencing people's willingness to engage in the physical activities. This goes hand in hand with the self-determination theory's element of relatedness or social identification. Moreover, social interactions were not only found to enhance people's motivation and experience of fun in areas of physical activities but also in the fields of moderating consumption of alcohol beverages (Boendermaker, Boffo & Wiers, 2015) and mental health (Hall, Caton & Weinhardt, 2013). In the mental health study done by Hall, Caton, and Weinhardt (2013), gamification showed positive outcomes towards people's personal growth and levels of stress and anxiety, which confirms the aforementioned argument that gamification, in general, has a positive impact on consumers' wellbeing or health.

Nevertheless, in some areas of "health" gamification, it has been proven that some game elements may be more motivating than the physical activity itself (Chen and Pu, 2014). Rewards, point and achievements were found to enhance people's desire to actively exercise (Hamari and Koivisto, 2015). This was confirmed by another study which argued that points in combination with leaderboards greatly contribute to an increase of physical activities (Thorsteinsen, Vittersø & Svendsen, 2014). Hence, Chen and Pu (2014) additionally argued that a combination of points and leaderboards are increasing the levels of physical activities more when people are collaborating together than when they are competing with each other. In his study, (Cafazzo, Casselman, Hamming, Katzman & Palmert, 2012) formed rewards as points which could ultimately be exchanged for prizes. His study showed that this formulation of game elements results with positive outcomes, which were in his case, an increase in the rate measurement of blood glucose amongst type one diabetics. Moreover, Zuckerman and Gal-Oz (2014) showed how informational feedback and customizable elements can be of great help when meaningful gamification experiences want to be achieved.

Moreover, there were numerous of different studies done in the area of intra-organizational contexts (Farzan et al. 2008; Jung, Schneider & Valacich, 2010; Zoe, 2018), where benefits of gamification were again confirmed. However, in this field of a non-gaming context, a lot of critics emerged. In a study by Farzan et.al. (2008), gamifications positive outcomes have been argued to be of a short term for most of the users, except for a small number of those competitive employees. The study was conducted with the aim to look how employees will act in the situation where point systems, levels, and leaderboards are used as tools to enhance their frequency of content creation to maintain a personal and professional relationship. The end result showed that users who were not on the top ten leaderboards have reduced their intensity of interaction, while those who were among the top ten engaged with the system even more in order to enhance already collected points (Farzan et al., 2008). Hence, these results implied that the way programs are designed and implemented represents a key to the long-term accomplishment of a company and that there is still room for further research to be done on how to motivate engagements of gamification in workplaces on all levels. Nevertheless, Mollick and Rothbard (2014) additionally elaborated that in order for gamification to result in an increase of employees' job performances, employees have to have a feeling of choice, in this case, consent. In the case of a non-consent situation, employees would feel discouraged, resulting in their poor performance (Mollick and Rothbard, 2014). This is in line with the element of autonomy in the motivational theory of self-determination (Ryan, Rigby & Przybylski, 2006). Moreover, regulatory feedback was proven to be a meaningful tool for motivating users at work (Deterding, 2015). According to Vorderer, Bryant, Piepe, and Weber (2012), visualization and sound design feedback have a great power to influence the employees' behavior. Moreover, Juul (2012) emphasized the importance of feedback that *"does not simply communicate information but also gives the player an immediate, pleasurable experience, enhancing the experience of feeling competent, or clever when playing a game"* (p. 45). Hence, it is argued that such feedback could result in positive reinforcements of employee's behaviors or foster learnings and changes in previously negative behaviors (Juul, 2012; Perryer, Scott-Ladd, & Leighton, 2012).

### 3.4.3 Motivation

#### 3.4.3.1 Self-Determination theory

The self-determination theory (STD) is a comprehensive theory of human motivations that addresses intrinsic and extrinsic motivation and their impact on consumer behavior. Intrinsic motivation is defined as the inner self-driver that individuals find in themselves, while extrinsic motivations are the drivers from the outside world, such as money (Ryan, Rigby & Przybylski, 2006). As it will be argued in the next section, intrinsic motivation is highly important for a successful gamification. Hence, according to the STD and cognitive evaluation theory (Ryan & Deci, 2000), which is sub-theory in STD, to trigger and maintain the intrinsic motivation in individuals, it is necessary to satisfy three core physiological need of individuals; autonomy, competence, and relatedness (Ryan, Rigby & Przybylski, 2006). Autonomy implies a sense of free will that users have in making their own choice. It is argued that when users are choosing to do some kind of activity that has a personal value to him/her, then the perceived autonomy will be high (Ryan, Rigby & Przybylski, 2006). On the one hand, “*provisions for choice, use of rewards as informational feedback (rather than to control behavior), and non-controlling instructions*” increase perceived autonomy (Ryan, Rigby & Przybylski, 2006, p. 347). On the other hand, conditions that reduce freedom of choice will ultimately decrease the perceived autonomy. Therefore, users should always have their own sense of willingness when choosing to participate in gamified experiences. Competence is the second physiological need, and it is defined as the need for a challenge and the feeling of productiveness (White, 1959). Acquiring new skills, getting positive feedback and being challenged are some of the factors that have the ability to enhance the full experience of competence, which in turn can lead to an increase in the intrinsic motivation. For this motivation to evolve into a feeling of flow for the consumer, there needs to be a perfect match between the challenge of the experience and the already known knowledge of the consumer (Csikszentmihalyi, 1992). Csikszentmihalyi’s (1992) theory can be applied as a foundation of how to incorporate competition, as well as challenge, into a gamification experience. It is also important to consider the emotion of virtuosity, the feeling of succeeding and mastering, which is the desired outcome when facing any type of challenge (Kubovy, 1999). Hence, when applied in gamification, competence could be increased by creating experiences. It is additionally argued that competence is among the most important satisfactory element in the gamification as it creates opportunities for

the users to feel self-accomplished (Ryan, Rigby & Przybylski, 2006), which represents the highest need in Maslow's (1943) hierarchy of needs. As aforementioned, an individual need to feel the balance between being challenged and performing. Humans strive to master tasks and learn, partly by being curious, which triggers the behavior and the learning (Kubovy, 1999). This contributes to the creation of the pleasure of mind, which motivates individuals in an experience (Kubovy, 1999).

The last core element is relatedness. It refers to *"one's feelings of belonging, attachment, and care in relation to a group of significant others"* (Sailer, Hense, Mayr & Mandl, 2016). Furthermore, this addresses the importance of the emotion of sociality, to belong to a social group (Kubovy, 1999). Hence, it represents users' aspiration to be assimilated with the desired social surrounding. According to Sailer, Hense, Mandl and Klevers (2013), the experience of social relatedness can be enhanced by giving the users a feeling of the relevance of his action and emphasizing the importance of his/hers role for the group's performance (Sailer, Hense, Mandl & Klevers, 2013). Aligned with Kubovy's (1999) fourth feeling, the participant will hence also experience nurturing; both of the group and for the purpose of the experience which is caring for the environment. All in all, STD argues that the fulfillment of those three core needs is important for fostering the intrinsic motivation, which represents the desired motivation state.

### 3.4.3.2 Motivation and Gamification

The main goal of gamification is to trigger engagement and provide a transformational experience by using a variety of gamified elements (Liu, Santhanam & Webster, 2017). According to Burke (2016), gamification should trigger an emotional response from the users and motivate them to reach their targets. In order for that to occur, gamification uses emotions and reinforcements (Robson, Plangger, Kietzman, McCarthy & Pitt, 2015) to handle motivation drivers of the consumer. Triggering desired emotions in users could also lead in the creation of automatic behavioral processes, commonly known as "habits" (Robson et.al, 2015). According to Robson et.al (2015, p. 3) habit are *"formed through providing cues that elicit behaviors and then rewarding the behavior, thus forming a behavioral loop that requires less and cognitive resources as the desired behavior is repeatedly reinforced"*. In terms of reinforcement, both operant conditioning and the law of effect proves that reinforced leads in the repetition of the behavior. In

addition, both theories impose that changes in behavior can be motivated through intrinsic and extrinsic reinforcements (Robson et.al, 2015). However, Burke (2016) argues that gamification primary uses intrinsic rewards over extrinsic rewards. Hence, it is additionally argued that in order for a gamification to have a long-term effect, the intrinsic motivation should be enhanced (Nicholson, 2012). Nevertheless, Reiss (2004) found sixteen basic intrinsic desires that motivate our actions and define our personalities; acceptance, curiosity, eating, family, idealism, independence, order, physical activity, power, romance, saving, social contact, social status, tranquility, and vengeance. Thus, in order to transform consumers, many of these desires should be taken into account when designing a gamification experience.

Similar to the STD, Burke (2016) identified three motivators in the gamification setting which if implanted in the right way can positively affect the users' intrinsic motivation. These are autonomy, mastery, and purpose. Autonomy implies the situation in which the users must relate their choices and with the self-determination (Mekler, Brühlmann, Tuch & Opwis, 2017). Hence, in the right applied gamification setting, users will voluntarily choose the path they want to take in order to achieve their goals, which is crucial for an effective gamification application (Burke, 2016). Connecting to the experience of a transformation, goals have been proven to be important motivator for consumers and for shaping their behaviors, when aiming for self-actualization (Ariely & Norton, 2009; Maslow, 1943). The second key element, mastery, refers to the users' own competence to overcome challenges. The challenge must be of a reachable level for the user to feel confident enough to take on the challenge, but at the same time challenging enough for the user to be curious and triggered to perform (Kubovy, 1999). For the user to experience flow, as well as the emotions of curiosity and virtuosity, there is a need for this balance (Kubovy, 1999; Csikszentmihalyi, 1992). Moreover, the users' experience of flow is also dependent on how fluently he perceives the gamification- the more fluently, the more positive his response for the experience will be (Ariely & Norton, 2009; Reber, Schwarz & Winkielman, 2004).

Burke (2016) argues that all people have a notion to accomplish and improve certain aspects of their everyday life, however, they lack the motivation to do it. Therefore, gamification is a way to tackle such issues and transforming their behaviors by creating flow and pleasure of mind for the participants (Kubovy, 1999; Csikszentmihalyi, 1992). The last motivational element, purpose,

differs from the STD third element, which was relatedness. According to Burke (2016), the purpose is defined as the users' aspiration to act for a cause of something bigger than them. This can be connected to dimensions of sociality and nurturing, where the users will be motivated by the purpose of belonging, as well as caring for others and the surrounding world (Kubovy, 1999). In addition, it is then important to foster the users' feeling of the experience as being "the right thing" to do, which will further enhance their motivations (Ariely & Norton, 2009). Hence, in order for the users to get a sense of his purpose, the gamification experience should always be concentrated on attaining meaningful user goals.

To sum up, we argue that by implementing the above-mentioned motivational elements in a gamification setting, gamification will provide a transformational experience to the users, which would result in the increase of the consumers sustainable behavior within the area of household energy consumption.

# ANALYSIS





## 4. Analysis

### 4.1 Introduction

This chapter presents the analytical part of the related study, with the purpose of answering the research question of if the use of gamification can transform younger people to take more sustainable actions in order to decrease their household energy consumption. The analysis will present the empirical findings and draw conclusions in relations to the above-presented theory.

This chapter is divided into three main sections following the structure of the study and the theory. The first main part is concern about the empirical findings and analyses regarding how young consumers perceive sustainability and household energy consumption. This will outline the young consumer's awareness, feelings, and motivations behind sustainability. Hence, this section will further provide findings in relation to the research subquestion number one, concerning the motivators and barriers of young people to act more sustainable in the area of household energy consumption.

The second main part represents the findings and analysis of transformational experiences connected to sustainability in order to gain an understanding of how experiences can affect consumers motivations and behaviors. Moreover, those findings will be connected to research subquestion number two, examining if an individual experience has an effect on young people's motivation to act more sustainable in energy consumption.

The third main part expands the perspective on our previous findings by relating them to the theory of gamification, namely how gamification can be related to sustainability and experiences. Thus, the findings together with the previously drawn conclusions will answer the third research subquestion of how a gamification experience could be designed to transform young people into more sustainable household energy consumption.

## 4.2 Sustainability and Household Energy Consumption

As elaborated in chapter 2, *Methodology*, we have conducted 10 interviews, in the form of semi-structured questions, and asked our participants to openly express their thoughts about each of the questions. The reasoning behind this was to understand the consumers' point of view of each of the three main areas of research; sustainability, transformational experiences, and gamification.

We are opening our analysis with the field of sustainability in order to answer our first research question – *What are the motivators and barriers of young people to act more sustainable in the area of household energy consumption?*. Therefore, the following empirical findings gathered will not just be presented but also elaborated together with the theoretical backgrounds. We started our interviews firstly by explaining the concept of sustainability and asking each of the participants *“how important is for you to be sustainable?”*. They all agreed on sustainability being an important and present issue for them, and something that is becoming more and more relevant. When asked to scale from one to seven of how important they think sustainability is for them, a majority of the participants scaled it five or higher. As Astrid, who rated it a six, elaborated her thoughts:

*“I think that it's super critical for everybody to think about sustainability at these times. And I feel I've gotten to a point where I can't justify my actions anymore if they're not sustainable, or if I do actions that I can't really morally feel that they're okay.”*

Stefan, who rated it between six and seven, further elaborated the importance of sustainability:

*“I strongly believe that climate change is the number one challenge that humanity is currently facing. We are facing quite a bit of challenge, but they are all interlinked, somehow, with climate change. And that's why I think it's very important.”*

All of the 10 participants, which all belong to the millennial group, stated that they find sustainability important. This finding is also supported by the survey from the European Commission (2017). It can be argued that due to the Millennials' higher awareness of climate change, this number would have been even higher if it would only include the younger generation.

Moreover, the participants also confirmed that sustainability is a part of their everyday life. Three participants, all from different age spans, specifically used the keyword *everyday life* in their opening arguments:

*“I would definitely say that it’s a big part of my everyday life.”* (Maja, 22)

*“It is important, I would say, very important in my everyday life, I started to be more conscious about my actions.”* (Chiara, 25)

*“Well, for me, it’s become actually a big part of my every day.”* (Daniel, 29)

Even though the rest of the participants did not specifically use the keyword *everyday life* from their argumentations, it can be concluded that sustainability is of high relevance for them. When focusing on household energy consumption, the participants expressed the same feelings. Eight out of ten participants rated the household energy usage as an important question within sustainability with the score five or higher, which corresponds with opinions made about sustainability in general. The two remaining participants who did not share the same perception rated it as a four. They expressed a critical view because they did not share the same opinion of household energy consumption being of the same relevance as other areas of sustainability. However, one of the higher rated participants, Daniel, elaborated and used the same aforementioned keyword *everyday* in the following statement:

*“Yeah, because it’s a big part of our daily consumption of electricity. And I would say that it, for me, looks like we are using even more than we did before, and therefore it’s very important to look at that part.”*

In addition, participants confirmed they were concerned about how energy consumption impacts the environment. They all expressed different concerns ranging from questioning where the energy is coming from, the amount of energy that is being used, to not having enough information about energy consumptions. This lack of knowledge makes them incapable to understand its impact on sustainability. Moreover, as argued by Leiserowitz et al. (2018) and as seen in a survey from the

European Commission (2017), a vast majority of people are becoming more and more concerned every day about the issue of climate change. As Stefan puts it:

*“I think, for me and for the general population, it's getting more important. Especially currently. There's a lot of movement going on.”*

In the study by Leiserowitz et al. (2018), when respondents were asked why they are becoming more concerned about the climate change, one of the most common answers was explained by people experiencing the effect of climate change. To experience the effects by climate change could, for example, be seeing how the weather has changed over time. This results in the increasing awareness and engagement in sustainability issues by younger consumers, which is confirmed by the answers in this study where, for example, one of the participants stated:

*“It is mainly because of the impact I see that global warming has on us. Now you can really feel it, you can see that especially the temperatures are changing. And it's like a huge impact from what it used to be like five to ten years ago when I was a kid and what it is now.”* (Tudor)

Also, when the participants further elaborated why they care about sustainability, a couple of them emphasized the importance of preserving the planet for future generations:

*“Mostly for the environment. But then also, I guess, I'm thinking more long term too, in terms of our quality of life, my potential kids' quality of life, and, you know, further down that family line as well.”* (Emma)

*“Because I care about being able to continue to live on this planet. And maybe if I have kids, that they can continue to live on this planet.”* (Malin)

*“Because I think that it's important for our future. And we really need to find different methods to conduct our lives and respect the environment around us, because if we continue at this pace, like in our actions, there will be no environment for you to live in the future and for next generations as well.”* (Chiara)

In sum, the participants expressed feelings of caring for the planet and future generations. To feel the emotion of pleasure due to caring for something is by Kubovy (1999) explained as nurturing. Hence, the participants demonstrate the longing for nurturing, a category of emotions that according to Kubovy (1999) is present in the pleasure of mind. Furthermore, the second most common answer in Leiserowitz et al. (2018) study of why people are becoming more concerned of sustainability issues corresponds with the findings from our study, where knowledge is confirmed to be a crucial source of information for making them even more concern and aware. A majority of the participants expressed how information and facts of sustainability made them more aware and more engaged. This is supported by the previously mentioned survey by the European Commission (2014), which concludes that that information is a very important factor that motivates consumers to engage in sustainable issues. Astrid also mentioned how the Swedish climate activist Greta Thunberg has inspired her to gain climate-related knowledge. She explains that once you have gained the knowledge about climate change, and the consequences of it, you cannot unlearn it or ignore it. This represents a transformation in Astrid, where she “cannot go back” to the person she was before she gained the knowledge about climate change:

*“I feel a little bit like Greta said; once you know you know, and once you know, you cannot go back. And I feel that it's a bit like that when you have gotten to the point where you have educated yourself and you have the knowledge. Like, if I do this, it will result in this. It then becomes super hard to justify your actions.”*

She further elaborates that the more knowledge she collects, the more motivated and inspired she gets to engage in a sustainable manner:

*“I started to be a vegetarian, but then I felt more and more that it wasn't a hard thing. So then it's like; I want to do it. And the more that we learn about the environmental effects and stuff, I just felt, okay, I want to do that.”*

Astrid expresses a hunger for more knowledge about sustainability and she is curious to explore and learn more. By learning, she feels pleasure and becomes motivated to engage even more (Kubovy, 1999). She seeks a transformation by educating herself and by changing her behavior

(Pine & Gilmore, 1999). Her statement of mastering the challenge to become a vegetarian indicates the pleasure from virtuosity, which comes from her achieving her learnings in practice (Kubovy, 1999). The experience of acquiring knowledge about sustainability can be seen as fluent, due to her positive response (Reber, Schwarz & Winkielman, 2004). Since the challenge of becoming a vegetarian was in line with her skills on how to do it, she experiences a pleasuring feeling of working hard and dedicating herself to achieve the goal (Csikszentmihalyi, 1992). Her strive for self-actualization comes from her engaging in sustainable activities, which makes her feel a please due to the accomplishment of her own aspirations (Maslow, 1943).

The third most common answer in Leiserowitz et al. (2018) study was connected to the concept of “sustainability” being considered as one of today’s mainstreams terms that consumers are often hearing in their everyday surrounding (Schaefer & Crane, 2005). Since people strive to be a part of a social context, they easily get influenced by their surroundings (Kubovy, 1999). The evolvement of sustainability has led to an increase of awareness, which is confirmed by Daniel’s quote:

*“I was not that much aware of a lot of things before a few years ago, I would say. But it has become a pretty important thing to me.”*

This is also confirmed in our study, where keywords such as *media* and the *social environment* were highly appearing. Especially in questions of how the participants gained knowledge and what motivated them regarding sustainability, where media and the social context had an important impact. As argued, young consumers are constantly exposed to the fast-changing surroundings and an increasing number of different kinds of media (Fien, Neil & Bentley, 2008), which influences their perspectives towards sustainability. The knowledge provided by governments and advertisements and from new media was also found to have an influence on awareness, in the survey done by The Guardian (2010). In addition, Fien, Neil, and Bentley (2008) argue that young consumers have a tendency to feel the need to be a part of a group and a social context. In addition, the influence of friends and family was also stated in the European Commission (2013) and The Guardian’s surveys (2010). This was also confirmed in our study by a majority of the participants, where the answer from one of them, Emma, highlighted the importance of both keywords:

*“I am definitely more aware of it [sustainability], especially because of how often it's in the media and how much my friends are talking about it and how much my colleagues are talking about it.”*

The media's increased coverage of sustainability-related issues was a recurring response when the participants reflected about how their awareness and their behavior have changed, which is also argued by previous studies (Soroka, 2003):

*“It used to be less, but lately, because of the media and global warming, it [sustainability] became more and more important for me. And I'm trying to do small things like recycling and stuff like that, to contribute to do my part.”* (Tudor)

*“I think that in the past, I've been quite relatively wasteful with food when I wasn't aware of it. And then I, in the past, also hadn't made any thought towards meat consumption. But like I said, I think it's changing towards being more sustainable. And trying to be more aware of it at least. But, I think up until probably this year, it hasn't been sustainable.”* (Emma)

These changes in the participants' behaviors towards being more sustainable were mostly emphasized in the area of recycling, buying organic food and using the bike as a means of transportation.

*“I would say, especially here in Copenhagen I bike everywhere. I am very aware of what I am buying, both food wise and with clothes and everything. I'm taking the train and I'm really trying not to fly as much.”* (Maja)

*“I'm quite sustainable. I basically only eat vegetarian food I like to use a bike or public transport, but usually I just bike. I also try, when I consume vegetables, to look for locally produced stuff every now and then.”* (Malin)

With the findings stated above, we argue that young consumers are highly concerned with changes that are occurring in the environment and have awareness about it, which is also confirmed by Fien, Neil & Bentley (2008) and European Commission (2017). However, none of the participants,

when talking about sustainability in a general way, mentioned the impact of household energy consumption. Hence, we argue, in line with the presented theory, that this is due to the fact that the reduction of household energy consumption is not largely portrayed as a driver for sustainability and as an issue of climate change.

*“I sort of feel like it's taken a backseat to a lot of the main conversation at the moment, which, as I mentioned, is like the travel with carbon emissions, and food consumption.” (Emma)*

Therefore, we argue that household energy consumption is an area which deserves larger attention. When we explicitly asked the participants about household energy consumption in general, they all confirmed that they are thinking of it. They all mentioned examples of their actions, without us specifically asking, except two participants who just confirmed that they are thinking about it. From the ones who answered, Astrid elaborated her actions as:

*“I try to make sure that, whenever I wash clothes, it is a full machine and things like that. I always turn off the lights. And I've also started to think to try to shower not so much. Like shower and then get out, not shower for the pleasure of showering. More for the sake of being clean. And the same with the dishwasher and make sure that it's full, not do things unnecessarily.”*

The examples Astrid mentioned sums up all the actions the other participants were mentioning in their responses. The most common answer was related to turning off the lights, which was mentioned in four of the answers, the same number of people mentioning that they are concerned about their water consumption. Many of the participants mentioned that the issue of household energy consumption is that “we” are using too much. Another pattern of answers we found was related to the participants' financial situation. Two of them specifically mentioned how they do not only take some of the aforementioned actions just because of sustainability reasons, but also because of an external financial motivator. As Stefan and Maja say:

*“I have to say, I also am doing this quite a bit of financial reasons, not only out of sustainable reasons. Because I remember in the last flat that we were living in, we got an extremely high electricity bill. So that also made me more aware of it.”*



*“I feel it is always difficult to distinguish between the money question and the environmental thing, I know I am very cautious about it, I refuse to have my radiator on when it is spring and when it is nice weather, I am trying to take short showers and I feel that is a mix between that I am really trying to reduce energy but also not having high bills.”*

When we asked them to rate if they are actively thinking of saving energy at home and if they think it is important, six out of ten rated it as a five or higher, three rated it as a four and only one participant rated it at the lowest rate, one. He argues his choice due to his recent change in the living situation which has led him to misunderstand the concept of the question. This is seen from his argumentation:

*“Well, I've just moved in. So, it hasn't been something that I have been thinking about. I would say before when I stayed at a place for years or something it became something that I've been thinking about it.”* (Daniel)

Hence, we can draw the conclusion that most of the participants are actively thinking of saving energy at home and are also seeing it as an important factor in their sustainable lifestyle. However, the participants' highlighted that they lack information about household energy consumption, both in general and in their personal consumption. For example, none of the participants knew how much energy they are spending each month. Only two of the ten participants knew approximately how much money they are paying each month, and only one knew where their energy is coming from. Moreover, they mentioned that they are lacking knowledge of what they can do differently to reduce their energy spending, which again confirms the aforementioned conclusion that knowledge and information are important factors for consumers' awareness and engagement. We argue that this is due to the fact that they feel that energy is distant to them, which confirmed the invisible characteristics of energy. Numerous studies (Shove, 1997; Burgess & Nye, 2008; Wilhite, Shove, Lutzenhiser & Kempton, 2006) confirmed that consumers perceive energy as something invisible and intangible and that they feel that they are not in control of their energy spending. Ultimately, this makes it hard for them to relate to their energy consumption, hence, the experience of consuming energy does not become fluent to them. It is argued that consumers need to process experience as just right and at ease in order for it to become fluent and to achieve flow (Ariely &

Norton, 2009; Csikszentmihalyi, 1992). From the answers we got in our study, conclusions can be drawn that the participants feel that they are having a hard time grasping their energy consumption and understanding its actual impact.

Moreover, different barriers for acting sustainable, both in general and in regard to household energy consumption were identified. We identified a clear pattern among the answers from the participants, where keywords such as *inconvenience*, *laziness* and *habits* were frequently recurring. Six out of ten said that a strong barrier to act more sustainable, both in general and regarding household energy, is that they feel that such actions would demand more from them, making it inconvenient. These findings, together with the founded barrier being lack of knowledge, are supported by the findings from the World Business Council for Sustainable Development's (2008) survey regarding attitudes of sustainable behavior. Their expectations and perceptions of such behavior being too demanding influences their behavior. Expectations are a powerful tool due to the fact that it often becomes an unconscious self-fulfilling prophecy (Ariely & Norton, 2009). Furthermore, the barrier being laziness is confirmed in both cases by four out of ten participants. Hence, the same pattern is seen in the habits, where three participants highlighted how their actions are engraved in their habits, which makes them think they need to go out of their comfort zone in order to accomplish stuff. This also corresponds with what Tan and Lau (2009) who argued in their study, that consumer behavior is largely influenced by their preferences and habits which are hard to change. Emma's answer sums up all three main identified barriers:

*"I think it's that sort of laziness, convenience thing. I think you get used to a way of living, it's just habit."*

When it comes to barriers for acting sustainably in regard to household energy consumption, another barrier identified is the lack of knowledge. This barrier was not mentioned in the case of general sustainability when we asked our participants what is stopping them to act more sustainably. However, after introducing household energy consumption and being asked the same question again, but now in connection to their energy usage, lack of knowledge, as a barrier, appeared several times. Previous research has proven that the more people know about a subject, the more positive their response towards it becomes (Reber, Schwarz & Winkielman, 2004).

Sustainability regarding household energy consumption does not appear as fluent to them, therefore the lack of knowledge is seen as an important barrier (Ariely & Norton, 2009). Hence, many participants stated that they feel confused and that they are not well informed about household energy consumption. We argue that this distinction was found due to the aforementioned proved statement that household energy consumption does not come on top of their minds as, for example, recycling, when talking about sustainability. In addition, it appears to be hard for consumers to gain easy knowledge about their energy household consumption. Astrid told us of when she tried to calculate her household energy consumption:

*“I'm not that well informed of exactly how much we are consuming. I tried to do this thing where you can calculate it. But, I started it. And they needed so much information that I didn't have and it was just super complicated. And I did it in bad timing, I didn't have the time to do it. I was like, okay, this is really gonna take some time.”*

In contrast to Astrid's experience of engaging in the sustainable activity of becoming a vegetarian, she, in this case, lacks both the emotions of curiosity and virtuosity. It can be argued that this is due to the experience of understanding household energy consumption was too complicating and, hence, not fluent for her (Ariely & Norton, 2009). The barriers to gain the knowledge she needs were too high, which harmed her curiosity (Kubovy, 1999).

Despite the increased awareness about sustainability among consumers, which was proven above, many studies argued that those attitudes do not necessarily result in an environmentally friendly behavior (López, García & Rodríguez, 2007; Vinkhuyzen & Karlsson-Vinkhuyzen, 2014, O'Rourke, 2008). In recent years, different surveys have shown that between 30 percent to 70 percent of consumers confirm that they are willing to buy more sustainable products, but only 1 percent to 5 percent of those intentions actually result in a purchase (Mintel 2011; Packaged Facts 2011; Devinney et al. 2010). This can be also identified from the answer of one of our participants, Daniel, who stated that sustainability is a “*big part of his everyday life*” and “*has become a pretty important thing*” for him. However, when asked if he considers himself as a sustainable person, he rated himself as three, which shows that even though his awareness exist his actions still does not translate into an actual change in his behavior:

*“I’m not so good at it. But as I said, I’m super aware, and I’m getting even more aware of it. I’m super aware. And I’m also doing the best that I can. But when I’m working, and when I have to be productive for example, I will throw away a lot of trash and plastic. Mainly because it’s easy. So, there’s a lot of easy solutions that I still choose.”*

We also draw a conclusion to previously discussed barriers, where again laziness and inconvenience of acting sustainably can be identified.

The attitude-behavior gap was proven to exist due to a lack of empowerment and motivation (Leiserowitz, 2006). Therefore, we have decided to further look into what actually motivates young consumers to act sustainably, both in general level and household energy level. As concluded above, the participants' personal experience of climate change impact and their concern for future generations quality of life were important factors for them to, both, care about sustainability and to be motivated to act. This is also identified in the case of exposure to the information and knowledge they get from the media, mostly online media sources. As Maja elaborated:

*“Well, I think it is difficult to find the initial source because now I feel like it is everywhere, in media and how companies market their products, I feel like it’s an ongoing discussion. I do really care about our footprint on Earth and that we want sustainable growth.”*

*“I feel the thing that motivates me the most is the facts and scientific facts. It would be nice for example, if with the electricity bill would come more information, maybe where it [the energy] came from or how I can reduce my energy use. I know that might not be an objective for the energy firm to give us that because they want to make a profit, but I feel like that could affect a lot. Just knowing where my energy comes from, and how I can reduce my energy usage, and maybe see it on a scale sort of, “have I have been better or worse?”. ”*

As seen from her answers, she cares about the planet and perceives that she is getting exposed to information about sustainability. Also, she gets motivated to sustainable behavior by receiving this information and acquiring more knowledge. This is, as previously mentioned, in line with

Kubovy's (1999) findings of the emotions curiosity and virtuosity being important to create the desirable pleasure of mind. She is asking for more information because she considers that this will allow her to fully master her skills and be sustainable in her energy household consumption. For Maja to immerse in a flow, the challenge of incorporating sustainable behavior in her life needs to be in a balance with her knowledge (Csikszentmihalyi, 1992). The importance of curiosity and virtuosity can also be traced in Daniel's answer to what motivates him to act sustainably:

*"What motivated me in the first place was the awareness. So that's the main thing that motivates me. I'm attracted to things that will teach me about how to be more sustainable and to be more aware of it and how to deal with it."*

Apart from these two important motivators, other factors that motivated consumers were identified. One of the motivators derived from the participants' inner self which is defined as intrinsic motivation (Ryan, Rigby & Przybylski, 2006). Many of the participants mentioned feeling that acting sustainably and caring for sustainability *"just feels right"*. Furthermore, they state that they want to do something which will make them feel good, and something that is the right thing to do. Hence, connections can be drawn to Ariely and Norton's (2009) work of conceptual consumption, where the case of sustainability can be seen as a concept consumed by the consumers. The expressed feeling of *"just right"* is one of the aspects of consuming concepts, regulatory fit, when the consumers' actions are in line with their motivations. Both Malin's and Hanna's statements are examples of how they feel when they act sustainably, while Emma elaborates that she wants to do her own part to help the planet:

*"I feel like I'm doing something good. That I do something good for the world and for the planet."*  
(Malin)

*"It feels right. If I wouldn't act in that way, I think that I would feel a have more of bad conscious. And it doesn't necessarily have to do with also acting, but also thinking about it. And so I think if I wouldn't think about it, I would feel that I'm, like, not doing any favors to anyone."* (Hanna)

*“I think I want to help. I obviously don't want the planet to completely explode. I'd like to be able to survive and have a similar life to what my family has been able to have and what other people have been able to have. And again, also like the future generations, not even just including my family, actually. But everyone.”* (Emma)

The participants' expressed feelings of caring for the planet can, by Kubovy's (1999) research, derive from the will of nurturing. Hence, as argued nurturing could take a part of relatedness which is one of the three key socio-psychological elements that have a power to trigger and maintain the intrinsic motivation in consumers (Ryan et.al., 2006). The desire for relatedness is additionally traced in another identified motivator. Findings from our study highlighted how participants are longing to be assimilated with the desired social surrounding. This desire is present in many of the participants answers regarding their awareness and their behavior. As aforementioned, many of the participants mentioned how the Swedish climate activist, Greta Thunberg, is an inspiration and motivation to them to act more sustainably. Additionally, they express a desire for being part of the social movement by engaging in sustainability. Malin explains it as wanting to be a “*citizen of the world*” and Tudor states that engaging in sustainability:

*“... makes me feel so much better about myself. I feel that I'm a part of this movement, and I'm part of going against the people who don't care and trying to change the mentality.”*

Furthermore, they are also getting influenced by their personal social context. This could take the form of being inspired, but also creates a feeling of pressure to contribute. For example, Luisa reflects about how she would be more engaged in sustainable behavior if her friends would inspire her to:

*“I'm also very influenced by people that surround me. I would not be the person who would start like a movement or something to make people more aware of sustainability. But if some of my closest friends would do something, then I would definitely also to take part to support my friend.”*

All ten participants highlighted, at some point during the interviews, the importance of having their social surroundings as their support or motivator, which is supported by the findings from the

survey by the European Commission (2013). Some of them specifically emphasized it several times during the interviews. The described feeling of sociality by Kubovy (1999) explains people's eagerness to belong and to be accepted by other people. Nevertheless, the strive for social belonging can also develop into social pressure, which can, in turn, result in making people act in a certain way. As argued by Caeiro et al. (2012), the social environment additionally impacts the way consumers' old and new habits are developed and shaped. As Hanna and Daniel elaborated:

*"I think a lot depends on how my surroundings are doing. I mean, for example, if my apartment in my building would have the requirements that you have to sort your garbage, I think that I would do it. It's kind of the external pressure of forming new habits that I think would be important."*

*"It's because the society kind of expect it from you. I feel satisfied by doing some actions that actually is sustainable. So, I feel happy."*

Although the feeling of social pressure exists, participants still do not want to feel like they are being forced into a sustainable behavior but rather to have a feeling of support and freedom of choosing what is right from them. This is related to another socio-psychological element of intrinsic motivation which is autonomy. According to the cognitive evaluation theory (Ryan et.al., 2006) when consumers are making their own choice about activities that hold personal value to them, the perceived autonomy is rising, which consequently results in a rise of their intrinsic motivation (Ryan et.al., 2006). Therefore, we argue that in order to motivate sustainable behaviors in household energy consumption, consumers have to have a feeling of "freedom".

Based on these mentioned findings, we conclude that social aspect is one of our key motivators which has the power to change consumers' awareness into actions. The second main identified motivator is information, where consumers ask for clear and simple information about how to adopt sustainable behavior. This is in line with Ariely and Norton's (2009) research which argues that the information needs to be easily understood by consumers in order for it to motivate, which results in fluency. Furthermore, the next section will discuss how those motivations can be used to transform the concluded awareness into actual behavior.

## 4.3 Transformational Experiences

In order to provide an answer to the second research question – *if an individual experience has an effect on young people's motivation to act more sustainable in energy consumption* – the following empirical findings will be presented and interlinked with the theoretical framework.

An experience that will create a transformation in consumers' motivations and behaviors is, as presented in the theoretical part, a transformational experience. As Pine and Gilmore (1999) stated; a person can undergo the same experience twice, but the same person cannot have the same transformational experience twice, since he is, after the first transformation, *not the same person anymore*. This implies that a transformational experience affects how a person understands and acts in regard to the purpose of the transformation. Hence, a transformation changes the character of a person and transform him into a different version of himself. This is shown in the study, where all of the respondents had experienced something that changed their behavior in regard to sustainability. Many of the respondents elaborated that receiving information was a crucial point which transformed their behaviors and views about sustainability. By gaining more knowledge about the topic, the respondents expressed that their understandings and motivations to act changed. The information that had an impact on their behavior came from many different channels. Most of them talked about how watching documentaries affected their perception and awareness about sustainability. As Chiara stated:

*“The documentaries that I watched really open my mind. I mean, it's something that we hear in general, like try not to waste water, don't leave the heating on if it's warm outside. But still, maybe you didn't know what's behind all of that. I mean, not everything. So, for example, watching this documentary Day Zero about the level of water in different cities really changed my mind. I felt very guilty if I wasted water. I also started turning it off [the water] if I'm taking showers. I wasn't doing it before, then I was like; okay, whenever I want to be warm, I don't care about water running. I'm not like that anymore, I am kinda scared about that. I am more concern.”*



Among other respondents, documentaries infused the notion of discussion and trigger the change in their intrinsic motivation to act, which resulted in an increase in their awareness. Another source of information came from podcasts and books. As Astrid elaborated:

*“I’ve listened to this Swedish doctor who wrote a book called “The art to make a difference.” He was in this sustainability podcast. He talked about how the individuals can actually make such a difference. And I remember when I listened to that, I really felt like, that is so true. And maybe the things that I felt before... can you actually make a difference? He really convinced me like, yes, you can.”*

Moreover, the respondents expressed how they, after learning more about sustainability, became more eager to know even more. Hence, this resulted in them feeling positive about what they already know and what they are about to learn (Reber, Schwarz & Winkielman, 2004). This could, for example, be seen in the transformational experience of education, as Astrid elaborated in her interview:

*“When I started studying my bachelor's degree, I had this one course called the company's role in the society. And I instantly felt like it was super interesting. So I think then I started thinking about it. And also, I did all my electives here at CBS within sustainability. So then my interest awoke even more because I learned more.”*

Astrid's eagerness to know more is also connected to Kubovy's (1999) theory which argues that an important part of an experience is the pleasure of mind, containing the two emotions curiosity and virtuosity. Curiosity and the willingness to learn and understand is a part of our behavior, which is confirmed by the respondents' transformational experiences of gaining more information about sustainability. Hence, the participants are longing for an educational experience, which they want to learn more from (Pine & Gilmore, 1999). As seen in Astrid's case, her interest in sustainability grew the more she learned about it, giving her the pleasure of mind due to mastering her learnings. Hence, both emotions of virtuosity and curiosity are present, as the pleasure of mind (Kubovy, 1999). This is further shown in the case of another respondents' behavior of buying clothes, where she was transformed by learning about the supply chain in the apparel industry:

*“I never really used to shop a lot in second hand. I'm quite into fashion. So the more I actually get into fashion, not just from a style perspective, but also from a business perspective, I see that there are so many steps in the supply chains, how valuations are made and how fashion businesses run their operations. I feel that I can't support a brand in the same way that I could before I knew about this. This made me just want to shop for second hand.”*

When asked about how the respondents' motivation for saving energy in their household could be enhanced, information and knowledge once again came up as the most important factor. A majority of the respondents expressed how they felt that their lack of knowledge was the main obstacle stopping them to act sustainably on saving energy. They underlined how valuable and motivational it would be to have clear and precise information about their energy consumption. This highlights that it is important that the consumers are able to fluently process the information they receive, and that it needs to be fluent and in balance with their previous knowledge in order to foster a transformation (Ariely & Norton, 2009; Reber, Schwarz & Winkielman, 2004; Csikszentmihalyi, 1992). Accordingly, they all emphasized that such information would most definitely lead to a change in their behavior. As Astrid elaborates:

*“I think if I would get black on white exactly how much I do consume, and if I could get some tips on what I can do differently it would be extremely helpful. I'm not really sure what I can do differently? How should I? Are there any different methods? I lack that knowledge. But if I could get that information, that I would definitely make the changes that I can.”*

Consequently, information and knowledge were shown to be an important part of transformational experiences in the field of sustainability, and also as an important motivator to act sustainably. Another important role in transforming the respondents' behavior is traced in their social environment. The respondents mentioned being influenced and changed by their surroundings. One of the respondents specifically highlighted the impact his friends and roommates have on his behavior:

*“It was my time spent in Australia as an exchange student. I lived in a house which emphasizes a lot with nature and the animals. I really tried to do my part when it comes to living sustainably.”*

*Everybody was vegan, I tried to be vegan for a while, then I moved a little bit to vegetarian, which is a bit better for me. It was good for me. So I would say that's the experience which has had the greatest impact.” (Tudor)*

This highlights the aforementioned importance of social influence and the social context, where Kubovy (1999) argues that people feel the need of belonging to a group. It can be concluded that Tudor wanted to become a part of the social group in the house during his time in Australia and that he, therefore, adopted and assimilated to their behavior in order to achieve it. Hence, he transformed his behavior to get pleasure from belonging. Another respondent mentioned famous people as a major influence. He mentioned how watching documentaries or talks with bright and famous people in the field, like Al Gore, changed his perspectives. A few of the respondents also talked about how the Swedish climate activist Greta Thunberg inspired them to take actions and engage more in sustainability:

*“I think I can definitely say that Greta has had a major impact. When I saw her speech for the first time, in the United Nations, then I was, really like: wow. And I think that my interest in sustainability and everything has gone off even more since.” (Astrid)*

Experiencing the act of traveling is another aspect which is related to the social environment and its transformative nature. Some of the respondents discussed how traveling changed their behavior and perception of sustainability. Seeing and experiencing how other countries are affected by climate change enlightened their understandings and affected their behavior. One respondent explained that experiencing the weather in Denmark last year, with the harbor freezing and then the warmest summer in a long time, made her realize how important sustainability is. Another respondent experienced drought while traveling in South America and saw the circumstances in which people lived, and, therefore, decided not to travel there so she would not waste their scarce resources of water. This also transformed her view about the magnitude and the impact climate change has. Likewise, another respondent became engaged in the issue of littering during his traveling due to the awareness created in the ongoing campaigns:

*“At the same time, I was traveling a lot. And we had a session where we picked up trash and stuff. So, it came to my mind that it's a big problem. I was aware of it, but I was not picking it up myself before that.”* (Daniel)

Hence, experiencing the effects of climate change in person, once again, were shown to have a great impact on transformations. All in all, the analysis of the empirical findings provided several insights into what elements an experience should contain in order to foster a change in consumers behaviors.

## 4.4 Gamification

This last main section of the analysis is concerned about the empirical findings that aim to answer the last research subquestion; *how gamification can be designed to transform young people to have a more sustainable household energy consumption?*. This section will not only incorporate the findings regarding gamification but also include previous analyzed findings. This approach will allow us to better understand our findings and present them in a more profound way. Ultimately, the aim is to create a holistic view of transformations within household energy consumption and how they can be achieved.

A majority of the participants did not previously know about the concept of gamification. The term was explained to them at the beginning of the interview. However, when asked the question of what comes to their mind when hearing the word gamification, many of them said that they did not know about it, or related it to “serious games”. Four out of ten participants misunderstood gamification to serious games, which, as argued in the theory, is a common confusion amongst the majority of people. This further strengthens the aforementioned notion that gamification is a new field which emerged in recent years and that there is no consensus of the definition of “gamification”. However, throughout this study and when presenting the term to our participants in the interviews, we have used the definition from Deterding et.al (2011, p.1), who defines gamification as *“the use of game design elements in non-gaming contexts”*.

Due to the previously argued attitude-behavior gap, which exists due to the lack of empowerment and motivation from the users' side, we decided to investigate if gamification could be perceived as a way to motivate a reduction of household energy consumption. Hence, we asked the participants if they would be motivated to spend less energy if energy savings would be presented to them in a gameful way. Six participants then rated it as a five or higher on a scale from one to seven of how motivating that would be to them. The rest of the participants varied between three and four on the motivational scale. Among those four participants who rated it low, Stefan was the only one who was familiar with the concept of gamification due to his educational background. The reason why he gave low rating traces back to his association to a previous gamification experience that he had. He explains about a gym app he used to have, which was not designed in a successful and motivating way. In line with the findings from the area of internal organizational communication (Farzan et. al., 2008), we argue that the way the gamification experience is designed is important for the long-term success of consumers' motivation.

Among those six participants who gave high ratings, two of them connected gamification with a social aspect, which for them represent a motivating factor. Both Luisa and Tudor highlighted that they would be motivated if gamification would provide a social situation where they could engage with their friends. This confirms our previous findings, where the social aspect was concluded to be an important motivator for sustainable household energy behavior. Therefore, we argue that the social context is also an important motivator within the gamification setting. Furthermore, one of the participants expressed how gamification according to her should be designed to motivate her sustainable behavior. The elements she highlighted are entertaining, knowledge, nice design and participation:

*“I would focus more on the entraining side then the fun part. So it depends on the game, it has to be a game in which the game elements are not just towards the game and just for the fun part, but they also have to present the user with knowledge. And yeah, dare to be enriching and engaging in that sense, but maybe through a nice design or more interactive elements, then you will engage the consumer and user more.”* (Chiara)

All of the motivational factors she mentions correspond to each of the four elements in the four realms model by Pine and Gilmore (1999). According to this model, all of those elements should be present in order for an experience to be enriching and engaging, referred to as “the sweet spot” which is positioned in the middle of the model. Hence, we argue that in order to successfully motivate consumers to spend less energy and to design a transformational gamification experience, this model and its elements should be considered. Another previously concluded finding is that consumers perceive energy as distant and invisible, which makes it hard for them to perceive and understand its actual impact. Our findings showed that this gap would be possible to bridge if gamification would be applied to household energy consumption. Two of the participants elaborated how their cognition of energy could be improved if the energy consumption would be presented in a more gameful way. As Maja stated:

*“I would definitely say so because it makes it much more tangible, and by turning it into this reward system, I would guess it gives you the feeling that you don’t give up on anything, so it is actually convenient, because you can see your progress and become motivated.”*

The issue of energy being invisible is repeatedly mentioned. The keyword *see* was identified throughout several questions regarding sustainability, household energy consumption as well as experiences. As Astrid elaborates:

*“I guess some sort of experience where you can track your performance. Or, if you could visualize it somehow.”*

Another example is how respondents highlighted that seeing images showing the impacts of the climate change affected their awareness, and ultimately led in a change of their behaviors. When asked if they would be motivated to reduce their energy consumption if it would be presented in a more visual way, nine out of ten participants rated it as a five or higher. However, four of those nine participants rated it as seven, which is the highest number on the scale. Chiara further elaborates how images impacted her behavior:

*“Yes definitely, like seeing pictures. So, if I see images of what the actual consequences of my behavior in sustainable terms are, then they stick to my mind more, and I become more aware of that. And for sure, I'm going to remember that, when I'm acting.”*

The participant did not only relate visualization to images. As argued, gamification consists of several visual elements, such as points, badges, and leaderboards (Werbach & Hunter, 2012). When asked about the visualization in terms of energy consumption, several participants associated their answers to scales, ratings, chart, and displays of numbers. In addition, they argued that this possibility will ultimately help them to understand and relate to their energy spending. As Hanna elaborated:

*“I think so. Because every time you actually visualize something, it kind of just sets everything in perspective.”*

Therefore, we argue that visualization is an element which can resolve the issue of energy being perceived as invisible and can be used as a motivational factor of a behavioral change. Furthermore, some of the participants also related visualization to facts and knowledge. The first association of visualizing energy consumption for them came in the form of information. Hence, they highlighted that they consider that a visual way of presenting information would help them to create clearer and more precise pictures of their consumption, which would make them process the information more fluent (Reber, Schwarz, and Winkielman, 2004). As Stefan elaborated:

*“I mean, visuals are always good in conveying and aggregating information in a very short and precise way, and also for conveying meanings.”*

As argued in previous sections, knowledge is a key motivator for consumers to act in a more sustainable way. In terms of household energy consumption, it was concluded that lack of knowledge is one of the biggest barriers which stopped our participants from acting, while at the same time it is also the main trigger of consumers' awareness. Therefore, we argue that the acquisition of more information will lead to higher consumer knowledge and consequently higher awareness about energy usage. This could possibly result in bridging the gap of household energy

consumption still not being seen as an important topic within the area of sustainability. Hence, we argue that knowledge is a key factor which could put energy consumption of households in the spotlight, making it a mainstream term in the area of sustainability together with other actions such as recycling. Moreover, throughout the whole study, participants highlighted that they are in need of more information and that more information will ultimately allow them to master their own skills in behaving sustainably. Consequently, we argue, in line with Ariely and Norton (2009) and Reber, Schwarz, and Winkielman (2004), and in line with our previous findings, that consumers tend to create high positive emotions towards the things that they fully understand and are familiar with. Hence, the visual representation is a key moderator for achieving those feelings and creating a state of flow. As argued by Csikszentmihalyi (1992), the flow will be achieved if the balance, between what they already know and what they are challenged in, exist.

Nevertheless, we have found that the urge for knowledge is additionally connected to the notion of getting feedback. Many participants mentioned feedback several times as something that would help them to bridge their knowledge gap regarding household energy consumption. Feedback is an important part of acquiring new skills and creating a challenging positive environment. Those factors, if implemented in the right way, have the ability to foster consumers psychological need of competence, which forms one part of the intrinsic motivation (White, 1959). Consequently, if competence is increased, the intrinsic motivation will as well increase. As previously argued, competence will increase if an experience is created in a gamification setting. A survey done on gamification within the work environment showed that 81 percent of respondents mentioned that gamification helped them to learn and develop (Zoe, 2018). Moreover, sustainable actions can be argued to be a part of consumers self-actualization and purpose (Maslow, 1943), which is the strive to act for a greater cause (Burk, 2016). Therefore, we argue that feedback is an important element which triggers the intrinsic motivation, which is argued to be an important element of gamification in order for the experience to have a long-term effect (Burk, 2016; Nicholson, 2012). All of the participants were highly positive regarding getting feedback, and nine out of ten rated it on the higher part of the scale from one to seven. Half of them rated it with the highest number, seven, and expressed that it would have a great power to influence their motivations and behaviors. Malin elaborated:



*“Yes, I think so. Because then I could see like, okay, I'm doing good here and I'm doing less good here. And maybe if I get feedback on how I could do it, then definitely, because I also feel like that is, as I said, lack of knowledge. That would be super, super helpful, I think.”*

Feedback would motivate and help her to shape her behavior into a more sustainable manner and teach her what she needs to do differently, which is in line with previous research (Juul, 2012; Perryer, Scott-Ladd, & Leighton, 2012). This is additionally supported by Tudor's answer:

*“Yeah, that's actually really cool. Because I just got this app on my phone from Nordea for example, which tells me how much money I spend. It gives me notifications every now and then and says like I spend this much amount on food for this month. Of course, it drives you to try to spend less. And I think you'd be the same with thinking sustainable.”*

From his elaboration, we additionally connect back to the importance of visualization. As he stated, feedback would allow him to picture and understand his energy consumption in a more tangible way. As a result, we argue that the gap of invisibility could be bridged, as he would be able to relate to his energy usage, which would result in him being more motivated to change his behavior.

Moreover, it was proven in previous studies that informational feedback is important to create a meaningful gamification experience (Zuckerman & Gal-Oz, 2014). When the participants were asked how they, without having gamification in mind, would design a motivating experience to make them reduce their energy consumption, receiving feedback was the most frequently founded keyword. Astrid:

*“I guess some sort of experience where you can track your performance. Or if you could visualize it somehow. Let's say we start saving here now. And then you have charts or whatever. And then you could track how you go. Because then you can really see if you'd make a difference. So, I think like some sort of continuous like feedback.”*

Putting feedback in a gamification setting once again confirmed the aforementioned conclusion. Participants highlighted how the feedback they find valuable should be constructive and provide

them with enough information but in a short and precise way. In line with some of the previously mentioned characteristics of experience, it is again confirmed that the feedback should be framed in a positive and supportive way. According to the theory of nudging, the way a message is framed can affect and influence people into certain behaviors and decisions (Goldstein, Johnson, Herrmann & Heitmann, 2008). By presenting the choice of acting sustainably in an encouraging and positive way, the consumers will get nudged into taking those responsible decisions. Astrid further elaborated why she wants constructive and concrete feedback:

*“I think that would definitely motivate me, also if it could be a bit of concrete feedback. So if you can get that sort of, constructive feedback, that would be really good. Because it's so simple to make the changes, but it is hard if it's like: it [the energy spending] went up. Then it is like, okay, I don't have a clue what I did differently last month. Because you forget.”*

Emma again highlights the importance of constructive feedback, while additionally emphasizing the importance of the feedback being positive and encouraging:

*“I think if I was really doing the most that I felt I could, then, of course, I would want positive feedback. If there was something where it's like, you're doing this really well, but this you can improve on. That constructive feedback would be awesome.”*

Nevertheless, feedback should not only communicate facts and information but also play a part in creating a meaningful experience for the users, to make them feel competent and enhance their intrinsic motivation (Juul, 2012; Ryan, Rigby & Przybylski, 2006). The visual elements of designing a meaningful experience, mentioned above, can be also traced in Pine and Gilmore's (1999) four realm model, which argues that in order to be in the “sweet spot”, one of the four elements that an experience needs to contain in order to immerse the consumer is the esthetics. Furthermore, another element is the educational one, which we identify with the consumers need and desire for more information and knowledge. Thus, providing such kind of feedback in a gamification experience is a way to make the experience fluent and easy for the user to process. As argued, their perception of the experience will be more positive the more fluent the experience is (Ariely & Norton, 2009; Reber, Schwarz & Winkielman, 2004). Therefore, we argue that

information and feedback are important elements in creating a meaningful gamification experience aiming to motivate and transform consumers behaviors within household energy consumption.

In the area of education, it was confirmed that the more frequent feedback students receive, the greater their learning experience will be, and the greater the possibility that the state of flow will be achieved (Raymer, 2011; Csikszentmihalyi, 1992). Hence, we argue that the same results are applicable when gamification is applied in the area of household energy consumption. The participants expressed their desire to receive feedback more often. Eight out of the ten participants agreed that it would be more motivating and helpful to get the feedback on a monthly basis. They all elaborated that a month represents enough time to notice changes, but it is also short enough to compare and keep track of them. As Maja said it:

*“I feel like that in a month, if it would be a day or a week it could vary a lot, so a month, I feel that could get my whole scope.”*

The two other participants stated that they would like to get the information on a weekly basis, however, they then wish for short and quick facts. Nevertheless, in some of the answers from the participants asking for monthly feedback, we, once again, found that the social element is of high importance. Maja discussed how the feedback could incorporate a social aspect of being able to compare to a similar housing situation as hers:

*“Yes, it would. As I said before maybe it would come together with my bill or just an informative letter on how I am doing, or compare to people that have the same household that I do, or a similar apartment, or see that I am spending more or less than the average, for example. As I said before, small things that I could do to improve my energy consumption because I guess that they can see where it comes from.”*

The social aspect was further elaborated by the participants when they were asked about if they would be motivated by comparing their energy usage to their neighbors' energy usage. Eight out of nine participants rated it with the highest number, six or seven. Most of the participants said

that it would motivate them since the element of competition is included. Daniel expressed that being able to compete would motivate him a lot:

*“I would say yes. The competition kind of idea motivates me a lot actually. That's just my personality. I like the competition thing. Also, it a good way, the total target, if you compete, you don't even compete with each other. But you also competed in a good way.”*

In addition, it was noted that being the best compared to neighbors is not as important as being the worst. As Astrid shared:

*“Maybe not necessarily to be the best, but I wouldn't want to be the worst. I wouldn't want to be the one like, oh, “Astrid in household number 5C, gosh, she is cranking it.” But maybe I wouldn't feel like I have to beat them.”*

Many of them highlighted how they would be ashamed if their energy spending would be the highest, and consequently if their social recognition would be jeopardized. This can be seen in Luisa's elaboration:

*“I think it [comparison] would because I'm quite a competitive person. And also since I know that sustainability is such a high topic, then it would also kind of embarrassed me to see if my neighbors would be better than me or like use less energy than me.”*

Moreover, another important finding throughout the whole study is the element of social cooperation. The participants highlighted that they if they had the option, they would rather prefer to be part of a community where the focus is more on cooperating then to compete against each other. This is in line with the research of gamification in the health area, where Chen and Pu (2014) found that the level of physical activities would increase more when people would collaborate together, compared to if they would compete against each other. Astrid emphasized that she would like to collaborate together with her neighbors:

*“More like, maybe more like in a community sort of a sense. Like, okay, let's keep it down, and like be at least on the same level as them. But not necessarily that I have to beat them.”*

The same pattern was identified when the participants describe their desired experience to make them reduce their energy household consumption. Hanna then talked about how incorporating social interactions into an experience would enhance her motivation and engagement:

*“Making something that is more kind of community-based, rather than just like center based, I think will be very good. Because then it's not just making people feel that they have to do something, but they're actually kind of getting something out of it also. Some kind of enjoyment, I guess.”*

Therefore, we argue that competition, cooperation, and social interactions, as previously proven in other non-gamification areas (Chen and Pu, 2014), are aspects which could enhance consumers' motivation to reduce their energy consumption. Furthermore, as in the case of physical activities (Hamari and Koivisto, 2015), social norms and recognitions are shown to be the main elements which impact consumers' willingness to engage in saving energy. All of those findings, additionally, go hand in hand with the STD's element of social identification or relatedness, which forms a part of consumers' intrinsic motivation. Thus, we argue that for the gamification to provide a meaningful experience and further enhance consumers intrinsic motivation, it has to include the aspect of social relatedness. This is additionally supported by the survey done by Zoe (2018), which states that 81 percent of respondents state that gamification makes them more socially connected.

Furthermore, the social element that the participants are longing for is, by Kubovy (1999), defined as the emotion of sociality, which presence can lead to pleasure of mind. The participants seek acceptance by a social context, hence, by engaging in a sustainable energy consumption behavior together with their neighbors, they feel that they are part of a social group. Also, it is proven that people get nudged by their social environment and adjust their behavior according to what they comprehend as the norm to get social acceptance (Nordic Council of Ministers, 2016; Ariely & Norton, 2009). The participants expressed the need for a slight “push” to get their behaviors in the

right direction. Malin explains why she would be motivated by getting her behavior rated by, for example, her landlord:

*“That could definitely motivate me because then you kind of have somebody, because of you kind of need that little bit. Somebody who's watching you and knowing what you're doing. But in a good way.”*

The element of competition and collaboration, which has been identified as motivating elements of a social context, are also present when gamification elements such as points are introduced in the context of energy spending. The participants were asked to elaborate if their motivation to reduce their energy usage would increase if they would be able to collect points which would lead to a reward. The social context was identified in the answers from two participants, who argue that points, and ultimately a reward, would motivate them if they would be able to collect points and share the experience together with others. As they elaborated:

*“If you live in a large building, where it is more fun to do that kind of thing [collect points], and maybe working, I don't know, in teams. That would motivate me even more.”* (Daniel)

*“Well, maybe not for the reward itself, but just knowing that you actually you have kinda goal, that you are working towards something and also working together, sharing a common interest.”* (Maja)

Many of the participants highlighted that such competition would be fun, which can be connected to the element of entertainment in Pine and Gilmore's (1999) four realm model. Entertainment corresponds to the creation of the emotion of enjoyment, where the consumers, by collecting points and getting rewarded, experience feelings of joy. Malin expressed how she would be motivated by this gamification element:

*“Definitely. It's nice. First of all, it's fun to collect points. That's a fun part. And then like, a reward. That's always nice.”*

When consumers collect points and compete against each other, they are actively engaging and participating in the experience. This engagement is characterized as an escapist experience, which represents one of the four elements in Pine and Gilmore's (1999) model. Furthermore, even though the intrinsic motivation has been identified as the most important motivation within gamification experiences, the extrinsic motivation has shown to have an impact as well. This is also confirmed by the survey done by Zoe (2018), which shows that 43 percent of workers are motivated by their intrinsic motivation, while extrinsic motivation covers the rest. Some of the participants mentioned how a financial reward would motivate them to change their current behaviors. As Emma phrased it:

*"I think like, for example, if the price would be to save money, then the money is like the world's greatest motivator."*

Points and rewards are proven to have a positive impact on fostering learning (Brewer et al., 2013). As argued by Brewer et al. (2013), the goal of gamifying education will only be fully accomplished if "learning with fun" is included in the gamified experience. Hence, we argue that this is also applied in the area of household energy consumption due to the identified consumers' desire to be entertained, which represents one element from the four realm model (Pine & Gilmore, 1999).

After analyzing the findings from our study, we have noticed that all four elements in Pine and Gilmore's (1999) four realm model have been present. These elements were also noted when the participants were asked to design an experience which will be motivating enough in order to change their mind and, ultimately, behaviors towards energy savings. In all the presented answers, the participants are elaborating their perspectives of a "perfect" experience. It is noted that all four elements of the four realm model (Pine & Gilmore, 1999) are present in those answers. As it can be concluded from Chiara's, Maja's and Tudor's answers:

*"I would make it entertaining, but in a way, not too much fun. Because then it could lower the importance of the topic, so maybe entertaining in a way that engages the person looking at it. But not fun, maybe more entertaining, and knowledge for sure. It's a big part of that."*

*“Definitely informative and engaging, but maybe fun in the sense that we can do it together and that we could understand how much we can affect.”*

*“I think fun is always important. And I think you should do it by trying to connect lots of people. Like, bringing them together, because everything relies on social connections. And try to make it as fun as possible. And besides making it fun, you should always try to trigger an alarm system. Like, make it clear that this is very important for our future, basically, or for the future of our kids. But make it seem fun also.”*

The elements of fun, entertainment, knowledge and the incorporation of a social context are connected to all the aforementioned findings above.



# DISCUSSION AND CONCLUSION



# 5. Discussion and Conclusion

## 5.1 Introduction

This chapter will summarize the findings from the previous section, analysis, and after discussion present the conclusions for each research subquestion. Lastly, the overall conclusion for the research question will be presented.

## 5.2 Discussion of Research Subquestion 1

Research subquestion number one was seeking to understand what is stopping young consumers to apply sustainable behavior in the area of household energy consumption, and what is inspiring them to do so. Consequently, what are the barriers and the motivators for sustainable behaviors within the area of household energy consumption. The analysis provided us with several interesting findings. The findings showed that young consumers are aware of sustainability in general and think that it is an important issue of nowadays, while some of them additionally argue that sustainability plays an important role in their everyday life. Furthermore, we have found that consumers are thinking about sustainability as something that is becoming more and more important to them. These findings are additionally supported by the survey from the European Commission (2017). The consumers believe this is due to the fact that they have been experiencing the effects of climate change in person, and that sustainability as a concept has become an important factor in their social surroundings. Furthermore, household energy consumption was perceived by consumers as an important question within the area of sustainability and they expressed their concerns about the possible impact it could have on the environment. However, due to their expressed lack of knowledge regarding their personal consumption and the fact that energy is seen as distant to them, they are incapable of understanding what impacts the energy consumption could have on the environment. This is a barrier for them to act. Consequently, household energy consumption is not perceived as a mainstream term within the field of sustainability. Even though the lack of knowledge is an identified barrier, consumers are still actively thinking of reducing their energy household consumption to some extent. However, gaining knowledge was also seen as a motivating factor for the consumers, as they have expressed

the need for knowledge in order to change their behaviors. Our findings are additionally supported by the survey regarding attitudes towards the environment done by the European Commission (2014), which states that knowledge is an important motivator for 34 percent of the general Danish population. The expressed curiosity to be educated and to learn more indicates that consumers are longing for an experience that will transform them and ultimately change their energy consumption behavior (Kubovy, 1999; Pine & Gilmore, 1999). Since individuals are seen to have stronger positive emotions towards what they know and get pleasure from mastering their learnings, knowledge is important to foster a transformation and address the consumers' need of self-actualization (Reber, Schwarz & Winkielman, 2004; Kubovy, 1999; Maslow, 1943).

Furthermore, the social context is identified to be an important motivator for consumers' behavior. First and foremost, they are getting inspired by, and learning from, their social surroundings and the external media from which their opinions are formed and developed, resulting in their increased awareness. Moreover, belonging to a social group and nurturing for others are seen as strong motivators. Individuals strive to be part of a social group; hence, they will adapt their behaviors to feel accepted by their surroundings. This finding is also supported in the results from the survey done by the European Commission (2013), where 64 percent of the Danish population highlights that social context impacts their purchase decisions and forms social pressure which motivates them to choose more sustainable actions. When buying green products, 64 percent of Danes agrees that their social surroundings are impacting their decisions to purchase.

Consequently, this increases consumers' intrinsic motivation of relatedness, and addresses the emotion of sociality, enhancing their pleasure of mind (Sailer, Hense, Mayr & Mandl, 2016; Kubovy, 1999). Belonging to a social group could also result in social pressure. However, if consumers are interpreting the social pressure as a positive nudge towards their desired behavior, their intrinsic motivation of autonomy is high (Lehner, Mont & Heiskanen, 2016; Ryan, Rigby & Przybylski, 2006).

It has also been identified that by acting sustainably, the consumers are experiencing positive emotions or as they elaborated, it makes them "feel good" and it is "the right thing to do". This feeling could derive and be enhanced from both their social surroundings and their knowledge.

Thus, sustainability can be seen as a concept consumed by the consumers, where the feeling of “just right” corresponds to the aspect of regulatory fit (Ariely & Norton, 2009). Consequently, this results in consumers being motivated to engage even more in the concept of sustainability, which is also related to consumers’ intrinsic motivation.

Furthermore, apart from the lack of knowledge, three additional barriers were detected. Inconvenience, laziness, and habits are perceived as strong obstacles to overcome in order to act sustainably, both generally and in regard to household energy consumption. Our findings of consumers’ barriers to act sustainably is further supported by the survey from World Business Council for Sustainable Development (2008), where 45 percent of the participants concluded that lack of knowledge and threat of consumers’ convenience were significant barriers.

Many consumers have the expectations that sustainable behaviors are inconvenient and demanding and that they need to go out of their comfort zone in order to execute such behaviors. According to Ariely and Norton (2009), such expectations often become a self-fulfilling prophecy, hence, in order to overcome those presumptions, consumers need to transform their beliefs which are rooted in their habits. Hence, expectations are seen to influence the barrier of habits.

### 5.2.1 Conclusion Research Subquestion 1

By the discussion above, a conclusion for research subquestion number one can be drawn. The young consumers have different motivators and barriers for adopting a sustainable behavior in the area of energy household consumption. However, we conclude that there are two main factors which trigger their motivation. The first acknowledged motivator for young consumers to act sustainably is *knowledge*. The second main identified motivator for young consumers is the *social context*.

However, the *lack of knowledge* is concluded to be the biggest barrier for young people to act sustainably and to reduce their household energy consumption. The other important identified barriers are *inconvenience*, *laziness* and consumers’ *habits*. Hence, we argue that the lack of knowledge needs to be bridged in order for the other barriers to be minimized.

## 5.3 Discussion of Research Subquestion 2

Research subquestion number two was seeking to understand if an individual experience has an effect on young people's motivation to act more sustainable in their household energy consumption. From our analysis, we have identified several different elements that individual experiences have to contain in order to encourage transformations in young consumers. The findings showed that all of the consumers in the study had individual experiences which led to a transformation. This was identified in the case of sustainability in general, as well as in the area of household energy consumption.

Most experiences were related to knowledge, which was previously concluded to be the main motivator for acting sustainable within household energy consumption. The knowledge came in different formats and through different medias, ranging from documentaries, podcasts, books to undertaken university courses. One of the respondents, Astrid, elaborated how her level of curiosity to know more rose due to the knowledge she gained over her bachelor courses, hence, the knowledge is addressing her pleasure of mind through the emotions of curiosity and virtuosity (Kubovy, 1999). The more fluent her learning process towards sustainability was, the more interested and positive she became (Reber, Schwarz & Winkielman, 2004). Hence, this also corresponds with the importance of a balance between the challenge and the knowledge to foster a flow (Csikszentmihalyi, 1992). Knowledge was also mentioned as an important factor in an everyday setting outside the educational environment. Another respondent, Hanna, explained how she after learning more about the production and the supply chains in the fashion industry, transformed her behavior towards purchasing apparel. Due to the knowledge she gained, she felt that she could not support brands in the same way as she did before, resulting in her buying only in the second-hand stores. For both of the participants, the strive for personal development and self-actualization became possible through knowledge and learning (Maslow, 1943).

Moreover, Astrid additionally explained that podcasts she listened to and books she read, enriched her with new insights from which she could not go back. She explained that *“once you know you know, and once you know, you cannot go back”*. Hence, the consumers got transformed by the experience of education, which represents one of the four realms of an engaging experience (Pine

and Gilmore, 1999). Furthermore, the consumers' frequent emphasizing of the importance of knowledge and learning, and the conclusion that knowledge is an important motivator for sustainable actions shows that consumers are longing for educational experiences to transform them. In addition, they want the information to be aesthetically appealing and fluent, which emphasizes the relevance of the esthetic element in an engaging experience (Pine and Gilmore, 1999; Ariely & Norton, 2009).

Another undergone experience of our participants was related to the social context of living in a shared household. As he elaborated, the experience of living in a household where everyone deeply cared and emphasized sustainability and sustainable actions, made him want to think and do the same. This resulted in him wanting to belong to the existing group and feel the pleasure of mind from the emotion of sociality, as well as the emotion of nurturing by caring for the environment (Kubovy, 1999). By setting the goal to become as sustainable as the others, he became motivated to engage and achieve it, which he ultimately did. The goal was an important aspect for him to engage in sustainability, together with the aspect of regulatory fit (Ariely & Norton, 2009).

The social context was also identified in the participants' experiences of traveling. Two participants emphasized how traveling and immersing into other cultures and countries affected their attitudes and ultimately altered their behaviors regarding sustainability. For instance, Daniel's example of traveling in a group and participating together with his friends in the activity of collecting rubbish shows how the escapist element of the four realm model is important for the experience to be engaging (Pine & Gilmore, 1999). Hence, by co-creating and immersing in such activities, they became a part of the experience which resulted in a transformation. Moreover, traveling was additionally emphasized to be an experience which combines elements of social collaboration, entertainment, and education (Kubovy, 1999; Pine & Gilmore, 1999).

### 5.3.1 Conclusion Research Subquestion 2

A conclusion for research subquestion number two can be drawn from the discussion above. The study showed that individual experiences in the area of sustainability can transform young consumers' behaviors. Within all of the aforementioned individual experiences, we have identified several elements that trigger the transformation. These elements are in line with the four realm

model by Pine and Gilmore (1999), Kubovy's (1999) emotions of the pleasure of mind, Ariely and Norton's (2009) aspects of conceptual consumption together with a notion of processing fluency (Reber, Schwarz & Winkielman, 2004) and the consumers' strive for flow (Csikszentmihalyi, 1992) and self-actualization (Maslow, 1943). Hence, since the consumers got transformed, we acknowledged that those elements are important parts of an engaging transformational experience. Therefore, we draw the conclusion that if those experiences resulted in transformations within the different areas of sustainability, this will also be applicable to the field of household energy consumption.

## 5.4 Discussion of Research Subquestion 3

The last discussion part will provide an answer to the third research subquestion of how gamification can be designed to transform young people to have a more sustainable household energy consumption. Due to the previously concluded motivators and barriers for such behaviors, and insights regarding transformational experiences, we decided to find out if gamification could serve as a motivator to reduce household energy consumption. The analysis provided us with the findings that gamification could serve as a motivator, however, it needs to be related to a social and an educational aspect, which is in line with our above-concluded motivations.

The study provided insights that the young consumers are longing for knowledge that is easy for them to understand, thus, the learning elements in gamification need to be fluent for the consumers to process (Reber, Schwarz & Winkielman, 2004). Hence, the aspect of fluency is seen to be of high importance in order for the consumers to be curious and feel that they perform (Reber, Ariely & Norton, 2009; Kubovy, 1999). Furthermore, with a balance between the obtained knowledge and the presented challenge in a gamification experience, consumers can ultimately reach a flow (Csikszentmihalyi, 1992). The findings showed that consumers are highly positive to receive this knowledge and information in a visualized way, which is seen to help them to create an understanding of their energy consumption, bridge the perception of energy being invisible and adopt sustainable behaviors. In addition, it was seen that visualization could help consumers to track their progress and energy-related behavior. However, due to the lack of knowledge being a barrier, we argue that consumers do not only need to receive visualized information, but they also

need to be provided with the feedback of their behaviors and progress. Feedback was seen to be an important motivator for obtaining new skills and for making sustainable energy consumption even more fluent to process. Such feedback should be designed in a constructive and easy way to awake the consumers' curiosity to learn more, and, further on, provide them with the pleasure of mind from mastering these learnings (Kubovy, 1999). Hence, the feedback can be seen as a medium to create that perfect balance between the consumers' level of knowledge and the challenge of adopting sustainable behaviors, resulting in a state of flow (Csikszentmihalyi, 1992).

These findings further emphasize the importance of the educational realm in an engaging and transforming experience (Pine & Gilmore, 1999). Moreover, visualization in line with the esthetical realm allows consumers to immerse into the experience. However, the findings revealed that the learning experience should also include a fun dimension, hence, the entertaining realm of the experience.

Besides the insight that consumers are longing for knowledge, the study also proved that the gamification experience also needs to include a social aspect. This is in line with our second identified motivator for adopting a sustainable household energy behavior. The findings showed that consumers would be motivated by having an element of competition in a gamification experience, however, their level of motivation would increase even more if that experience would emphasize cooperation rather than competition. Hence, we argue that such experience would provide them with the feeling of belonging and being part of a group and result in an increase of their intrinsic motivation. By doing so they are experiencing the pleasure of mind from the emotions of sociality and nurturing (Kubovy, 1999). The notion of social context was further identified in the gamification element of points, where the findings showed that points and rewards as such would be motivating if the consumers were able to share such an experience in the social setting. In addition, the findings showed that the consumers expect that such an experience will be fun, hence, these expectations serve as a strong motivator to engage in the gamification experience (Ariely & Norton, 2009). Furthermore, by implementing points and rewards in a gamification experience, we argue that consumers would perceive the collection of points and rewards as a goal. Therefore, consumers would engage in the gamification experience, as goals are proven to be strong motivators (Ariely & Norton, 2009). Such an engagement results in consumers actively



participating in the experience, hence, addressing the escapist realm in Pine and Gilmore's (1999) model. As collecting points, receiving rewards and engaging in a social group is seen to be fun, the realm of entertainment in the experience should also be incorporated. Therefore, we argue that the way the gamification experience is designed is important for fostering a transformation.

### 5.4.1 Conclusion Research Subquestion 3

By the discussion above, a conclusion can be drawn for how gamification should be designed to transform young people to have a more sustainable household energy consumption. In order for gamification to transform consumers' behaviors, it needs to be designed as an individual experience including the aspects of knowledge and social context. However, we conclude that this gamification experience needs to be designed containing the important transformational elements concluded in research subquestion number two.

## 5.5 Discussion and Conclusion of the Research Question

The study has provided empirical findings which after analysis and discussions has led to conclusions of the three research subquestions. Thus, the findings and conclusions will now be incorporated into a holistic answer to the general research question, which is as stated:

*Can the use of gamification transform younger people to take more sustainable actions to decrease their household energy consumption?*

Young consumers are argued to have awareness about sustainability in general. However, this awareness and knowledge are not as strong within the household energy consumption area, where they believe that they lack the knowledge on how to behave sustainably. This is proven to be a barrier for them to act sustainably, together with the barriers of laziness, inconvenience, and habits. However, conclusions from the study show that young consumers get motivated by two main aspects, knowledge and the social context. These motivations and barriers were furthermore supported by previous studies done by the European Commission (2013, 2014, 2017) and the World Business Council for Sustainable Development (2008). It is, further, proven that an individual experience within sustainability and the area of household energy consumption can

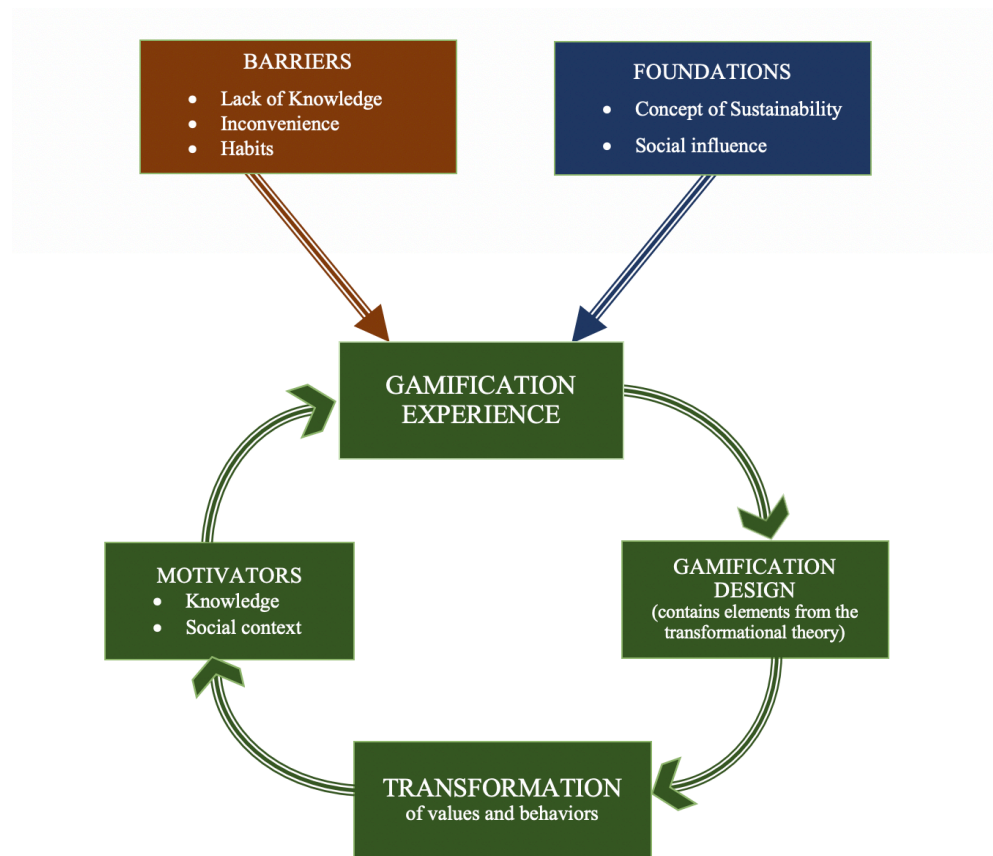
transform young consumers to behave in accordance with their awareness and beliefs. Nevertheless, it was deducted that when designing gamification, an individual experience approach should be obtained and that such gamification experience should contain all the transformation elements that individual experiences are characterized by.

From all the acknowledge findings, we can conclude that the use of gamification can transform young consumers to take sustainable actions in their household energy consumption, however, the gamification needs to be designed as a transformational experience containing all four elements of Pine and Gilmore (1999) four realm model, hence, be in the “sweet spot”. Furthermore, such experience additionally needs to be in line with theories regarding transformational experiences, including Kubovy’s (1999) emotions of the pleasure of mind, Ariely and Norton’s (2009) aspects of conceptual consumption together with a notion of processing fluency (Reber, Schwarz & Winkielman, 2004), and the consumers strive for flow (Csikszentmihalyi, 1992) and self-actualization (Maslow, 1943). Hence, then, young consumers can be transformed towards sustainable household energy consumption.

In addition, the theories regarding transformational experiences are researched and based on offline experiences. However, as gamification is related to online experiences, and with the above concluded, the study further proves that the theories regarding transformational experiences are also applicable in an online setting. Hence, what could be seen happening offline is also valuable in an online experience.

### 5.5.1 Suggested Framework

In order to provide further understandings of our findings, we have developed a visual representation of our conclusions and the way they are interlinked. The proposed framework shows the preconditions for a gamification experience and how such an experience should be designed in order to result in transformation and development of motivators for a sustainable household energy behavior. The framework can be seen in figure 4.



*Figure 4. The framework for transformations of consumers' household energy behavior (own illustration by Frick & Pavlović, 2019)*

The framework shows the main identified barriers that inhibit stop young consumers to act more sustainably in their household energy consumption, together with the foundations for adopting such sustainable behavior. The foundations represent the preconditions to engage in a more sustainable household energy behavior, which are concluded to be the general feeling among consumers of the necessity to act sustainably, and the social influence they are surrounded by. The barriers and the foundations initiate the consumers towards the gamification experience. In order for such gamification experience to result in a transformation of the consumers values and behavior, it needs to be designed containing the concluded elements from the transformational theory. Such transformation leads to an increase in their knowledge and offers them a position in a social context. Subsequently, these motivators trigger a need in consumers to gain even more insights, therefore they continue engaging in the gamification experience.

# PERSPECTIVES



## 6. Perspectives

### 6.1 Introduction

This chapter will be divided into two parts. The first part will discuss the possible implications of our study while the second part will touch upon further research suggestions.

### 6.2 Implications

The conclusions from this study can be used in various ways and by different types of organizations. Our findings of how to transform young consumers into a sustainable household energy consumption can generate valuable insights into practical implications.

For example, the results could be implemented in developing an online gamification experience, aiming to transform consumers to use less energy at home. This could be done by governments, foundations or non-profit organizations, with the purpose to transform people towards more sustainable living. Hence, they could offer such gamification experience to young people as a support and encouragement to engage in their personal sustainability journey. As argued, such experience would include all the elements from the findings, and the elements needed from the transformational theory, to ultimately transform the users. Moreover, energy companies such as Ørsted, which core business is selling energy, could also offer a gamification experience to educate their consumers about their energy consumption and how they could reduce it at home. This could cause Ørsted potential financial harm, however, due to this personalized and engaging gamification offer, it could result in higher publicity and enhancement of Ørsted's brand recognition. Thus, no matter who is offering the gamification experience, it needs to follow the concluded insights on how to design a transformational gamification experience.

On a broader level, companies and brands, which have a sustainable profile, could gain from the results by incorporating the findings into their marketing strategy. Hence, they could address the barriers and motivators to nudge consumers to take more sustainable choices, which in the end will correspond with their offered products and services. Moreover, implementations of such

insights and insights from sustainable transformational experiences on a general level of sustainability could result in enhancement of the company's brand equity.

After all the insights from our study were gathered and conclusions were made, we have made a suggestion on how a transformational gamification experience encouraging a sustainable household energy consumption could possibly be implemented. Since young consumers are digital natives and spend a lot of their time online, reaching them online is preferable prior to offer an offline experience. Hence, we would suggest that an application for mobile phones should be developed. Mobile phones and applications play a big part in young consumers' everyday life which was also seen in our study, where some of the participants highlighted their positive experience with the use of applications aiming to change their behavior, for example, regarding their health and private finances. Therefore, this could be a good way to reach young consumers and make their decisions regarding their household energy consumption more relatable and tangible. As those decisions are made on a daily basis and are closely related to their habits, such an app could trigger a transformation of their behavior.

The design of the application is, as concluded, important to consider when a successful change in behaviors wants to be achieved. When downloading the app, the consumers would firstly start with creating their own personalized persona. They would be able to choose their own physical traits to make them relate more to their character, which will represent them. After the physical traits were chosen, the consumers will need to answer a few questions in regard to their character, such as if they are a more competitive or collaborative persona, if they prefer pictures over numbers, if they want to be part of a group or if they want to be compared to their friends or similar households. They will also answer a few questions about their household, for instance, if they are living alone or if they share their household, how many rooms there are and what kind of appliances they have. This start-up process will be presented in a fluent and easy way for the consumers to understand. Moreover, the application should include our concluded elements of how a transformational gamification experience should be designed. The application needs to be entertaining, which for example could be done by implementing the social elements of collaboration and competition. For instance, the consumers could be able to compare to their friends and encourage each other actions. Moreover, as argued that consumers are highly motivated by knowledge, the application would,

further on, need to provide clear and easily understandable facts and feedback. In addition, this knowledge and feedback should be supported by visuals of the consumers' energy spending, and present tips on how those spendings could be improved. Overall, the gamification experience needs to encourage consumers to actively engage in their household energy consumption.

## 6.3 Future Research

The findings from this study touch upon interesting aspects that could be the foundation for further research. Our study was focused on the millennial generation, hence, the findings are not applicable to all age groups. Therefore, a similar study could be done including other age groups in order to get and to understand the whole scope of attitudes and behaviors. Moreover, specific research focusing on the even younger generation, generation Z, could further enhance the insights, as they are born in the digitized area. Furthermore, as our study did not focus on separating consumers into different groups based on their income, a more comprehensive study could include people from all sorts of socio-economic levels. This, in combination with a broader age focus, would provide the study with more generally applicable results. Moreover, the differences could be also made on a gender level, where further research could look into if gender would impact the concluded results.

Due to the fact that the resources of this study were limited, in terms of time and money, our study was only focusing on consumers living in the city of Copenhagen. Hence, this might have affected the results since Copenhagen is known for its sustainable profile. Therefore, further research could be done focusing on Denmark as a whole, which would make the results more generalized to the Danish population. Furthermore, it would be interesting to conduct a similar study in other countries, since cultural difference might have a great impact on the results.

Our research was only focusing on the sustainability area of household energy consumption, hence, conducting a similar study in other sustainability areas such as recycling or buying organic food, could be of interest. We argue that this would be of great value, as those areas could possibly provide different results, as consumers in Denmark are shown to already act in those fields. Hence, such possible results could give insight into how those actions could be even further enhanced and

maintained on a long-term basis. Furthermore, the study could also be researched in different non-sustainability areas, for instance, how to transform consumers' behaviors in regard to health and sports activities.

Nevertheless, future studies could be broadened by looking at the effectiveness of implementing other gamification elements to the experiences, such as leaderboards, self-representatives, market places, and teams. In Chapter 6.2, *Implications*, we discussed a possible way of executing the drawn conclusions into an online gamification experience, an application. However, it is needed to further expand and research how the gamification experience should, in detail, be executed and implemented.

As discussed in the methodology, the chosen research method was a qualitative method. However, it could be of great interest to conduct the study with the additional support of a quantitative research method. Hence, this could further strengthen and support the qualitative results by adding a broader scope of collected data. However, we still argue that the qualitative method is crucial for this type of study due to the research focusing on social phenomena.

Lastly, we believe that sustainability and how to transform people into sustainable consumption is an area that is of high importance for future research. It is of great value to gain deeper knowledge and understanding of how such transformations can be achieved, and, furthermore, how they can be implemented in various areas. With climate changes and global warming being the number one challenge of our time, we do believe that transformational experiences based on gamification experiences can be a powerful tool in order to change people's habits and behaviors.



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## List of figures and tables:

- Figure 1. The Research Onion (own illustration based on Saunders et. al., 2009)
- Table 1. The participants of the study
- Figure 2. The Four Realms Model of an Experience (own illustration based on Pine & Gilmore, 1999)
- Figure 3. The economic offerings (own figure based on Pine & Gilmore, 1999)
- Figure 4. The framework for transformations of consumers' household energy behavior (own illustration by Frick & Pavlović, 2019)

# APPENDIX



## 8. Appendix

### 8.1 The Interview Guide

Hello and thank you for taking the time to participate in our study. We are Ellen and Lucia and we are currently doing our master's degree in Brand and Communications Management at Copenhagen Business School. We will ask you questions about your thoughts about sustainability and your actions for being more sustainable.

Before starting, we would like to inform you that this recording will only be made available to our supervisor and a sensor.

- Do you agree to be recorded in this interview on our mobile device?
- Can we make use of your name and some general information in our thesis?

We would like to start with you introducing yourself: name, where are you from, age, occupation, where you are living.

We will use the word sustainability a lot, and we want to start with defining that we are talking about environmental sustainability, and we define that as:

*“Meeting human needs without compromising the health of ecosystems and the environment”*

Definition sustainable actions:

*“Behavior that seeks to minimize the negative impacts of your actions on the environment.”*

Definition gamification:

*“Gamification is the usage of game elements in a non-gaming context”*

#### **Questions sustainability**

1. How important is it to be sustainable for you on a scale from 1 to 7, 7 meaning that it is very important?
  - a. Why? Why not?
2. Why do you care about sustainability?
3. Do you consider yourself as a sustainable person? On a scale from 1 to 7, 7 meaning that you are a very sustainable person?
  - a. Why/why not?
4. Would you consider yourself as a person who engages in sustainability and that take actions? On a scale from 1 to 7, 7 meaning that you very much are such a person?
  - a. What kind of actions could this be?

5. How do you feel when you act sustainably?
6. What motivates you to act sustainably?
  - a. Why does that motivate you?
7. What is stopping you from acting more sustainable?
  - a. Why is it like that?

### **Questions household energy consumption**

8. What would you say is included in your energy household consumption?
9. Do you think that energy consumption affects the environment? On a scale from 1 to 7, 7 meaning that it has a big impact?
  - a. Could you give us an example of how it could? Why do you think so?
10. Do you think that energy usage is an important question for sustainability on a scale from 1 to 7, 7 meaning that it is a very important question?
  - a. Why/ why not?
11. Do you know how much energy you spend each month?
  - a. Would you say it is a reasonable amount?
  - b. If not: why don't you know? Are you not in charge of paying?
  - c. Do you know where your energy is coming from?
12. Do you actively think of saving energy at home? On a scale from 1 to 7, 7 meaning that you are very much actively thinking of it?
  - a. What kind of actions could that be?
13. What is stopping you from saving energy at home?
  - a. Why is it like that?

### **Questions transformations and experiences**

14. How do you think you could be motivated to more sustainable behavior?
15. Have you experienced something, or have you had an experience that changed your behavior regarding sustainability? What was that?
16. Can you think of an experience that would change your actions and motivations for saving energy in your home?
17. How would you design an experience that could motivate you to save energy? For example, would you make it fun, would you make something that you had to engage in and do, would you make it interesting and learning with information? What kind of experience do you think would be the best?

### **Questions gamification**

18. When I say the word gamification, what comes to your mind?
19. If energy savings would be presented to you in a gameful way, would that motivate you more to spend less energy? On a scale from 1 to 7, 7 meaning you would be very motivated? Why/why not?

20. If your energy usage would be presented to you in a more visual way, would that motivate you to save more energy? On a scale from 1 to 7, 7 meaning you would be very motivated? Why/why not?
21. Then imagine that you would collect points that could result in a reward from your landlord according to how much energy your household is using, would you then be motivated to spend less? On a scale from 1 to 7, 7 meaning that you would be very motivated? Why/why not?
22. If you would see and be able to compare your energy usage to your neighbor's energy usage, would that motivate you to be "the best"? On a scale from 1 to 7, 7 meaning that you would be very motivated? Why/why not?
23. If you would get feedback on your energy spending, would that motivate you to save more energy at home? On a scale from 1 to 7, 7 meaning you would be very motivated? Why/why not?
  - a. Would you be more motivated getting the feedback once a week, daily or once a month? Why?

## 8.2 Transcribed Interviews

### Interview 1: Astrid 8/4 2019

**Ellen 0:00**

Okay, good. So first, thank you for participating. And then first before we start, I want to just inform, as you can see, that we will record it, and no one else except us, our supervisor and our censor will see the information that we get. So just wanted you to know and agree that you will be recorded and that we will use the things that you say in our study. So, I hope that's okay with you.

**Astrid 0:27**

Yeah.

**Ellen 0:28**

Nice, nice. And then if you would just start with introducing yourself with your name and age, where you're living, what you are studying?

**Astrid 0:38**

My name is Astrid Lilja, I am Swedish. I am 28 years old, I live here in Copenhagen, in Valby, Frederiksberg. I study at CBS brand communications management, the master program. And yeah, I work part time. And that's pretty much what I do.

**Ellen 1:01**

Welcome. And I will also just start with defining some words that we will use, so you feel that you kinda know what we mean. So we use the word sustainability a lot. And what our definition of that is that we talk about environmental sustainability, and we say that it is sustainability that is meeting the human needs without compromising with the environment, and the health of the ecosystem that is around us. And the same for sustainable actions, we define as actions that is seeking to minimize the impact on the environment. And also, we will use the definition of gamification, which is the use of game elements, but in a context that is not gaming.

**Astrid 1:55**

Okay...

**Ellen 1:56**

So for example... Do you do understand or?

**Astrid 2:00**

Not really this last word?

**Ellen 2:02**

Gamification? Yeah. It's that you use some of the elements that it's in a game, for example, competition, or points, or stuff like that, but you take it in an everyday situation, or you make a situation that is not a game with those gaming elements. Like in education, for example.

**Astrid 2:23**

Okay.

**Ellen 2:24**

Yeah, exactly. So, do you kind of understand that?

**Astrid 2:28**

Yeah. Yeah. Okay. Yeah, I think so.

**Ellen 2:31**

Otherwise just always feel free to ask.

**Astrid 2:31**

Maybe, I don't know. Like, I think I got that. But maybe we talk about it. If I need you to clarify or whatever. Yeah.

**Ellen 2:38**

Yeah. We just wanted to introduce you. Good. So we would just like to start to ask how important it is for you to be sustainable?

**Astrid 2:50**

It is important. Yeah. I would say.

**Ellen 2:54**

If you would have to scale it from on a scale from one to seven, were seven is very important. What number...

**Astrid 3:01**

Do you mean, me as an individual?

**Ellen 3:02**

Yes, exactly.

**Astrid 3:04**

Okay. Um... gosh, it makes you think like what you say or what you do? But I would, I would say, I would probably say I'm a nine.

**Ellen 3:18**

One to seven?

**Astrid 3:21**

Oh. One to seven? Ah! Sorry. Then I would say six. Yeah.

**Ellen 3:24**

Why do you think why would you scale a six?

**Astrid 3:29**

Well, like in terms of like, why I think it's important for me to be sustainable? Well, I think that it's like, it's super critical for everybody to think about sustainability at these times. And I feel like I've gotten to a point where I can't like justify my actions anymore. If they're, like, not sustainable, or if I do actions that I can't really morally feel that they're okay. So I think lately, over like, maybe the last two years, so something like that, I've made like, quite a few changes within like, my personal life, in terms of being more sustainable since I feel like it's, yeah, it's very important. And the more that, like, that I read about it, because there was a time when I was feeling like, oh, but how much impact can one person do? You know, you're dealing with those sorts of questions, but the more I read up about it, I feel like the individual can do a lot. And that's why I feel like I should just keep on doing what I can, because it might have an effect on other people. And then one person becomes two and two becomes three. And then I feel like, kind of like a snowball effect. So I do feel like it's, it's very important for everyone to be, like, to take to take the actions they want to take. So that's why pretty much I feel like I want to I want to be sustainable.

**Ellen 4:53**

Yeah. And would you say that you would consider yourself a sustainable person?

**Astrid 4:58**

Yes. I would say so.

**Ellen 5:00**

So if I would ask you to scale it once again, from one to seven. What would you?

**Astrid 5:03**

Then I would say... a seven actually. Yeah.



**Ellen 5:07**

Yeah. Do you... Why would you say so?

**Astrid 5:09**

Well, partly because I feel like I'm pretty sustainable myself, like the way that I live. But also, because I am studying the subject, I have a like a great interest in it. I feel like I, I tried to gain as much knowledge and become more knowledgeable within the area as much as I can. I am educating myself within the area in school, and also like, in my personal life, and then also I'm really aiming towards working with these questions. So I feel like I want to pretty much place my whole life around it. So yeah.

**Ellen 5:48**

Yeah. Um, do you say that you are really engaged in sustainability? And that you would consider yourself as a sustainable person? Would you then also say that you take a lot of actions towards sustainability?

**Astrid 6:00**

Mm.

**Ellen 6:02**

You mentioned that you live, as you try to live a sustainable life?

**Astrid 6:07**

Yeah. Well, I think, I think partly that I do, like, I have, I eat pretty, almost, can it be, maybe I eat 80-90% vegan these days. So that's like an action that I've taken. And first, like, I started to be like, I was a vegetarian, but then I felt more and more, like, I, for me, it wasn't like a hard thing. So then it's like, I want to do it. And the more that we learn about like that, yeah, in terms of like, the environmental effects and stuff, I just felt, okay, I want to do that. But then also like, is the way, you know that we all live, like I don't own a car and I bike or I ride everywhere. I really considered like, I haven't travelled as much with plane lately at all. And I'm really considering cutting down on that, like in the summer for example, to take the train or maybe, you know, rent an electric car if I'm going to go somewhere. So yeah, I guess those are the things like maybe more like in my personal life and also like cut down on shopping, I just I said to myself, that I'm just going to buy second hand if I'm going to buy anything. Yeah. So those are, I guess the more like personal day to day things. And then the more broader things that I do, are the ones that I mentioned, probably that I educate myself, and I'm really aiming towards, like working with these questions. Yeah.

**Ellen 7:34**

If you would, once again, rate yourself from one to seven of how much you engage in sustainable actions. What would you then say?

**Astrid 7:46**

I think, I would probably, I would say maybe a... maybe a five then, because I do things that there's, I could, I know that I could do even more. I could, you know, become Greta, you know, like, completely comes down, and like flying and maybe be even more of like an activist or something like that. Try and spread the word more now. Maybe I do in a little bit like, I do it in my own shadow. But and that's something that I would love to do, it is just I don't like at the moment it is like, I do not really have the time for it right now. Yeah, that sounds a bit bad. But yeah.

**Ellen 8:24**

You mentioned before they you...um... think is really important for everybody to act sustainable. And that you need to, you cannot really justify your actions, if they're not sustainable. What do you have that motivates you to actually act sustainable? Or why do you feel that it's important?

**Astrid 8:44**

Ah. I just feel like, I feel a little bit like Greta said once like, once, you know, you know, and once you know, you can go back. And I feel that it's a bit like that, when you have gotten to the point when you have educated yourself and you do have like knowledge that like if I do this, it will result in this, it becomes super hard to, to justify, like your actions. So I think I feel like, since I know like where we're at right now and where we're heading towards. I feel like that's motivation enough to, to keep on like being more sustainable, since you feel like okay, if I do this, like, it will result being, you know, whatever, like it is useless if you say something that would like truly hurt a friend or you know, do something bad you know, slap somebody like, you wouldn't really do it because you, like, you get consequences right there now, and I guess that's what I feel now with, with like, with climate and everything, then like it would, if like, it is like the consequences are happening right now.

**Ellen 9:50**

Yep. Um. Also, how do you feel when you do the actions, that is sustainable? And you are living according to that? How do you feel when you do it? When do it's what kind of feeling, if I can ask, what kind of feeling do you get?

**Astrid 10:06**

Um, I think like, it varies between like nothing. Because it's become like a pretty daily thing for me. But then, like, this, like a while ago, when I decided that I was going to buy like second hand and went and I was like, ah, I bought some second hand things. Then I got like, because it was

like, something new that I introduced in my life. And then I felt like, yeah, this is great. Like, I'm gonna, I'm gonna do this. Then I feel like, yeah, then I feel like, I guess, like, satisfied with my, with my choice. And I feel like, I feel good, a bit happy, because I feel like it's so easy to actually be sustainable. It's not like a big sacrifice. Because, because before when I started thinking, because I like, I love to travel, like, pretty much everybody does. And then it's like, okay, so I'm going to stop doing that, like, I'm not gonna be able to travel. Like, it really makes you feel like, okay, like, that's a big thing. But then once you start thinking, like, no, but I can travel, I can use do it in, like, other ways, then. Yeah, then you get like, I don't know, you get like, eager to, okay, I'm gonna keep on like trying or doing that.

**Ellen 11:23**

Yeah. So you mentioned that you said that you would rate yourself as a five on how much you engage in sustainable behaviour. And do you have any idea what is stopping you from behaving as sustainable as you would like to?

**Astrid 11:46**

Hm...um. I guess maybe some things are because, it requires you to be a bit like, go out of your comfort zone a little bit. Or maybe it feels sometimes it can feel a bit... what would be the word... like... inconvenient, or like... Yeah. Yeah, maybe inconvenient. Like, let's say, for example, if you know, you would go on a trip. Yeah. And it is heaps more convenient and cheaper to fly still, then to take the train down to Paris. Then I guess in that situation, you would be like, okay, what do I do here? So that is like, inconvenient, and it is pricey, I think. And then other things like engaging more maybe... becoming more like activist. Sort of like, I think that like, right now, that's like a time aspect because I don't have that like, the time, right now to do that.

**Ellen 12:49**

Thank you. And then I want to ask some questions about your household energy consumption. And then I want to start with asking you, what you would say would be included in your energy household consumption?

**Astrid 13:04**

Oh, what would be included in my energy? Like do you mean like water or?

**Ellen 13:10**

Yeah exactly. What?

**Astrid 13:13**

Well, our heating system, like water, like everything that we use for you know, washing machine, dishwasher. Electricity for the lamps. All of that. Yeah. I guess those are the things. Yep. That it is. Yeah.

**Ellen 13:35**

Um, do you think that your energy consumption affects the environment?

**Astrid 13:40**

Yes.

**Ellen 13:42**

Why do you think so?

**Astrid 13:46**

Well, because I think that our house, for example, is heated up by oil. And, I think so. Yeah. And that's not good. Yes. That is a limited resource. Yeah. But then we have, for electricity, we have Ørsted for, I think they are like the renewable energy. So that's, that's good. But then like, you use a lot of water for everything. So that affects the environment. And then, yeah, so.

**Ellen 14:20**

If you would have to rate how much you think energy consumption affects the environment, on a scale from one to seven, where seven is that it affects a lot.

**Astrid 14:31**

Like my energy? My household's energy consumption?

**Ellen 14:31**

Exactly.

**Astrid 14:35**

Oh, gosh. Well, it's hard, because I'm not a 100 % sure about the heating. But I think it's like, maybe I would say that, let's say a five. Since I know that we have Ørsted as our electricity. Yeah.

**Ellen 14:53**

Would you then if you also have to rate how important as a question, the energy consumption is, within when you're talking about sustainability? How would you rate that, how important you would say it is?

**Astrid 15:09**

It is definitely important. And so I would say maybe, yeah, I would say, six. But, at the same time, it's not as important that I would say no to moving in to where I moved in to. Because then I, yeah, like then I wouldn't have anywhere to live. Or like, that would be extremely hard for an individual to pick a house that is like, completely sustainable these days. Yeah, that feels like it goes beyond a little bit, like, what an individual can, like, do. Like, choosing like, I don't know, sleep in the park or you know, yeah. And especially when you live in a city like Copenhagen when like getting a housing from the beginning is extremely hard. So... politicians needs to shape up that...

**Ellen 15:58**

I will tell them. You mentioned that you know, that you have Ørsted. And do you also know how much energy you spend each month?

**Astrid 16:07**

How much energy we spend? No, no, no, I know that we spend, like, our bills are like 700 kr per three months. With Ørsted, but I don't know exactly. No.

**Ellen 16:22**

Would you say that's a reasonable amount? To pay that?

**Astrid 16:27**

Yeah, I think so. Like, since, we have like a washing machine and a dishwasher. And we cook a lot. Yeah, I would say so. Yeah.

**Ellen 16:38**

Do actively think of saving energy or lower your energy consumption at home?

**Astrid 16:46**

Yeah, I, yeah. I tried to do that. Like try to like make sure that whenever I wash clothes, that is like a full machine and things like that. And I always turn off the lights and things like that. And I've also started to think, like, to try to shower like not so much. Like shower and then get out not shower for the pleasure of showering. More for the sake of being clean. And the same with the dishwasher. Like, make sure that it's full and things like that, to not do things unnecessarily. Yeah.

**Ellen 17:20**

If you had to rate how much you think of, and how much you actively think of saving energy? How would you rate your behaviour?

**Astrid 17:35**

Um. I'm not sure. If I would, on a scale on one to seven? Maybe I would say like... I would probably say like, a five at least.

**Ellen 17:48**

Um, do you have any thoughts of what could be stopping you from saving even more energy at home? Or to consume less?

**Astrid 18:00**

Probably, because I'm not that well informed of exactly how much it is that we are consuming. And I try to do these things when you can calculate it. But they were so, like, I started it. And I was like, they needed so much information that I didn't have. And it was just super complicated. And I was just like, okay, and I did it in a bad timing. And I think like, I didn't have like the time to do this, it was in the morning or whatever. And I was like, okay, this is really gonna take some time. So then, yeah, I think that if I would like know exactly how much we do consume that maybe, you would change it. But at the same time, I just like, like, I'm not, it makes it hard. Like we can, I guess, stop cleaning our clothes. So it becomes like, I'm not really sure what it is that we could do differently. I guess like, if it would be possible whenever you move to have everything on renewable energy, like if your house is heated up by solar cells, or something like that. But like, within our household and the way we live, I find it a bit like, what can we actually do differently?

**Ellen 19:17**

Um. And then if you think back of general sustainable behaviour. How do you think that you could be more motivated? Because you mentioned you are pretty motivated? But how do you think you could be even more motivated to a more sustainable behaviour? Do you have any thoughts?

**Astrid 19:44**

Um... Tricky question. Like, I think that a few of the things comes down to like, economic reasons. Like if, you know, buying the best, like products, like organic products, and environmentally friendly products are often more pricey, unfortunately. So I think that's something that, still now as a student, sometimes you like, you do make choices where it's like, okay, maybe I pick this or, you know. But yeah, with other things... I just feel a little bit like maybe when once, like, once like, you know, if I free up some time in my life, and it's like, I finish school, and like, I can like have one focus, like, I have my job. Then I feel like I can like, get motivation, because I have like the time in another sense to, like, become more active, or maybe like, yeah, do more. But right now, it's just like, a pretty like stressful time with everything that it's just like, I just need to get a few things done. And then once I can, like, okay, now it's like how I want to do it. But, yeah, I think like, obviously, you would like that a lot of the products and everything like that become even more available become more like, reasonable

like pricing on them. So it becomes easier to buy them. So you don't have to be like, some millionaire person to be a bit sustainable.

**Ellen 21:28**

Would you say that that it's easy is an important factor?

**Astrid 21:35**

Yes and no. Like, obviously, it helps. But I would still consider myself, like... I could do it anyway. Like I do, like for example, going and buying second hand is, in my sense, not that easy as going to H&M and just getting something new. Because you do have to maybe find these stores that are like located wherever, you have to maybe bargain on the price, you have to, like check the product in another sense. So I do feel like I already do that. So in that sense, it doesn't have to be like super easy. But I guess like the daily things, like, when you buy like food and stuff like that, then you need it to be a bit more, maybe, more *convenient* and better price because you do it so often.

**Ellen 22:28**

If you think of um... why you act sustainable. Do you have, can you think of an experience that kind of influenced and changed your behaviour regarding sustainability? And regarding how you behave in sustainability?

**Astrid 22:45**

I can think of many examples. Oh, gosh. Where do I start? I think a lot of it comes down to, like, educate. Like education in the sense of like informing myself. So... um. Gosh, I must think. It's hard to say like, when did it happen? I think like, for example, when I started studying my bachelor's degree, I had this one course called the company's role in society. And I that was like, instantly like, I felt like it was super interesting. So I think then, you know, you started like thinking about it and everything. But then after that, I think I can definitely say like that Greta, has had a major impact. Like when I saw her search, like for the first time, in like the United Nations and all of that, then I was like, really like, wow. And I think that my interest for sustainability and everything has gone off even more. Maybe the past year. And also, since I did all my electives here at CBS, I did within sustainability. So then my interest awoke even more, because I learned more and like, you know, stuff like that. And then I listened to, there is this Swedish doctor who wrote a book called *The art to make a difference* that I listened to. He was in this podcast, I started listening to this sustainability podcast. And he talked about the how the individual can actually make such a difference. And I remember when I listened to that, and I really felt like, that is so true. And like maybe the things that I felt before like, can you actually make a difference and things like that you know. He really convinced me like, yes, you can. Yeah, so I think when I listened to that, I also, I made me feel like more convinced. Yep.

**Ellen 25:03**

And if you think of these kinds of experiences that you can have, can you think of some kind of experience that would change your actions and your motivation for saving energy in your household? As we discussed before?

**Astrid 25:21**

I think if I if I would get black on white exactly how much that is that I that I do consume. And if maybe I could get some tips on what I can do differently on black and white, that would be extremely helpful. Yeah, because I find that that, that lack of information is like, like I said, when I tried to like figure it out myself it became really daunting. And then, as I also said, I'm not really sure what I can do different? What can I do differently? How should I? Is there any different methods? I like, I lack that knowledge. But if I could get that information, that I would definitely, definitely, yeah, I think like, make the changes that I can, yeah.

**Ellen 26:08**

So if you would, for example, say that you would design some kind of experience that would motivate you to save energy. Then, would you focus on making it fun? Or would you make it interesting? Or would you make it learning? Or how would you, what type of experience would you think would be a good fit? Because since you mentioned the information part?

**Astrid 26:39**

Um... I guess some sort of experience where you can like track your performance. Or like, so you could like, if you could like visualize somehow. Let's say we start saving here now. And then you have like charts or whatever. And then you could like track how you go. Because then you can really like see if you'd make a difference. So I think like some sort of continuous like feedback. That's what I would like. It doesn't have to be, I wouldn't be interested in seeing like, oh, you reached a gold star or whatever. Like, I don't want that. I just want to know if I'm like going in the right direction.

**Ellen 27:19**

Good. And then I mentioned gamification before. And if I would just say the word to you, what would then come to your mind?

**Astrid 27:29**

playing a game, I guess? Yeah. Gamification, yeah. I'm not sure, gamification. Yeah, but some sort of game performance, that sort of things.

**Ellen 27:48**



And then, if energy saving in your household will be presented to you in like, a gameful way, would you think that would motivate you to spend less energy? If you had to scale it from one to seven?

**Astrid 28:12**

Gosh. It's hard, because it's obviously depends like how the game is. But like I said, I wouldn't, I don't think that I would be interested in like getting points or like being like, rated in a certain way in that term. What I would like is more, yeah, like I said, like, I want to know, like, okay, what actions can I take? And I want to know, like how I'm doing. But it maybe like, let's say, you know, you can get it in the scale. Or it could be, I guess, like points, but just as long as it can visualize, like, the progress in some way somehow. But I don't, I wouldn't like any like, virtualized world or anything like that. I would just really, like traditional like, okay, you started on a scale of one to ten. Your consumption is eight, do this and this and this, and then your consumption will go down to two. And then you can like follow that. I would. Yeah, if that makes sense.

**Ellen 29:14**

Yeah it makes sense. My next question is actually if your energy consumption would be presented to you in a visualized way, would that then motivate you? And how much would you say from one to seven? Would that motivate you to engage more and spend less?

**Astrid 29:31**

Um. But then I think it is a seven. Yeah, yeah. Definitely. Like, if I can just see like, how I'm doing. And, because then you might also feel like, oh, my gosh, it went up now? Like, why? Okay, hold back, or something?

**Ellen 29:47**

And then if you imagine that you would, then instead, as you also mentioned, collect points. And those points can result in a reward from your landlord. According to how much energy your household is using. Do you think that would motivate you to spend less?

**Astrid 30:17**

I don't know. Yeah, it obviously maybe depends on what the reward is? Haha. But. Um. Partly, but I, I wouldn't, I don't think so, actually, to be honest. I don't know, I don't, I think the other thing is more important to me. Because otherwise, I think I would just feel it like it... I don't know, I'm not too fond of that.

**Ellen 30:46**

So if you would rate that from one to seven?

**Astrid 30:49**

Um, maybe a four.

**Ellen 30:52**

Okay. And then if you imagine the situation that you are actually able to compare your average energy usage to your neighbours energy usage. Would that motivate you to be the best and to spend less energy comparing to your neighbours?

**Astrid 31:11**

Maybe not necessarily to be the best, but I wouldn't want to be the worst. I wouldn't want to be the one like, oh, Astrid in household number 5C, gosh, she is cranking it, like I wouldn't want that. But maybe I wouldn't feel like.. oh I have to beat them! But more like, maybe more like in a *community sort of a sense*. Like, okay, like, let's keep it down, and like be at least on the same level as them. But not necessarily that I have to beat them. More like that. But it would it would motivate me, yes, maybe the scale like a six I would say.

**Ellen 31:53**

And then if you have the final situation, if you will get feedback, as you also talked about before, if you will get feedback on your energy spending. Would, how would that motivate you to spend less?

**Astrid 32:06**

I think that would definitely motivates me. like if, and also if it could be like a bit of *concrete* feedback. Like we see that what it is that has gone up a lot. Is it then the water consumption, then it's like, okay, good. Then, it is like so what have we done? Have we been showering, like unnecessarily much? Yeah. So if you can get that sort of like, *constructive feedback*, that would be really good. Because it's so simple to make the changes, but it is hard if it's like: it went up. Then it is like, okay, I don't have a clue what I did differently last month. Because you forget.

**Ellen 32:44**

How often would you like to receive as such kind of feedback?

**Astrid 32:49**

Every, maybe once a month, so you can compare to the previous month on the same time and keep track.

**Ellen 32:55**

If you were to scale the situation with the feedback?

**Astrid 32:58**

Seven.

**Lucia 33:11**

Can you just sorry, scale it, the second question, which was regarding if the energy will be presented in a gameful way from one to seven, what you say, is it important for you? Would it motivate you to save more energy?

**Astrid 33:43**

If it was in like in a gameful way?

**Ellen 33:45**

Yeah, it was the first situation.

**Astrid 33:46**

Um, well, I think I said no one little bit there. So maybe a four. Yeah. But as I said, like, oh, obviously, it would depend like a bit of how the game is done. But if it is like a game game, more situation, and whatever, then I would say no, it doesn't. It doesn't really appeal to me.

**Lucia 34:13**

But just to have game elements such as what we said like competition and stuff, then would you still rate it on scale as four?

**Astrid 34:22**

Yeah, because I would be more interested in just getting like, constructive feedback and more like that. I don't really feel like, like, yeah, it doesn't motivate me to beat my neighbours or get a reward or anything like that. What would motivate me is to know that I'm doing the right thing. And that it's better for the environment and tips on what I can do better.

**Ellen 34:48**

Thank you that was actually our last question.

## Interview 2: Tudor 9/4 2019

**Ellen 0:01**

Yes. Okay, so thank you for being part of our study. Before we start, like we just said, we want to say that we will record this, and we hope that it is fine that you will be recorded. And also, we will use the things you say in our thesis, but it's only us and our supervisor and the censor that will see it. So I hope that's fine.

**Tudor 0:23**

Sounds perfect.

**Ellen 0:24**

Perfect. So we would like if you can just start by introducing yourself with your name, where you are from, age and where you live and what you do.

**Tudor 0:32**

My name is Tudor. I come from Romania. I live in Copenhagen now. And I work as a web developer.

**Ellen 0:41**

Okay. Nice. Did you say how old you are?

**Tudor 0:44**

No, I'm 22.

**Ellen 0:47**

Nice. I will just start with defining three words that we use in the interview. So you can understand how we think when we say them. At first, it's the word sustainability. And when we talked about sustainability, we talked about environmental sustainability. Which is that you, without compromising with the world and the ecosystem, can meet the human needs. And then we have sustainable action, which we have defined as a behaviour where you seek to minimize the impact on the environment. And then we will also later on use the word gamification. And that is the use of game elements in a non-gaming context. And if you feel that it's something you don't understand what the questions just feel free to ask and there is no pressure, take your time when answering, so it's no stress.

**Ellen 1:42**

Yes, I would just start off by asking, how important you would say it's for you to be sustainable?

**Tudor 1:50**

Well, I would say from a scale...?

**Ellen 1:52**

Yep, on a scale from one to seven.

**Tudor 1:54**

Let's do it. Okay. I would say it's a five, it's a five. It used to be less, but lately, because of the media and global warming it became more and more important for me. And I'm trying to do small things like recycling and stuff like that, to contribute to do my part.

**Ellen 2:20**

Yeah. And why do you care about sustainability?

**Tudor 2:23**

Well, as I said it is mainly because of the impact I see that global warming has on us. I can, now you can really feel it, you can see that the especially the temperatures are changing. And it's like a huge impact from what it used to be like five to ten years ago when I was a kid and what it is now. And on top of that, you see all this all these ads on the internet, where you have we have access to and stuff like that. So it's that's also a signal trigger. Yeah.

**Ellen 2:55**

Would you, if you have to, would you consider yourself as a sustainable person? If you would rate that from one to seven?

**Tudor 3:04**

You mean, I would say?

**Ellen 3:05**

Of how important you think it?

**Tudor 3:09**

I mean, it is important to be, but I cannot say I'm the most sustainable person. I am trying to be in terms of recycling. So like, when it comes to going with the trash out and stuff like that, I will always like put plastic with plastic and cardboard with cardboard and stuff like that. And that's happened only lately since I lived in Australia. Because I lived with some people who are really interested in recycling, and then they taught me to put some discipline to me. And that stuck with me. On top of that, I would say that I'm minding the electricity consuming, like, I would dream of having a greenhouse, just today I saw, how nice it can be, and how much energy you can see on the long run. If you reuse the heat and all that I learned a lot about the one video on YouTube.

**Ellen 4:08**

Interesting. Um, would you consider yourself as a person who engage a lot in sustainability? If you have to scale that one? So for example, as you just said, that you care about recycling, for example. So if you would, kind of rate your actions, how much you engage in it?

**Tudor 4:27**

Is it in terms of volunteering? Or just my personal life? Personal am what I do?

**Ellen 4:33**

Yeah, like generally, how you think you do sustainable actions? Actions or behaviour that is good in terms of sustainability?

**Tudor 4:43**

I would say it's ranked somewhere in the middle, like four. So I can definitely improve and be better, but I'm doing my part. I still feel that that I contribute and I'm not wasting water and stuff like that. So I'm always doing an effort.

**Ellen 5:00**

When you do act sustainable, how does that make you feel?

**Tudor 5:05**

It makes me feel so much better about myself. Because again, I feel that I'm a part of this movement, and I'm part of like, going against the people who don't care and trying to change the mentality. You know, I don't want to simplify, but maybe the elder people, especially when I come from, they don't really care about it. So it would be nice to raise some awareness into this. And that's why like, by doing my part, I feel that I already contribute, even though I don't volunteer and do stuff. That I should maybe.

**Ellen 5:42**

You mentioned before that one reason that you act sustainable is because of climate, global warming and such. What do you have other than that? What motivates you to act sustainable? What kind of motivations?

**Tudor 5:56**

Is it other than that? I mean, it's also all the plastic you see thrown in the water and stuff like that. In interacting with the environment, you know, when you see it affects the life of animals. You often see these pictures online as a as I mentioned before, which advertise it and it's quite painful. Because you try to emphasize with them, you know, they had all this beautiful life on Earth before we came along and started throwing trash all over. Yeah. And everybody was living in peace. But that's another subject.

**Ellen 6:38**

Yeah. Do you have an idea of what could possibly stop you from having a more even more sustainable behaviour than you have right now?

**Tudor 6:47**

My comfort, I would say I'm quite a comfortable person. So it's quite tough sometimes you know. Like given before, that was stopping me, the fact that was stopping me from recycling was there was comfortable throwing everything in one bin your know and getting it over with. So I think that what I needed as a person was like, an ass whooping. So you need to do this, because it's not right, you know, and then, again, interacting with the right people, I learned about it. Comfortable. That's the issue. Yeah.

**Ellen 7:25**

Um, and then I would like to ask you some questions about your energy household consumption. And first, I want to start out with asking, what do you think is included in your energy household consumption?

**Tudor 7:37**

Is it the heat and the water consumption and electric bills and stuff like that?

**Ellen 7:43**

Yeah, exactly. What do you think when you think of energy household consumption?

**Tudor 7:48**

Yep. So that's mainly like, the heat that I use and the water that I use, the electricity. So I think that's, that's about my opinion about it. And maybe the gas also, I don't know.

**Ellen 8:02**

Would you say that energy consumption affects the environment?

**Tudor 8:07**

Yeah. Yeah. Because of the way we produce the energy, right?

**Ellen 8:11**

Would you, if you had to rate how much it affects the environment from one to seven? What would you say?

**Tudor 8:18**

I mean, I would think it's somewhere up there, six, it rates a six.

**Ellen 8:25**

Why do you think so?

**Tudor 8:26**

Well, even though I'm not like, I'm not so much into physics and how they produce the energy, but from what I learned in school, like, because we don't produce sustainable energy? We, I mean, I don't really know how to put it into words, but I think it's very important. I don't know how to put into words properly.

**Ellen 8:48**

Do you think that the energy usage is an important question when you talk about sustainability? If you had to scale that from one to seven? How important would you say that is?

**Tudor 8:58**

The energy usage?

**Ellen 9:00**

Yes, exactly.

**Tudor 9:01**

I would say, again, six, since the weights of things that affects the environment, and the more we use it will definitely affect the environment.

**Ellen 9:12**

Do you know how much energy you spend each month? Suddenly?

**Tudor 9:15**

Sadly no, but happily I live in a dorm which pays for it. So that's a problem I think, because me along with some of the people I know, sometimes in the winter example, we get comfortable with the heating. And we don't, maybe we don't stop it, when we should given that it it's included. But this winter, I feel that I changed. And I like started to become more responsible about that. So that was good. Yeah.

**Ellen 9:47**

That kind of goes hand in hand with my next question that is if you're actively think of saving energy, when you're at home?

**Tudor 9:53**

Yeah, I think comes with becoming a bit more mature. Because when you're a kid, you know, you always let the lights on and stuff like that. And nowadays, even though I don't pay for it, because I think that my motivation for my parents at home is the price you pay for it. But for me, as I said, it became this being sustainable movement that I tried to implement on myself.

**Ellen 10:20**



If you would then rate from one to seven, how much you would say that you think of saving energy at home?

**Tudor 10:29**

I would say it goes up to a four.

**Ellen 10:36**

And do you have any more ideas what is stopping you for saving energy at home?

**Tudor 10:43**

I mean, don't get me wrong, I don't spend so much energy. But I think maybe, unplugging my computer could help and stuff like that. It's just, maybe being used to the way I live before so it's a bit, just need to think about it a bit more. I don't really, yeah, I don't really mind that much. But I should.

**Ellen 11:11**

Do you have any ideas of how you could be motivated to have a more sustainable behaviour in general?

**Tudor 11:18**

I think, for me, the people that I have around me, they have a big impact on me. So if I, let's say I would live where I would be around people who always like, mentioned it. Like, okay, just remember to do this, remember to unplug this, remember to close this. Like I would implement it in my daily routine. But I think that that can go even further and just having maybe some kind of informational ads made in in a nice way, or videos and stuff like that would have me.

**Ellen 11:57**

If you try to think... do you have any experience that you would say, changed your behaviour and changed your opinion about sustainability?

**Tudor 12:11**

Let me think for a second. Yes.

**Ellen 12:15**

So it's an experience that change your behaviour.

**Tudor 12:19**

As I said, it was my time spent in Australia as an exchange student. I lived with, in a house, which emphasizes a lot with nature and the animals. It really tried to do its part when it comes to living sustainable. And everybody was vegan, I tried to be vegan for a while, then I moved a

little bit to vegetarian, which is a bit better for me. And yeah, it was, it was good. It was good for me. So I would say that's the experience which has had the greatest impact.

**Ellen 12:56**

Um, and you mentioned a bit that that also influenced your energy consumption. But can you think of some other kind of experience that would change your actions to save even more energy in your household?

**Tudor 13:11**

I would say, let me think. I mean, an action would be making me pay for it. Haha. Then I would mind it a bit more. Yeah. Yeah, that's, that's one thing that would help out a lot. Yeah, for me and my fellow students, actually. So if they put down the rent a bit, and then they make us pay for the electricity, then we have a control over it. So we have, okay, we can maybe save some money off doing this and that.

**Ellen 13:49**

If you think that you will be the one who designed an experience that would make people save more energy? Would you then try to make it a fun experience? Or would you make it an interesting experience? Or can you think of what kind of elements you would have in such experience?

**Tudor 14:08**

I mean, I think fun is always important. And I think you should do it by trying to connect lots of people. Like, bringing them together, because everything relies on social connections. And try to make it as fun as possible. And then people who like... also, maybe, besides making it fun, you should always try to trigger an alarm system. Like, make it clear that this is very important for our future, basically, or for the future of our kids. But make it seem fun also.

**Ellen 14:56**

I mentioned before the word gamification. But if I just say that to you, what comes to your mind?

**Tudor 15:02**

Gamification is maybe when you learn something by playing a game. I would say. Or like a game which is actually meant to teach you something. Like I remember we used to have something called... it was learning the world map and the countries. We would, like, the game would point to a certain region, then you had to guess it, and they get points and you compete with your friends.

**Ellen 15:34**

And if energy saving in your household would be presented to you in a gameful way, do you think that would motivate you to spend less energy?

**Tudor 15:44**

Yeah, that'd be really cool, I think. Because then you can talk with your friends, like hey, what point did you get in this and this, how many points do you get in this? And then you can rate it. And people really like ratings, if you just check Facebook and stuff like that.

**Ellen 15:59**

If you had to rate how motivated you think you would be of such a gameful way?

**Tudor 16:05**

Yes, six. Six, seven. Sure.

**Ellen 16:09**

And then I have an example. If your energy usage would be presented to you in a visual way so you can actually see it, in a clear way. Do you think that will motivate you to spend less energy?

**Lucia 16:21**

So for example, if you have a chart. So if you shower, and then you have two emojis for example. Then suddenly, a red emoji with sad face appears. Would that make you, like, how would that motivate you? Would that motivate you?

**Tudor 16:39**

I think that would motivate you more, but also, I think that it would make you sad sometimes also. I don't know if people would be really happy to have that.

**Ellen 16:49**

If you have to scale how motivated you think you would be?

**Tudor 16:52**

But for me, I think would be cool. Because I always liked and enjoyed games. And yeah, that would motivate me personally. Yeah.

**Ellen 16:57**

If you have to scale it from one to seven, with the same scale?

**Tudor 17:00**

Yes, seven. Seven. That would be nice and it would drive me to spend less.

**Ellen 17:07**

And then another situation, if you imagine that you can collect points, which can result in a reward from your landlord for example, and you get points according to how much energy you spend. Do you think that will make you motivated to spend less?

**Tudor 17:23**

Yeah, for sure. For sure.

**Ellen 17:25**

Okay, on a scale?

**Tudor 17:35**

Seven. Yes, seven.

**Ellen 17:26**

Why do you think so?

**Tudor 17:28**

Because it would be fun. And what can you do with the points afterwards?

**Ellen 17:35**

You can get a reward of some kind.

**Tudor 17:36**

Of course. Yeah, it would be the reward that would drive me.

**Ellen 17:43**

And if you would be able to see and kind of compare your energy usage with your neighbour's energy usage. Would have motivate you to be "the best"?

**Tudor 17:53**

Of course, you want to have competition. That is where you get the most thrive out.

**Ellen 18:01**

So from one to seven?

**Tudor 18:01**

Seven.

**Ellen 18:02**

And the last example, if you would get feedback on your energy spending. For example on how much you spend each day, or how much your average is. Do you think that would motivate you to spend less?

**Tudor 18:19**

To get the feedback? Yeah, I mean, so like a reminder, right? So if you don't look at the chart, then they send you a notification or something?

**Lucia 18:27**

It could be of any kind, actually. It could be monthly or weekly feedback in terms of like, you spend this amount of energy or you spend this amount of water. And I mean, would that help? And you could also argue like what kind of feedback you would like to have.

**Tudor 18:45**

Yeah, that's actually really cool. Because I just got this app on my phone from Nordea for example, which tells me how much money I spend. It gives me notifications every now and then and say like I spend this much amount of food for this month. Of course, it drives you to try to spend less. And I think you'd be the same with thinking sustainable.

**Ellen 19:03**

Yeah. So if you could rate from one to seven?

**Tudor 19:07**

Seven.

**Ellen 19:09**

Do you have any more thoughts of sustainability? How to, for example, save energy in your home?

**Tudor 19:21**

So my home is very small. You know, I live in a dorm. Close the lights and unplug my computer.

**Ellen 19:31**

No, it's just if you got any ideas or any comments now when we have discussed this?

**Tudor 19:36**

Regarding this, regarding this topic, rewards, gamification, experiences? I think, I think the whole idea is really cool. And it would be nice to. If it wasn't, I mean, expensive to implement or

something. So if it was, not donated, but like, quite cheap and affordable for students or for people my age. I think that can be done.

**Ellen 20:09**

Yes. Nice. That was actually all of our questions.

**Tudor 20:12**

Excellent.

**Ellen 20:12**

Thank you so much.

**Tudor 20:13**

You're welcome.

### Interview 3: Daniel 9/4 2019

**Ellen 0:01**

Nice. Okay, so thank you for taking part in our study. And as I said, first I just want to inform you that we will record it with your mobile phones, and that we will use this in our thesis. And there will only be the two of us and our censor and our supervisor that will see the information. Just so if you approve to this?

**Daniel 0:24**

Yes, it is clear to me and I approve.

**Ellen 0:29**

Good. Can you just start by introducing yourself with your name, your age, where you live and what you do?

**Daniel 0:35**

Yeah, my name is Daniel and I'm 29 years old. I live in Copenhagen. I'm from Odense but I have been living in Copenhagen for one and a half year.

**Ellen 0:50**

And then I just want to start off with, because we will talk a lot about sustainability, and it's three words that we use a lot, which is sustainability. When we say that we mean environmental sustainability. That you want to meet the needs of the humans without compromising with the ecosystem. And when we're talking about sustainable actions, we mean such actions that seeks to

minimize the negative impacts on the environment. And then we'll also talk later on about gamification, which is the use of game elements in a non-gaming context. If you feel that it is any questions that you don't understand, just feel free to ask, and that will also come later on.

**Daniel 1:31**

Okay. That's cool.

**Ellen 1:32**

Good. But then let's start. So I just want to start by asking how important you would say that it is for you to be sustainable?

**Daniel 1:43**

Well, for me, it's been become actually a big part of my everyday. From, like, the surroundings around me, like people are really approaching a lot of things about sustainability in general. So personally, I didn't, I was not much aware of a lot of things before a few years ago, I would say. But it has become a pretty important thing to me.

**Ellen 2:14**

If you have to rate on a scale from one to seven, where seven would be that it's very important. How do you think you would rate how important it is for you?

**Daniel 2:25**

I would say, to be honest, like kind of the middle kind of thing. I'm really aware of a lot of things. But there are also a lot of things that I need, that know that is pretty difficult to kind of interfere with the idea of a really nice society of sustainability. And so I'm aware of a lot of things that is not so sustainable, and not so good in that case. But would say like, four or five. And it's increasing, because of mainly the awareness. Yeah.

**Ellen 3:03**

Why do you think you care about sustainability?

**Daniel 3:07**

Mainly, because can see that it's, it's really affecting the world right now. So for me, it becomes more and more important. It just became an indirect kind of thing in my mind that I think about a lot and a lot of stuff regarding that. So to me, it's just important because of that, if you can say. Mainly because of the indirect kind of mindset. That all the surroundings and the awareness from media, some stuff like that.

**Ellen 3:43**

Would you consider yourself as a sustainable person? And if you once again have to rate it?

**Daniel 3:48**

Yeah, I would say that I'm kind of in the middle, still, yeah. Three, four, yeah. A three or a four. I'm not so good at it. But as I said, I'm super aware, and I'm getting even more aware of it. And there's a lot of keywords that just attached to my mind. Like the whole plastic thing right now, for example, and stuff like that. Yeah, so I'm super aware. And I'm also doing the best that I can. But when I'm working, and when have to be productive for example, I will throw away a lot of trash and it's plastic. Mainly because it's easy. So there's a lot of easy solutions that I still choose.

**Ellen 4:37**

So you would say that the reason that you then don't do this kind of actions is because it's easier to not do?

**Daniel 4:43**

Exactly, yeah, yeah, I would say.

**Ellen 4:46**

Would you and consider yourself as a person to take a lot of sustained by actions and have a sustainable behaviour so to say?

**Daniel 4:57**

Yes, or no I would say. It's smaller things. Just use and reuse stuff instead of using, for now I just mentioned plastic. I don't buy any plastic bags. I also, if we look at packaging, it comes to my mind that I'm concerned about it, and comes to my mind of how it could be even better used or something like that. So it's mainly awareness. And then I just do the smaller things in an on a daily basis.

**Ellen 5:33**

If you had to rate that, how much of a sustainable behaviour you had? Once again, from one to seven, what do you think you will choose?

**Daniel 5:46**

Four or five... I would say. I would always choose my bike instead of a lot of other ways of going around.

**Ellen 5:58**

When you do the sustainable actions and when you have a sustainable behaviour, how do you then feel when you do that?

**Daniel 6:07**



I feel good about. And it's because that the society kind of expect it from you. I feel satisfied by doing some actions that actually is sustainable. So I feel happy. And yeah, I would say that the indirect kind of thing my mind will make me do so.

**Ellen 6:37**

Um, what motivates you to act sustainable?

**Daniel 6:44**

A better future I would say. Yeah, something like that. So I'm aware of all the things that is going on outside Denmark. It's mainly because of, yeah, I would say animals. I'm pretty aware of the situation about how animals dies. And yeah, especially the Africa kind of thing, too.

**Ellen 7:16**

What do you think and do you have any ideas what is stopping you from behaving even more sustainable?

**Daniel 7:23**

Convenience... I would say. The easiest way to just do stuff. Sometimes, especially when you work or if you're in a rush or whatever, it's just way more convenient, just to not to think about it. There is still a lot of solutions that I wouldn't choose in front of others. But if I had to choose between something and it's easier to do, I'd rather do that I would say.

**Ellen 7:58**

And I will now ask you some questions about your household energy consumption. I just want to start off with asking, what do you think it's included in your energy household consumption?

**Daniel 8:15**

Lights, I would say. Also, we will have a kitchen so there's a lot of things in my kitchen that I can pick. That's in my mind, the main part of it?

**Ellen 8:32**

Um, do you think that energy consumption affects the environment?

**Daniel 8:37**

For sure. Yeah.

**Ellen 8:39**

If you had to rate how much do you think it affects from one to seven?

**Daniel 8:43**

I would guess it would be something which were in the middle of it, like four or five?

**Ellen 8:49**

Yes. Um, how and why do you think it affects the environment?

**Daniel 8:55**

Because we're using a lot. Yeah. Even when we're not using it we are kind of still using it. And we have, personally, I've been using more, and sometimes less to, but I can feel that we are using a lot of electricity in our in our daily use. Especially at home, when we are not home and when we are home, and stuff.

**Ellen 9:22**

Yep. Um, do you think that the energy usage is an important question when you talk about sustainability?

**Daniel 9:30**

I would say so.

**Ellen 9:33**

If you had to rate it from one to seven?

**Daniel 9:35**

I would say a five.

**Ellen 9:37**

Why do you think it's an important question?

**Daniel 9:39**

To talk about energy?

**Ellen 9:41**

Exactly.

**Daniel 9:43**

Yeah, because it's a big part of our daily consumption of electricity. And I would say that, it's, for me, it looks like we are using in even more than we did before, and therefore it's very important to look at that part.

**Ellen 10:06**

Do you know how much energy you spend every month?

**Daniel 10:10**

I have no idea.

**Ellen 10:12**

Do you know how much you pay?

**Daniel 10:14**

Nope.

**Ellen 10:15**

Why don't you know?

**Daniel 10:18**

Because I'm renting a room. But I have an idea of how much I would spend. Like, per person or whatever.

**Ellen 10:28**

Do you know where your energy is coming from that you use in your household?

**Daniel 10:32**

Nope, I actually don't know.

**Ellen 10:35**

Do think actively of saving energy when you in your home?

**Daniel 10:40**

No. I don't.

**Ellen 10:42**

So if you will scale that from one to seven?

**Daniel 10:48**

Yes. Then it would be one.

**Ellen 10:50**

Why do you think it's like that?

**Daniel 10: 52**

Well, I've just moved in. So, so it hasn't been something that I have been thinking about. I would say before, when I stayed at a place for years or something, if became something that I've been thinking about it. Especially if I pay the bill myself or something like that. I don't think it will, I don't think it doesn't mean that much if you think about how much you've spent. Your turn it off, or you turn it on. In money wise, I would say it's difficult to see. And your bill, if you thinking about it or not thinking about it. Again, back to my key word; convenience. So I don't think I use or spend that much time on thinking about that, because of the small amount of money that actually save. Yeah.

**Ellen 11:50**

And then if you think back to sustainable behaviour in general, how do you think you could be motivated to have even a more sustainable behaviour?

**Daniel 12:01**

So what motivated me in the first place was the awareness. So that's the main thing that motivates me. I'm attracted to things that will teach me about how to be more sustainable and to be more aware of it and how to deal with it. So especially the awareness, I would say.

**Ellen 12:27**

Um, do you have an experience that you can think back to, that kind of changed you and changed your behaviour to become even more sustainable and to engage in sustainable actions?

**Daniel 12:45**

It's kind of, I wouldn't say it's a big thing. But it was a big part. It was a big thing that was going on at some point, it was all the plastic kind of thing. All the talking about how to use it and recycle plastic. Mainly because of, you can see that the ocean was floating with our plastic and stuff. There was a big kind of campaign going on at some point for, let's say, a year ago. And at the same time I was traveling a lot. And we had a session where we picked up trash and stuff. So it's, it comes to my mind that it's a big problem. I was aware of it, but I was not picking it up myself before that. And then as you see that on the TV and in the media in general. That, the oceans and floating with loads of plastic. So I would say that was the biggest thing that actually made me more aware and to take, just in general, to take more action. Yeah.

**Ellen 13:53**

If you think of such an experience that changed your opinion regarding plastic, as you just said, can you think of such an experience that would make you change your behaviour with your energy consumption in your household? That would make you save my energy?

**Daniel 14:09**

I could only imagine how it would be if you can make some kind of campaign or make me more aware of how it actually works and how much it actually affects the world with much we spend and use.

**Ellen 14:28**

If you would be the one to design such an experience to make people save more energy. Would you make that experience, would you make it fun? Or would you make it informative, would you make it interesting?

**Daniel 14:43**

I would say it's all the facts that is really important in this case. So for me, it would not work on me to make it funny or something like that. It works on me if you make it clear what it is , about. And for me it is just serious stuff, because it's a serious thing.

**Ellen 15:10**

Um, and then I will talk a bit about gamification. I mentioned that word before. But when I just say it to you, what is the first thing that comes to your mind?

**Daniel 15:20**

That I don't know what it is?

**Ellen 15:23**

That is totally fine. So the definition of gamification is that you use the elements that are usually within a game, such as that you can collect points and you can compete against each other. But then you take those elements and you put it in a non-gaming context. Like in education, for example, or in health, like tracking or any other area that is not game area.

**Daniel 15:53**

Okay.

**Ellen 15:54**

So I will have some examples for you. First, I just want to start with asking that if energy saving in your household would be presented to you in a more gameful way, do you think that would help you to say more energy?

**Daniel 16:14**

Yeah. I'll give it a shot. Yeah.

**Ellen 16:16**

How motivated do you think you would be if you had to scale it from one to seven where seven would be very motivated?

**Daniel 16:24**

Three.

**Ellen 16:27**

And then if you imagine that your energy usage in your household will be presented to you in a visual way. Do you think that would make you more motivated?

**Daniel 16:36**

I would say so. Yeah.

**Ellen 16:38**

Yeah. Why do you think so?

**Daniel 16:41**

Again, because of how much and we come back to facts. And so, in that case, I'm really interesting how much it is. And the clear facts about it. Because I'm not aware of how much and how much it actually means.

**Ellen 17:03**

If you have to rate how motivated you think you would from one to seven be a case?

**Daniel 17:07**

I would say five in that case.

**Ellen 17:10**

You talked about that you want to have facts presented for you. What kind of facts would you like to have? And how would you like it to be presented?

**Daniel 17:18**

It would be nice to compare, not only with your neighbour, maybe with another country or something like that. Then could be some kind of competition. Something maybe, I don't know. And it would also be very nice to see how much you actually potentially can save money wise.

**Ellen 17:44**

And then I have the situation that if you imagine that you could actually collect points from your landlord in your building, and this points depends of how much energy you save in your

household. And that the points you can get can result in a reward. Do you think that would motivate you to say more?

**Daniel 18:02**

Yeah.

**Ellen 18:06**

How much do you think from one to seven? How motivating do you think it would be?

**Daniel 18:09**

It depends on how you live, so if it's only you and another one or something like that.... maybe a bit less. But if you live in a large building, where it is more fun to do that kind of thing, to collect and so. And to maybe working, I don't know, in teams. That would motivate me even more.

**Ellen 18:33**

So you have an idea roughly about which number you would rate?

**Daniel 18:40**

Four.

**Ellen 18:42**

Then, another situation is that if you would be able to see your average energy usage and then you can compare that to your neighbours, as you said before. Do you think that would motivate you? Would you then try to be the best in your building?

**Daniel 18:58**

I would say yes. The competition kind of idea motivates me a lot actually. Yeah.

**Ellen 19:04**

Why do you think you will be so motivated?

**Daniel 19:06**

That's just my personality. I like the competition's kind of thing. Also, it's in a good way. So the total target, if you compete, you don't even compete with each other. But you also competed in a good way.

**Ellen 19:29**

If you have to scale that one from one to seven?

**Daniel 19:33**

Five or six? Yeah.

**Ellen 19:35**

And then I have the last situation, which would be if you got feedback on your energy spending. Do you think that would motivate you?

**Daniel 19:45**

What kind of feedback would it be?

**Ellen 19:46**

It could be all kinds of feedback, that is also if you have any preferences? But for example, how much energy you use every week or every month. It could also be where you use the most energy, for example the dishwasher. So you can kind of get the feedback that yeah, the dishwasher is using a lot of energy.

**Daniel 20:08**

Yes, that would much motivate me as well. Yeah. Because of the facts again. Yeah. So I would say it is pretty important to get some feedback. Yeah. And also, it also get into your mind when you get the feedback. So it kind of get into your like, you enter your indirectly. I don't know why my phone does it. But it tells me every week, you spend so much time on the phone this week. So I just know that okay, now I spend 40 % less this week. It's like, a kind of a reward as you mentioned. Something like that. I like it in the ten seconds I think about it, and then it just stores in my mind.

**Ellen 20:59**

Do you have an idea of how often you would like to get such kind of feedback?

**Daniel 21:02**

On a weekly basis. Like the phone thing. Just a quick fact or something like that.

**Ellen 21:10**

Okay, so you would want it to be kind of short?

**Daniel 21:14**

Exactly. I don't expect me to dig into numbers. You know, something that would be really short.

**Ellen 21:23**

But you would like to have the facts then of your usage, as you said before?

**Daniel 21:28**



Yeah.

**Ellen 21:30**

Yeah. And just if you just can rate that from one to seven, how this feedback would motivate you?

**Daniel 21:37**

It would mean a lot, so six.

**Ellen 21:39**

Good. That was actually all of our questions. All right. Thank you so much for participating.

**Daniel 21:46**

Thank you for inviting me.

## Interview 4: Maja 10/4 2019

Lucia (L) – Interviewer

Maja (M) – Participants

L : Hey and thank you so much for participating in our interview. Before we start I would just like to inform you that we are going to record this interview with our phones and that we will use your name and general information in our thesis and the only people who will see it, it will be us, our sensor and our mentor. So, we will just need your approval.

M : I approve.

L : Thank you! Hmm.. and before I start with the questions I want to define this three words, so you get an idea what the interview will be about and if you don't understand any of those three words, please feel free to ask me! First I am going to start with the word sustainability. I just want to say that we defined sustainability as environmental sustainability, so meaning that we wanted to defined it as "meeting human needs without compromising the health of ecosystem, our ecosystem and environment", and then the second word is sustainable actions, which we defined as "behavior that seeks to minimize the impacts of your actions on the environment", and the last word is gamification and that is the "usage of the game elements in a non-gaming context" such as health industry or environment, so any context that is not specifically related to games and gaming. Do you understand all of it?

M: Yeah.

L: Yeah? Perfect! Then we can start! I will start by asking you first question which is how important is sustainability to you and why?

M: Hmmm, I would definitely say that it's a big part of my everyday life. I feel like it's... hmmm...well from mostly small things I would say like, you know, like recycling and doing all those stuff, trying to buying second hand clothes and I always have it in mind. So, in theory I would say it is very important but in practice I would say that I have like a very broad way of implementing sustainability in my life. If that makes sense?

L: Okay, yeah.

M : And it's... hmmm....important, well, because of the facts because "I know we have to do something, obviously, and also for me, I know you connected sustainability to a environment, but is also an economic question, I would say, to not use as much water and energy and to not buy as much clothes and food, if you have!

L: And if you could scale that from 1 to 7, 7 being, like, really important, which number would you give?

M : Hmmmmmm....5 I would say.

L : Okay! Ammm... Okay, then the second question would be Why do actually care about sustainability?

M : Hmm....

L: Take your time!

M: Hmm, well, I think it is difficult to find the initial source, maybe, because now I feel like it is everywhere, like in media and how companies market their product and I feel like it's an ongoing discussion..hm....but I do really care about our, like, footprint on Earth and that we want to, like sustainable growth and I... yeah... ( LAUGH)... yeah... it is very difficult to find that answer.

L : yeah, it is fine, it is good! And, would you consider yourself a sustainable person?

M: Yes I would!

L: On a scale from 1 to 7, if you could scale it?

M: hmmm....well.... 5 again, I would say, especially here in Copenhagen where I don't, I mean I bike everywhere, I am very aware of what I am buying both food wise and with clothes and everything, and I take the train, I am really trying not to fly as much...hmmm, yeah!

L: Okay, good! And would you actually consider yourself as a person who engages in suitability, meaning taking actions, actively taking actions?

M: hmmm...

L: And if it easier for you to put in on a scale, maybe...

M: Yeah, I would, hmmm, in a small scale in a sense, because, I think I do it, like the..., what I am mostly doing it by talking to people about it and like having... I am always engaging in discussions and when people say they don't care or that they don't,... hmm I think I often hear people saying, hmm, well I know that I have to do something but I just...you know.. I just don't do it, and like, you know, those kind of stuff I would try to engage in discussions. Hmm..but I am not a part of any specific organisation or anything like that, so that .. yeah.. no....

L : And when you actually act sustainably, how does makes you feel? What kind of feeling would you get?

M: "Satisfaction, I would say, because I feel like I am doing something good and I am also realizing how easy it is in many of the cases, which gives me hope".... Hmmm....yeah

L: Good.... Besides that other motives that you said, but is there other things that motives you? And if it is motivating you to act sustainably ?

M: I guess, just the fact that we, well, all the knowledge we get from scientist saying that we have already used our planet, for this year, and we know that this is not sustainable. That is would say it is a major thing but that also..hmm..yeah.. mostly our environmental part of it and how we can use our globe like this?

L: And what is actually stopping you for acting more sustainably than you are?

M: Hmm, sometimes is laziness, I would say, hmmm.. sometimes is a question of money, let's say that is much cheaper to fly down to Spain then taking a train, for example and I guess also you can't put the system, but I mean the western world that we are living in, even though I would

change my behaviour in a small change, we need to make changes on a big level, which I hope that I can do sometimes in a future.

L: Now, I am actually going to ask you a few questions regarding your household energy consumption! So, when I say household energy consumption what would you say it is included in it?

M: Hm....well, showering, using the washing machine, putting the radiators in our apartment, recycling...hmm yeah!

L: And if you can scale It again from 1 to 7, what would think.. do you think the energy consumption affects environment and if you could elaborate your answer?

M: Yes I think so, but I can't really, I don't know, it is like... well I know we have to be cautious the way we use our energy because we don't have energy sources forever, but I.. hmm..yeah.. but I don't really know the facts about it more than that , but I just know that it is, of course, important to be aware how much energy we use and not to use more than more than you have to....

L: And if you could scale it form 1 to 7, how much do you actually think it is impacting the environment?

M: I would say pretty high, maybe 6

L: And would you say that the energy is an important for sustainably?

M: Yes!

L: And also on a scale from 1 to 7

M: Again high, maybe even 7, I feel like that is, especially, in our everyday use, I think it is very important that people take responsibilities of their energy usage.

L: And, do you know maybe how much you spend each month on your energy?

M: Money wise or? Or how much?

L: The amount and money wise....

M: I am not sure actually.... Money wise I know we get the bill every third month, and it usually 1500'ish DKK, but I don't know about the energy usage.

L: Do you maybe know where your energy is coming from?

M: Like, what type of source? Or?

L: Yes!

M: No, I actually don't.

L: Thinking about the question "what is included in the household energy?" can you come up with more things, or do you have something else in mind?

M: I think you can include you consumption behaviour in your household. What type of food you buy, both in like specific products, if I buy organic or not, or if I buy.. you know I, for example, I try to....after we start recycling for plastic we understood how much plastic are in our products so we try to not buy as much products that have plastic wrap, but other from that.... Hmmmm....well, sharing apartments I guess, I guess that

L: When you said you are home, would you say you are actively thinking of energy saving?

M: Yes, I am.

L: Okay and on scale, can you scale it from 1 to 7?

M: I feel it is always difficult to distinguish between that money question and the environmental thing, I know I am very cautious about it, like, I kind refuse to have my radiator on when it is spring and when it is nice weather I am trying to take short showers and I feel that is a mix between that I am really trying to reduce energy but also not having high bills. But I think the energy, like the environmental part of it, or sustainable is maybe.. well, 4.

L: Yeah, good! And, when you said that you are trying, but what is actually the thing that has been stopping you to save more energy?

M: Well, one thing is that we live in the old apartment, so it is kind a slipping the cold area from the floors, that obviously leaves with the thing that we cannot have our radiators on during winter, because it would be super cold, and... otherwise I would say, yeah I don't know, yeah as I said before maybe laziness!

L: Would you say it is inconvenience?

M: Well, I wouldn't say, for example, recycling or not taking long showers, I don't see that as an inconvenient but I feel sometimes is a conflict between my roommate and I, because she cares a lot about the energy but then she takes long showers ( laugh), so I am trying to compensate for that by taking not that long showers... ahmmm.....but yeah.. sometimes just regarding the household, I wouldn't say that it is so much inconvenience, maybe just more laziness. I would say inconvenience is connecting to taking a bus or car instead of biking.

L: And how do you actually think you could be motivated to act more sustainably?

M: Hmmm, well I feel like the thing that motivates me the most is the facts and scientific facts. It would be nice for example, if with the electricity bill would come more information, maybe, where it came from, how I can reduce my energy use, I know that might not be an objective for the energy firm to give us that, because they want to make a profit but I feel like that could affect a lot. Yeah, just know where my energy comes from, and how I can reduce my energy usage, and maybe see it on a scale sort of, how I have been better or worse ?

L : And, have you ever experience something or had some experience that changed your behaviour regarding sustainability and what was that? If you can gives an example?

M: Hmm....well (thinking).... I feel, It is the most... I would say it is 2 things, it is like natural disasters, seeing like this images like flooding and also melting ice-bbergs, you know that whole nature part and then also the animals and the farming part of it, sort of! Which for so long I had no knowledge about it and just if meat is European, you would assume it is good, you know, and you are very naïve in that sense. So after I got more information about that and how it really works and how difficult for farmers that are sustainable to actually make profit, I feel like that change my view a lot. But now, I would also say this Swedish girl Greta Tunberg who do school strikes, brought the debate once again.

L: Good, and could you think about the experience that would change your action or motivation for saving energy in your home?

M: Hmm.... Yeah maybe as I said like before, like more information regarding what impact it actually makes and also maybe, maybe there are a lot of statistics but I have not look into it, because, well one single household, obviously doesn't make that much of an impact but looking at all households together makes the huge difference and I feel like I know so little about energy consumption in households. So, well, it probably won't be a disaster in households but just more facts.

L: Okay, and if you would have an opportunity to design an experience that could motivate you to save energy, how would it be? Would you make it fun, would you make it informative, interesting? How would it be for you?

M: I mean talking now, I got this images of the garbage islands, I mean that has to do with recycling in the households, so that is one more thing that changed my behaviour, which I forgot to mentioned. But, I feel that the fun part of it is gone, we have already...it has been too long. Maybe like when we were kids and we went out and took trash from the ground and that could've been fun but now it is mostly "we have to take actions" and we have so much facts about it so....But definitely informative, as u said,...engaging but maybe fun in the sense that we can do it together and that we could understand how much we can affect.. yeah....

L: Okay, Now I am going to switch to some questions regarding gamification, the term which I have explain it to you earlier. So when I say the word gamification, what comes to your mind?

M: I have actually never heard about it before. So it just when you said it before and you said gaming products, right?

L: Okay, so it is using gaming elements in completely different context, so in a non-gaming environment

M: So how does that works?

L: So basically, you take points or competition elements and implement that in a, for example, in education

M: Oh okey..

L: So that is what actually the word means. So the next question would be : If energy saving would be presented in a gameful way, would that motivate you more to spend less energy?

M: Yes (strongly), I would definitely say so because it makes it much more tangible, I would say and turning it into this reward system, I would guess it gives you a feeling that you don't give up on anything, so it is actually convenient, because you can see your progress and become motivated.

L: And if you could scale that from 1- 7?

M: Hm.....5 maybe , so on the higher side of it.

L: And now I will give you few examples. If your energy usage would be presented to you in a more visual way, would that change you/motivate you/engage you to save more energy?

M: Yes, I actually think it would.. it does not need to be more difficult than that.. yeah just...

L: If you could scale that again?

M: Hmmm, 4.

L: And, imagine that you would collect points from your landlord that could result in a reward, would that motivate you to spend less?

M: Yes.

L: Why?

M: Well, maybe not for the reward itself but just knowing that you actually you have kind a goal, that you were working towards something and also kind working together, sharing common interest.

L: And if you scale it once again, from 1 to 7?

M: Hm.... 5 – I feel like that was my go to, I think it is difficult to say 7, but 5 yeah.

L: The next one would be, if you would see and be able to compare your average energy usage to your neighbour's energy usage, would that motivate you to be "the best"?

M: Hmmm yes I mean it wouldn't motivated me to spend more at least. Again the sense of reward that you have been working towards something, I feel this could help a lot

L: And if you could scale that again?

M: Hmm, 3 maybe.

L: And the last one, if you could get feedback on your energy spending, in any form, in a visual way, not visual way, specific one, you can also say how would you like to have it, would that motivate you to save more energy at home?

M: Yes, it would! As I said before maybe it would come together with my bill or just like informative letter on how I am doing or compare to people that have the same household that I



do or similar apartment, or seen that I am spending more or less than the average, for example and yeah as I said before, small things that I could do to improve my energy consumption because I guess that they can see where it comes from, if it is that I am using very much water or heat.

L: When you think about it, when you receive it, how often would you like to actually receive it?

M: Hmmm.

L: Maybe, daily, monthly?

M: Monthly, I would say.

L: Is there any specific reason why would you like to get it monthly bases?

M: Because I feel like that in a month, if it would be a day or a week it could vary a lot, so a month, I feel that could get my whole scope.

L: And if you scale it again, how much feedback would be important for you?

M: For that one I think I would say 7. Actually I think that would improve a lot, yeah.

L: I think I just forget at the beginning to tell you to introduce yourself, so if you just do that for me

M: Oh.

L: Just, where you are coming from, your age, where do you live here in Copenhagen

M: Yeah, I am 21, turning 22 in August, I am from Sweden and now I live in Copenhagen in Vesterbro, and I am studying at CBS...yeah (laugh).

## Interview 5: Hanna 10/4 2019

**Lucia 0:00**

Hello, first of all, thank you for coming and participating.

**Hanna 0:00**

Thank you for having me.

**Lucia 0:00**

Before we start with the questions, I would just like to tell you that this interview will be recorded with our phones and tell you that information will be used just by us or supervisor and our sensor. So we just want to make sure that you agree with this statements.

**Hanna 0:26**

Yes, definitely. I agree.

**Lucia 0:26**

Thank you.

**Lucia 0:28**

And if you would like to start with introducing yourself, so where are you from, your name? Where do you live? And what do you do?

**Hanna 0:37**

So my name is Hanna Ekeröth. I'm Swedish from Stockholm, but I live in Copenhagen. I'm a student at CBS, studying Business Administration of Service Management in my second year of Bachelor. And I also work part time in a digital marketing agency and I'm 23 years old.

**Lucia 0:58**

Perfect. And before I start doing the questions, I will just introduce you to these three terms that we frequently use in our interview today and if you don't understand any of definitions, just feel free to ask. So the first one is sustainability. And we when we talk about sustainability, we talk about environmental sustainability, which we define as meeting human needs without compromising the health of the ecosystem and the environment. And then we have sustainable actions as behaviors that seeks to minimize the negative impacts of your actions on the environment. And the third term is gamification, which means the usage of the game elements in non- gaming context, such as, usage of points or reward or competition in, in the environment of like, education or health system, any area that is none gaming area. Is it okay with you?

**Hanna 2:00**

Yes.

**Lucia 2:03**

Perfect, then we can start. Okay, I'll start by asking the questions regarding sustainability, so how important is to be sustainable for you, in your life?

**Hanna 2:17**

I would say that, from just a logical perspective, I think is very important. And I think that. I think about being sustainable, quite a lot, but then I'm not sure if I'm able to execute these thoughts accordingly and much, like... as much as I could.

**Hanna 2:38**

Hmmm... I think that there are a lot of intentions that are good, but a lot of you're like, are these my, like habits and stuff don't really correspond to those, those thoughts. But I think in general, I think that being sustainable, both myself and talking about sustainability with others, and seeing change and sustainable actions is very important.

**Lucia 3:01**

And if you could scale that from one to seven, being seven, the most important or important, what number would you give?

**Hanna 3:11**

I would probably say, five or six.

**Lucia 3:15**

Yeah. And why do you care actually, about sustainability?

**Hanna 3:20**

Because it's, for me, it's one of the most pressing issues. Not only, like from just like environmental, like, pure fact, the fact faculty like, yeah, like, perspective, but also, because I feel that, like, our society, or like our world won't really develop, as it should, if we don't take sustainability into account now in like all aspects of life in society.

**Lucia 3:57**

And would you said that you consider yourself as sustainable person?

**Hanna 4:02**

I'm more or less, depending on the area. If we're talking like environmental perspective, I guess, like consumerism wise, I could always do better, of course. But then, like, on buying kind of, you know, eco brands, like when they go grocery shopping and stuff for buying things that are, you know, shift miles, miles, miles away from, then I think I'm doing quite well. So it's kind of a given take in different areas.

**Lucia 4:38**

Okay. And in general way, when you would think about it on the scale again, from one to seven, where would you position yourself?

**Hanna 4:48**

I think that I would probably be around a, hmm....I want to say five.

**Lucia 4:56**

Yeah.

**Hanna 4:56**

Let's say five.

**Lucia 4:56**

Yeah.

**Lucia 5:00**

And would you I mean, I know that you just said, explained a bit that you are taking some of the actions, but would you consider yourself as a person who is an engaging in sustainability and in sustainable actions?

**Hanna 5:14**

I would say so. Because I think that as long as you actually think about your actions, and try to change them accordingly, I think you're engaging in sustainable actions. Like, for example, if you instead of, like going to just like a, I don't know, H&M or Zara or something, to buy something new then you could maybe go to second hand store, because you know, that's more sustainable than I guess you're engaging! So I would say, Yeah!

**Lucia 5:41**

Good. And would you again on a scale say, five.

**Hanna 5:46**

Yeah.

**Lucia 5:46**

Good! And when you actually act sustainable, how does it make you feel? What kind of emotions to get?

**Hanna 5:57**

I guess, I feel like from one way, I guess I feel a bit proud. Just feel like, you are conscious, like aware of your actions. But I also think that it kind of, especially in Scandinavia, and also for me, that is... it became more like a natural thing to do. So it's not as like not as forced maybe from like, my own perspective, rather than I think that like, it's something that you just should do.

**Lucia 6:28**

Cool. And what actually motivates you to act in that way?

**Hanna 6:36**

Because it feels right. It feels.. for me, I think that I would feel... if I wouldn't act in that way, I think that I would feel a have more of bad conscious. And it doesn't necessarily have to do with also acting, but also thinking about it. And so I think if I wouldn't think about it, I would feel that I'm, like, not doing any favours to anyone.

**Lucia 7:10**

And what is stopping you to behave more sustainably?

**Hanna 7:13**

My habits, okay. And I think also like my preferences. Me, for example, I like traveling. And that's like a big, like milestone for actually feeling that you can really act sustainable, because, then I would have to, like, cut down on flying and everything. And like, in theory, I like the idea of not flying so much, but then on the other hand, I also have, like, you know, my own personal preferences, I'm like, yeah, of course, I want to go to Italy for one week over summer, and like taking a train will take me two days. And I have one week, so I'm like,hmm no!

**Lucia 7:59**

Cool. And now I will switch to your household energy consumption and some questions regarding your household energy usage. So when I say energy, household consumption, what do you think it's actually included in?

**Hanna 8:18**

Um, I would say, the first example would be like, turning off lights when you leave a room. But then also, I guess, like garbage disposal, and like sorting your garbage and I mean, I could also think that it would be to maybe like, also buy furniture and stuff, like second hand, like flea markets instead of just going to IKEA, or whatever. And yeah, probably like electric, electricity and water usage.

**Lucia 8:54**

And do you think that energy consumption, your energy consumption could affect or is affecting the environment?

**Hanna 9:02**

Of course, I mean, I think that any energy consumption would be an effect.

**Lucia 9:06**

And if you could scale that, so 7 is the one which affects the most?

**Hanna 9:11**

Affects the most, in what sense?

**Lucia 9:16**

Meaning that like, you would say that affects the environment?

**Hanna 9:22**

Then, yeah, definitely seven.

**Lucia 9:24**

And do you think that energy is then...would you say that energy is important for sustainability?

**Hanna 9:37**

Definitely.

**Lucia 9:38**

And if you could scale that also? So would you say seven, again?

**Hanna 9:38**

I would say seven again, because just depends so much on. Like, partially, like, where your energy comes from, and how it's like, handled and produced. But also, of course, how much you can have super, like, really like green energy, whatever. But if you still like, leave on all your appliances at home at all times, or whatever, then it's still going to affect your consumption.

**Lucia 10:6/14**

Yeah. Good. And do you know how much you spend on your energy in your household?

**Hanna 10:19**

Um, do you mean per month or per?

**Lucia 10:18**

Yeah.

**Hanna 10:22**

I think that we would spend, like water and electricity and heat and everything. Maybe I don't know, maybe 800, or 1000 per month.

**Lucia 10:39**

And do you think it's a reasonable amount?

**Hanna 10:42**

I think that, like electricity wise, I think we're doing quite good. But we're also like, four girls living in one apartment. So I would say that our water usage would not be

**Lucia 11:00**

Okay! And, do you know, actually where your energy is coming from?

**Hanna 11:00**

Actually, no.

**Lucia 11:01**

Okay. And when you think about the question, what I asked you what is included in the energy household consumption, can you come up with some other stuff?

**Hanna 11:17**

Other things that would be energy consumption?

**Lucia 11:18**

No pressure.

**Hanna 11:21**

Hmmm, what else could it be?

**Hanna 11:29**

Maybe having like, old appliances or whatever, that just runs too much electricity? Or doesn't, it could also be I guess, living in a house that isn't like, modern and lets out a lot of hot air. So you have to have radiators on all the time.

**Lucia 11:45**

Yeah. And when you're at home, would you say that you actively think of saving energy?

**Hanna 11:53**

Yeah, yeah.

**Lucia 11:54**

And if you can scale that again?

**Hanna 11:59**

Maybe five.

**Lucia 12:00**

Yep. Um, and what would actually, what is the thing that is stopping you for saving more energy than you are doing it now?

**Hanna 12:11**

I think again, habits. And also the fact that I'm living with like, three friends that we live kind a separate lives. So it's not.. to say to further save energy, it would always be better to like, make dinner together or wash our clothes all at the same time or whatever. But since we don't we consume more energy than could be necessarily.

**Lucia 12:41**

And what do you think? How can you be motivated to be more sustainable? Or what can actually motivate you to act?

**Hanna 12:53**

I think, a lot depends on like, how my surroundings are doing. I mean, for example, if my apartment like in my building would have the requirements that you have to sort your garbage, like, in a different way at home, and not just like, you know, putting plastic like, paper or whatever, like, bins outside, I think that I would do it. But it's kind of thing of just like external pressure of just kind of forming new habits, that I think would be important.

**Lucia 13:33**

And have you ever experienced something or had an experience that change your behaviour regarding sustainability? If you can give any examples?

**Hanna 13:46**

Yes. like for example, I never really used to like shop a lot in second hand. But I am, I'm quite like into fashion. So the more I kind of actually get into fashion also, from not just like a style perspective, but also like from a business perspective, I see that there's so many like, steps in supply chains, and making valuations and how fashion businesses kind of just run their operations. That makes me kind want to...Just, I feel that I can't support a brand in the same way that I could before I knew about this, which made me, for example, just one of shop for second hand. So that's one example. Yeah. Do you want another one?

**Lucia 14:36**

Yeah, of course, you have one?



**Hanna 14:38**

What else?

**Lucia 14:43**

Did you hear any speech or? I don't know, exhibition, or something like that or discussion with the friends?

**Hanna 14:51**

I mean, of course, yeah. There was like, one time where there was just like, shit tons of like, environmental documentaries that came out at same time. And kind of that, despite they get massive, you know, discussion that like amongst my friends and family, and everyone, and felt like everyone just got this can like pushing the back seat, like, you have to, they can do something now, everyone became super aware. And of course, that also influenced me in like thinking how I should just think, in more general terms. And so I think that kind of changed, like my intrinsic motivation to just make a change for it. But then I'm not sure if this whole, like, external debate is actually like, how it's actually affected my behaviour in must have, I think is most of them the fact that like, in some way, but it really can pull like point out to what extent!

**Lucia 15:53**

And can you think, in that sense, can you think of experience that would change you your actions and motivations for your energy savings?

**Hanna 16:01**

Can you say it again?

**Lucia 16:03**

Yeah! Can you think of an experience that would change your action, motivations for saving energy?

**Hanna 16:12**

I think. I mean, there's one example that I used to think of a lot when I was younger, because that was like the first encountered that I have with like, saving the energy, like, you know, Earth Hour. Yeah, that was like the first account that I have with like, the actual awareness of like, saving energy of being aware of your energy consumption. But I think that like, earth hour isn't really like, it used to be kind of like a big a big thing. But it's not anymore. So I think a concept that would kind of like some kind of like public concept that will just kind of build on that, in a way is the same with like, the environmental activists, like, what's her name, Greta like going viral and stuff, the same type of like, action, but just making more, not just something that you kind of would support or not, that's something that you can engage in.

**Lucia 17:06**

Awesome. Okay Great. And how would you design an experience that could motivate you to save energy? Would you make it fun? Would you make it interesting, informative? How would you design it if you had a chance?

**Hanna 17:19**

I think that, like arts is a really good way to, like engage people. But I don't think that an issue like environment, like sustainability would just be like that with properly if you just have an exhibition in one arts gallery, whatever. So having some kind of like street art, or, like more interactive type of art scene out into city, kind of like Copenhagen lights festival is one thing than you can go around the city and look at this stuff. Making something that is more kind of community based, rather than just like centre based, I think will be very good to like, kind of know, because then it's not just like making people feel that they have to do something, but they're actually kind of get something out of it also. Some kind of enjoyment, I guess. Yeah, hopefully.

**Lucia 18:14**

And I introduced to the word gamification in the beginning. And when I say the word now again, gamification, what comes to mind? Or you never, like if you didn't know it?

**Hanna 18:29**

Actually didn't know about the word gamification.

**Lucia 18:31**

That's completely fair. Yeah, that's okay. No worries. And looking back now to energy savings. If energy savings would be presented in a gameful way, do you need me actually to repeat the word?

**Hanna 18:50**

Yeah, please repeat.

**Lucia 18:51**

So it's to use it have some game elements, and then you implement that game elements in a non-gaming environment?

**Hanna 18:56**

Oh, yeah.

**Lucia 18:57**

Is it okay now?

**Hanna 18:58**

Yeah.

**Lucia 18:59**

So if we have energy saving that will be presented in a more gameful way? Would that motivate you to spend less energy?

**Hanna 19:10**

I guess, I guess so. Yes. Um, but it also depends on like, what kind of game context, it would be the like. If you, for example, would be able to kind of make some calculations and how much you would spend and then, like, compared to what you actually spend, and if you're below this, like spending, if you will get some kind of like monetary reward that would kind of push people to not just because there's always like, you know, when you get like that extra bill for energies that will affect this. But I think that if you would like have some kind of, like, monetary benefit of kind of cutting, I think that would be motivating.

**Lucia 19:55**

And if you can scale that, again, from one to seven, so 7 is the most important.

**Hanna 20:01**

In actually like putting this in some game perspective?

**Lucia 20:05**

Yeah. So like, if energy would be presenting in gameful way...

**Hanna 20:10**

Maybe like, four.

**Lucia 20:13**

Okay, yeah. And I will continue with a few of the examples. And so if your energy usage would be presented in a more visual way, would that change you motivate you or engage you, actually, to save more energy?

**Hanna 20:28**

Yeah, I think so.

**Lucia 20:29**

And if you could scale it again?

**Hanna 20:32**

Can I say 5.5?

**Lucia 20:33**

(Laugh) Yeah that is okay.

**Lucia 20:37**

Can you maybe tell us why?

**Hanna 20:41**

Because every time you actually like visualize something, it kind of just sets everything in perspective. It's just like, all these, you know, campaigns of where they kind of compare different stuff to doing different other stuff. Like if you have to say, with a meat production stuff, whereas there's always like all these, like, for scale, kind of what 100 grams of beef looks like, in like, I know, protein, and it's like, 100 grams of something else, like, whatever. Yeah, it's kind of puts everything in perspective.

**Lucia 21:20**

And imagine that you can actually collect points, and there's those are from your landlord, and those points will give you some kind of reward in the end. Do you think that that could actually motivate you to spend less energy?

**Hanna 21:38**

Yes, I think so.

**Lucia 21:40**

So if you spend less energy, you would collect more and more points, and then you will get a reward in the end.

**Hanna 21:46**

I think so. Yeah. I think I just think that they the reward has to be like, important enough for me.

**Lucia 21:56**

What kind of reward would you like to get?

**Hanna 22:01**

Like, as a student, it would always be nice to get like lower rent. But I'm also not sure if that's like motivation enough to do drastic changes. Because, I mean, you always sign a contract saying like, this is where you're going to pay. And then you fine with that, and then I'm assuming that, you know, a lot of the rent is like not, for example, dependent on energy savings. So

depending on how much actually save I'm not sure if like, the amount that you will be rewarded will be like worth it. But then on the other hand, I'm not sure like, what would actually be like, motivating enough?

**Lucia 22:42**

Ok. And then if you could scale that, again?

**Hanna 22:46**

Five.

**Lucia 22:48**

And if you would be able to see and actually compare your average energy use to your neighbors. would motivate you to be the best?

**Hanna 22:59**

Yeah.

**Lucia 23:01**

And on a scale from one to seven? And why?

**Hanna 23:05**

Six.

**Hanna 23:06**

Because you don't want to be worse than someone else, I guess. Especially also, if you know that they can compare themselves to you as well. Yeah.

**Lucia 23:18**

And if you would get a feedback on your energy spending that feedback can be in any given design. So in terms that you get it specific, for a specific device, or I mean, on energy spending, would that motivate you to save more energy?

**Hanna 23:38**

Yes, I think so. I think a lot of like my energy use, and I'm not like fully aware of exactly what is like causing the most energy use

**Lucia 23:49**

So would you say they would like to get in your feedback in a, on a specific things?

**Hanna 23:56**

Yeah, I think so. At least for like appliances that I'm not so aware of how my consumption is affecting, for example, like, I'm not sure, like, toasters super relevant, but maybe for like, dishwasher, like bigger appliances.

**Lucia 24:20**

Great, then, if scale that from one to seven, how much be that will be important for you? What will motivate you?

**Hanna 24:26**

Maybe, five, yeah.

**Lucia 24:32**

And just as a quick last question is, when you would get a feedback, would you like to get it on the monthly basis on a daily basis, once a week, and why?

**Hanna 24:49**

I think that for probably a weekly basis. And then not making it such a big deal. But it's just something that kind of gets delivered, because then it's easier to like, actually, we think you're like, retract your stuff and see what you did in the past week. If you get it on like a daily basis. It's going to fluctuate so much not going to be like, kind of affected, like you're not going to think about it so much. Because you're not gonna be able to compare it but then a monthly basis, I think is to like two big, I think.

**Lucia 25:22**

Yeah. Good. Thank you so much.

## Interview 6: Malin 10/4 2019

**Lucia 0:00**

So, thank you for participating in our study. Before we start, I would just like to inform you that we will record this interview with our mobile devices, and that the general information will be used for our thesis. And that only us, our sensor and our supervisor will be the only ones who will have the information. So, we just need your consent that you're fine with that.

**Malin 0:25**

Yes, I'm fine with that.

**Lucia 0:26**

And before we start, well, we would like you to introduce yourself. So where are you from, your age, name? Where do you live? And what do you do?

**Malin 0:35**

My name is Malin. I am 25 years old. I am from Sweden. And my, my occupation patient is that I am a student at Copenhagen Business School studying my Masters.

**Lucia 0:48**

And where do you live in Copenhagen?

**Malin 0:48**

Vesterbro.

**Lucia 0:52**

Okay, so before we started with the questions, I would like to introduce you with three definitions that we will use quite often. So first one is and feel free to ask if you don't understand. So first is sustainability. And we defined sustainability in terms of environmental sustainability. So we defined it as meeting human needs without compromising the health of the ecosystem and the environment. And then the second world word is sustainable actions which we define as behavior, that seeks to minimize the negative impact of your actions on the environment. And the last word is gamification.

**Malin 1:38**

Gamification?

**Lucia 1:39**

Exactly! Which we define as usage of the game elements in a non-game context.

**Malin 1:43**

Okay. Is it okay if I don't understand that exactly now?

**Lucia 1:49**

Yeah. It is completely okay.

**Malin 1:49**

Cool.

**Lucia 1:52**

Okay, so we can start. So I will start by asking you how important is to be sustainable for you?

**Malin 1:58**

I would say it's quite important for me, I don't know if I should put it on a scale?

**Lucia 2:04**

Yes please, if you could put it from one to seven, and seven being the most important.

**Malin 2:17**

Yeah, I would say. Okay, I would say...I would say five.

**Lucia 2:20**

Okay. And can you explain why?

**Malin 2:21**

Because it's important to me, but there are also other things. I mean, I would like it to be like a prioritization, like the top priority, but I also have, I mean, since I am a student, for example, I'm like, price also matters to me. And also, like, more like, experiential things, such as, like, being able to travel and stuff like that, although it's not very sustainable matters to me. So, yeah, it's more like if you put it in relation to other things. I can't say that my actions like really top ones.

**Lucia 2:54**

Okay. And why would you? Why would you say that you care about sustainability?

**Malin 2:59**

Because I care about being able to continue to live on this planet. And maybe if I have kids, that they can continue to live on this planet. So yeah, that is why I care and like, also, I mean, I mean, when you think of nature, just that's like simple fact, it's not something they want to want to be destroyed. So I want to preserve the planet.

**Lucia 3:25**

Okay, cool. Do you consider yourself as a sustainable person?

**Malin 3:28**

Yes and no.

**Lucia 3:29**

Okay. If you have to scale it from one to seven.

**Malin 3:33**

I think four.



**Lucia 3:37**

Okay, why four?

**Malin 3:38**

Because I think that my life in my everyday life, I'm quite sustainable. I basically only eat vegetarian food I like use a bike or public transport, but usually I just bike. I try like when I consume also like vegetables, I try to have it look locally produced stuff every now and then, but then also I do, for example, fly quite often, I would say. And that is not very, that kind of I think I mean, in that, in that sense. I am like, like, not very sustainable at all. And I don't think my other actions way up for it. But I think that I am like very, I am quite aware. And I'm trying and like except for flying. I'm quite I think my everyday life is quite sustainable.

**Lucia 4:25**

So would you consider yourself as a person who engages in the sustainable actions? And sustainable actions?

**Malin 4:32**

I would.

**Lucia 4:33**

And if you would need to scale it again?

**Malin 4:37**

I would say four.

**Lucia 4:39**

Okay, so and when you do those actions and when you act sustainably. How does make that make you feel?

**Malin 4:49**

It makes me feel good. And kind of like a citizen of the world. Like, yeah, the kind of, it's kind of how it makes me feel. And I think yeah, I think it's also like a little bit, it has become the kind of important or like, it's an interest of mine. So I think it's becoming more and more important, like, as a definition of who I am a little bit not like completely, obviously, but a little bit. So therefore it like makes me feel good. And I think it's kind of fun when I feel like I'm doing something that is like that I consider sustainable, like sustainable action.

**Lucia 5:28**

Yeah. And what motivates you to act sustainable?

**Malin 5:26**

Both like, very, like, how it is called, intrinsic factors such as that I, like feel good about myself. And I think it's fun. And it's an interest of mine. But then also, I mean, I feel like I'm doing something good. I mean, okay, that's also selfish. But it's yeah. That I think that I do something good for, for the world, for the planet. Yeah.

**Lucia 5:46**

And you said that you not in all areas, you act, sustainable. So what would you say what is stopping you are to act more sustainably?

**Malin 6:00**

Time and money. I mean, if I had time, I could like definitely imagine myself going by train, for example, except for flying. Not all to all places, but many places. And also, I mean, money wise, it's usually unfortunately, more expensive to go by train. So yeah.

**Lucia 6:18**

And I will know ask you a few questions in regard to your household energy consumption. So what when I say a word household energy consumption, do you think it's included in it?

**Malin 6:31**

I'm thinking like how we use like, electricity and stuff like that. I'm thinking of what kind of food we consume, if we recycle.

**Lucia 6:42**

Okay.

**Lucia 6:45**

And do you think that energy consumption affects environment? And if you can scale that?

**Malin 6:51**

Yeah. Yeah, definitely. I mean, do you mean that household energy consumption?

**Lucia 6:58**

Yeah.

**Malin 6:59**

Yeah, definitely. Maybe, No, maybe two or three, three!

**Lucia 7:06**

See, you think that two or three?

**Malin 7:07**

Yeah, if you include all the things that I talked about, I think it's like, yeah, I think I think it has effects that I would say that is quite important to Yes. Three.

**Lucia 7:24**

So seven is the most important. Yeah, yeah.

**Malin 7:25**

Let's say yeah, yeah, definitely.

**Lucia 7:27**

Okay. I'm okay. And do you think the energy usage is important questions for sustainability?

**Malin 7:28**

Yeah, I think it is. Because it's, I mean, I think it's just one of the things that, like, consumers, like regular consumers, can affect, because there are so many other things. So sustainability that is like, in the hands of institutions and stuff like that, but this is something that everybody can, like, take responsibility for.

**Lucia 7:47**

And if you need to scale it, again, from one to seven, seven being that, meaning that it's very important.

**Malin 7:54**

I mean, it depends on how I see it, I think the effect it has on sustainability in my life, in my perception of it, then it's like, not very high in comparison to other things. But I think it's, I mean, I could say that it's a four in importance, because I think, like, as I said, I think it's a like, a part of sustainability where regular consumers can take action and therefore it is important to like actually do with like, everybody does a little bit, it will be a lot. So yeah, four

**Lucia 8:30**

So, do you know how much energy you spend each month in your household?

**Malin 8:31**

In what kind of measurement?

**Lucia 8:32**

In money wise, or even in exactly how much in like kilowatts.

**Malin 8:37**

No, I have no idea.

**Lucia 8:38**

Okay. And why would you say it is like that? Why don't you know?

**Malin 8:44**

Because I'm too lazy. To Yeah, I don't I mean, I just pay when I get the electric electricity bill, I paid unless it's like, a weird amount of money or? Yeah, and like what we can I mean, I tried to consume the rest sustainably, but I have no idea like, I don't know. I don't have knowledge, and, but I'm too lazy to.

**Lucia 9:05**

Do you know where your energy is coming from in your household?

**Malin 9:10**

Yeah, I know which company and yeah, so we do use Ørsted.

**Lucia 9:15**

So would you say it is a renewable energy? Yeah.

**Malin 9:18**

Yeah, I mean, what I know about them is that they're like, they're having a super big like reorganization. So they're trying to, like, increase the renewable energy, but I can't say how much.

**Lucia 9:29**

But do you feel them better to know that is from them?

**Malin 9:33**

Yeah. I mean, just, I mean, they're like, the way they communicate their like, how they are producing the energy that makes me feel good. So when I think of it, like it makes me feel like happy that it's from them and not from the company better I don't know anything about

**Lucia 9:49**

And thinking back on the question which I asked you, what is included in the household consumption? Could you think about something else? Except electricity?

**Malin 9:59**

Electricity, like food that we eat, and like if we recycle or not. Yeah, I guess those. They were kind of, like how we consume clothing. And yeah, so that's that. Yeah, that's probably also in my household. That is probably the worst part sustainably, I would say.

**Lucia 10:21**

Okay. Yeah. And would you say to do actively think about energy saving when you're at home or not?

**Malin 10:27**

Yeah, I do.

**Lucia 10:30**

Sorry, if you need to scale it again, from one to seven?

**Malin 10:30**

I would still say four I think, yeah. Yeah. No, but I think about it. And I think it's important, but not in relation to that. I think other things would matter more people to stop doing them or change their behavior.

**Lucia 10:47**

And what is actually stopping you for saving more energy?

**Malin 10:51**

I mean, if you think of depends on the different parts, if you think of clothes, it's also like, again, price. And that I also like, I'm I guess I'm like little bit vain, because I think it's fun, and I care about clothes so that they kind of trying to care about sustainability. And then, I mean, with food there, I think I mean, you could always do more, I mean, we could both be were two people living together, we could both be vegans. But we're not. But we're, we basically just I think we really tried there and like, try to increase, we actually think about it the most and try to like to increase our sustainable consumption and like, switch it to a more sustainable banner, and we recycle quite a lot as much as we can.

**Malin 11:40**

What was the question?

**Lucia 11:41**

Sorry, what is stopping you from?

**Malin 11:43**

Yeah, yeah. No, but I mean, I think like, lack of knowledge. Like, today just popped up on my Instagram, because I followed his account about climate compensation. And they like, informed about like, which types of products that is like dangerous goods, and like how different things should be recycled. And then there were like, a lot of things that I didn't know about. And I was like, okay, and I so like, not knowing where to recycle things. And also, if we don't know, we're lucky to have like, a, I don't know what it's called, but like that recycling station at our yard, but maybe it doesn't have everything. And then it could also be that I don't know where to go. And also that I'm too lazy to go there. Yeah, inconvenience and lack knowledge, I think. Yeah, definitely.

**Lucia 12:28**

Okay. And would you think that actually could motivate you to be more sustainable?

**Malin 12:34**

I mean, if everything was if, yeah, if I knew a lot more like, exactly if I had like a hair spray bottle, and I knew exactly like, where to go with this. Or if I have, they're like, especially when we have products where they're like, different components of like, different materials. If I had more information, like easily accessible information, but like somebody force that information on me, and also that I knew exactly where to go. So if it was more convenient, and I knew more, if, like, they said, Send out, like maybe pamphlets or I don't know, maybe that could help me. I guess, but I That's what I think.

**Lucia 13:14**

Okay. And have you experienced something? Or have an experience that change your behavior regarding sustainability?

**Malin 13:24**

If I had an experience...In like terms of thinking that it's more important, or less important, or could it be..?

**Lucia 13:34**

Just to change your behavior towards sustainability?

**Malin 13:37**

I mean, I think I can think of like one single event. But to me, it's more like, I mean, the more I read about, for example, with meat consumption, like I, for me, it's like, I accidentally stopped eating meat when I became a student, kind of, because I, it was about price. But then the more I read about it, and the more I read about it, the more convinced them that it's good for me to avoid. It's from a sustainability perspective. And also like, even like dairy products, I tried to avoid more and more. So I mean, it's for me there. It's about, like, accessing knowledge about it.

But then, yeah, it's also like, I know that of course, knowledge I. I get this probably like it. Yeah, it's directed towards me, I guess. But yeah. And then otherwise, I don't know. I mean, for me, it's usually when I read articles or something, when it's like, shit, this is so bad, or like, or it's something that confirms that what I am doing is good. But I can't think of anything that like I mean, and also, when you hear about stuff, for example, when I read about when H&M like that they burn so many clothes, and like you read their code of conduct, and it's like, oh, we're going to be recyclable or like, renewable by 2030. And then it's like, No, you're not! And then that that's the kind of thing that can like, stop me from maybe buying there. So yeah.

**Lucia 14:59**

And can you think of an experience that would change our actions or motivations for saving energy and home?

**Malin 15:05**

Yeah, I mean, if it's like, sea levels, right, like rose here, like in my nearby environment, or like in Europe? I think that would freak me out super much, even though like I know about it. It's like when it's closer by would freak me out. On the other hand, I don't know because no, I can't say what because like, then look at the weather last year. And then it was I mean, that's, like, in my opinion, I think that's global warming, that it was such an amazing summer and spring. But that hasn't really like changed, I can say that my behavior has changed within the this year, like, like, I go super much. So I actually, I don't know.

**Lucia 15:53**

And if you could design and experience, if you have a chance to design an experience that had actually motivated you to save energy. Would that experience, would you make it fun? Would you make it informative? Would you make it interesting?

**Malin 16:10**

I think for me, it would be, I mean, since what I think is like, I like one of the parts for why I tried to like, do more sustainable actions is that I think is kind of fun. And like uplifting and fulfilling. So it should be like fun for me. And also like, it should be informative, as I feel like I kind of not lack knowledge and you feel good about yourself when you learn or I do when I learned things. So yeah, fun, informative, I don't know. Interesting. I think that if it is informative, and fun, it becomes interesting. And I think that if it's too interesting, in terms of like, it seemed to academic or to scientific than I think like, maybe it will work for me, from time to time since I'm used to that kind of like texts or whatever. But maybe it would not be like good for the greater mess. I mean, because I'm students. So I read stuff like that all the time. But I think it would be more effective if it's like fun and informative.

**Lucia 17:09**

Okay, and now I will switch to questions regarding gamification.

**Malin 17:14**

Gamification, okay.

**Lucia 17:16**

When I say the word gamification, what is the first thing that comes to you?

**Malin 17:22**

Games in terms of like phone games and stuff, but also the game theory? I don't know anything about it, but yeah.

**Lucia 17:29**

So do you need me to maybe explain a bit better?

**Malin 17:34**

Definitely, I guess.

**Lucia 17:35**

So. As I said, it's the use of game elements such as points or competition or rewards and then you use it in the non-gaming context, which means that you apply to like education area or health, fitness areas and...to motivate people.

**Malin 17:58**

Okay. Yeah. Yeah.

**Lucia 17:35**

So do you maybe have a better perspective right now?

**Malin 17:35**

Yeah, I think so. We'll see, I guess. Yeah. Yeah.

**Lucia 18:06**

Okay, you can just ask if... So if the energy saving would be presented in a more gameful way, would that actually motivated you to spend less energy?

**Malin 18:17**

Gameful, do you mean?

**Lucia 18:21**



So, that some elements of the games such as points we have,

**Malin 18:25**

What do you mean with points?

**Lucia 18:27**

So I'll, I'll skip to that question immediately. So if imagine that you would collect for example, points,

**Malin 18:34**

okay, okay. Okay. Yeah, I'll collect points, okay.

**Lucia 18:37**

From your landlord and in the end you could get a reward for spending less energy, would that motivate you to spend less than?

**Malin 18:37**

Definitely.

**Lucia 18:48**

Okay. And if you could scale that from one to seven, seven meaning a lot.

**Malin 18:55**

I think seven. Yeah.

**Lucia 18:56**

Okay. Yeah. And why?

**Malin 18:59**

It's nice to be mean. First of all, it's like, oh, fun to collect points. That's a fun part. And then like, a reward. That's always nice, like in terms of like, can decrease brand, or I don't know what it would be. But yeah, that could, that could definitely motivate me, because then it's like, then you kind of have somebody who's like, because you kind of need that little bit. Somebody who's like watching you and knowing what you're doing. And then but, but in a good way. Yeah. When it's like with points and like, oh, you can get a reward, then it's because otherwise, it's just like if I, if I like have this bottle that is like made of metal, and it's like, and plastic. It's like, yeah, I know, I should not throw it into regular trash can. But on a bad day. If nobody sees me, then it may be like, yeah, nobody's going to know that. I'm Lisa today. But if I know that, it's like, no, but if I divided then I go and put it out. And it was called, yeah, recycling station, then it's like, Oh, nice. So that could definitely work with me.

**Lucia 19:55**

Okay. Yeah. And if the energy usage would be presented in a more visual way, would that change, you motivate you engage more spend less energy? Yeah, I think so.

**Malin 20:05**

Yeah, I think so. And especially if it's shown in comparison to others. Okay, if I could see how my neighbors are doing or like people in my neighborhood, I think that would be that would be very motivating.

**Lucia 20:16**

And if it gets scaled that from one to seven?

**Malin 20:22**

Maybe seven, if others can see what I'm doing.

**Lucia 20:24**

Okay. Yeah. And if you get, get a feedback, so that's a that could be designing it anyway. Would that motivate you to spend less energy?

**Malin 20:37**

So like, where our energy comes from?

**Lucia 20:38**

Exactly.

**Malin 20:40**

Yeah, I think so. Because then I could see like, okay, here, I'm doing good. I'm doing less good. And maybe if I get feedback on how I could do it, then definitely, because I also feel like that is, as I said, lack of knowledge. Like, that would be super, super helpful, I think.

**Lucia 20:52**

And would you like to get this feedback? Once a week, daily or monthly basis?

**Malin 21:00**

I think monthly or like, less often I think would be okay, so you feel like you because otherwise, I feel like for myself, I would maybe feel like because if you have a month or more than you feel like you have time to actually progress because every week and it's like, Yeah, whatever. Yeah, I'm not gonna have time to change it this weekend away. But if it's like once a month or once

every other month, then it's like we can actually like see progress. And yeah, I think that would be in this case. I think that would be nice for me.

**Lucia 21:28**

And then I will go back now to my first question. Where I will say if energy saving would be presented in a more gameful way, would that motivate you to spend less energy?

**Malin 21:39**

Yes, yes. Yeah.

**Lucia 21:40**

And if you could scale that?

**Malin 21:41**

I think seven actually.

**Lucia 21:44**

Okay. Yeah. Yep. So that was actually it. We covered all the questions. Thank you so much!

## Interview 7: Stefan 10/4 2019

**Ellen 0:00**

Okay, hello, and thank you for participating. And before I start, I first want to say that we will record this, as you see. And also, there is only us, our supervisor and our censor that will have this information. So I just want to know if you agree that we use this?

**Stefan 0:20**

Yeah.

**Ellen 0:22**

And then I would like to actually start off with you just introducing yourself with your name, age, where you are from, what you're doing and where you living?

**Stefan 0:34**

Okay, my name is Stefan Nagel. I'm 23 and I'm originally from Germany. And now I'm currently finishing my master at CBS here in Copenhagen, where I design something in between business and IT. And besides that I work in product management in a software company. And yeah, that's basically it. Do you need more?

**Ellen 1:05**

No that's perfectly fine. So we will ask you some questions about sustainability. And we would just like to start off with defining three words. So you kind have the sense of what we mean. So the first one, when we say sustainability, we mean the environmental sustainability, which is the health of the ecosystem so let's say. And then we will also talk about sustainable actions. And we have defined a sustainable actions as actions that kind of seeks to minimize the impact on the environment. And then we will also talk a bit later on about gamification, which is that you use a game elements in a non-gaming context. And we will come back to that, and just feel free to ask if it's something that you don't understand. Yes. Okay. Um, then I would like to start and ask how important it is for you to be sustainable?

**Stefan 2:01**

Um. I would say quite important, but it's probably not always reflected in my activities. I think, for me and for the general population, it's getting more important. Yeah. Especially currently. There's a lot of like, movement going on. So yeah, I try to, for example, reduce my meat consumption. I do like those everyday things in terms of using less plastic bags and all that. So I'm aware of it. But I could be more sustainable. Yeah.

**Ellen 2:40**

If you would say how important it is for you to be sustainable if you had to rate it on a scale from one to seven? Where would you put yourself?

**Stefan 2:54**

So how important I think it is? Six, maybe even seven? Yeah.

**Ellen 3:03**

Why do you care about sustainability?

**Stefan 3:07**

Because of climate change. Because, yeah, all of our world is dying. All the nice things, all the beautiful animals... It's like, I strongly believe that climate change is the number one challenge that humanity is currently facing. We are facing quite a bit of challenges, but they are all interlinked, somehow, with climate change. And that's why I think it's very important.

**Ellen 3:40**

Would you consider yourself as a sustainable person?

**Stefan 3:44**

I'm probably not so much, as I said, I'm trying to be more and more sustainable. But there's still a long way to go for me being as sustainable as everyone should be.

**Ellen 3:57**

Okay. If you had to rate yourself from one to seven of how much of a sustainable person you think you are?

**Stefan 4:06**

Probably a... four.

**Ellen 4:08**

And if I asked you if you would consider yourself as a person who takes sustainable actions? How would you do if you had to rate yourself?

**Stefan 4:22**

Okay, um, I'm right now thinking about what the actions are me as an individual can take? It's probably a three, I think. Like, someone who would rate himself very highly there would not only live more sustainable, but also try to move things that not only affects this individual behaviour. So for example, be politically more active or all the things you could do in that regard.

**Ellen 4:55**

So that would be a seven?

**Stefan 4:56**

Yes.

**Ellen 4:58**

Okay. What kind of sustainable actions do you take, that you engage in?

**Stefan 5:04**

Um, it's about, like, my food consumption, trying to move away from animal products, dairy, and meat, which caused a lot of greenhouse gases. It's something I actually didn't think about. It's also the way that is very normal here in Copenhagen, the way I use transport. Mostly I use the bike, which is compared to, for example, my hometown Munich, where I didn't do that. It's a much more sustainable way of transport and most of the other transportation means. And what else do I do? I try to reduce my usage of single use plastic. For example when you take a coffee, don't take the plastic lids, reuse bags, don't use plastic bags, don't use the plastic bags for the vegetables and the grocery shopping and all of that.

**Ellen 6:07**

What kind of feeling do you get when you act sustainable?

**Stefan 6:14**

I wouldn't say it's... I would describe it more as like a hygiene factor. And in terms of it's not something I get happy when I'm doing, doing those sustainable actions. But something that is also more and more increasing with my own behaviour is when I notice and when I'm doing activities or actions that are not sustainable. It makes me feel bad.

**Ellen 6:41**

Okay, so you would say the other way around?

**Stefan 6:43**

Yeah. Yeah, exactly. So when I, when I realized, for example, and it happens to me quite often, out of habit, that I use the plastic lid for a coffee. Then I'm like: I actually don't need this as well, why am I doing this? But it's not that when I managed to not use it on like; wow, I'm such a great guy. No.

**Ellen 7:05**

Okay. Yeah. Um. What is it that motivates you to act sustainable?

**Stefan 7:18**

Um. Motivate? It's like the... Yeah, I think a lot of the awareness I get from the need to act sustainable comes actually from the media and social media. Especially a lot of the news outlets I like to follow are a bit more liberal and are making this a top issue. It's also getting more and more of a central issue in politics, luckily. I think what I'm also noticing is that it's kind of increasing more and more. But it could be the Facebook algorithms are doing their work, and I'm getting more and more into this into this bubble of sustainability and all of that. But that's probably where I get my motivation from.

**Ellen 8:17**

Do you have any idea what is actually stopping you from behaving more sustainable than you do?

**Stefan 8:23**

Habits, a lot of habits. So for example, with meat consumption... like my family background, it's typically like we basically only eat meat. If it's for breakfast, you would have meat on your bread, and eat meat for dinner and all of that. So coming out of that, it's mostly a habit. It's something about like, not knowing other recipes. It's also about like, when you reduce your meat consumption, for example, you are more hungry. So it's not only like a psychological habit, but

also like your body is used to it. And same goes with the use of plastic, and it's just so ingrained on our day to day activities. And we... since it is somewhat a new issue. When we were younger and we were learning and building all those habits, we weren't thinking about climate change. At least I wasn't. Yeah, I think that makes it hard to move from and move more towards a sustainable action.

**Ellen 9:40**

Yeah. And now I would like to ask you some questions about household energy consumption. And first, what would you say is included in your energy household consumption?

**Stefan 9:53**

What do you mean with that? Included?

**Ellen 9:56**

What do you think of when I say energy household consumption? What is the things.... is then the electricity for example?

**Stefan 10:03**

Electricity, heating, water consumption. That's what I would say.

**Ellen 10:08**

Yeah. Do you think that energy consumption effects the environment?

**Stefan 10:13**

Yeah, of course.

**Ellen 10:14**

If you have to scale it from one to seven, how much do you think it effects?

**Stefan 10:21**

I don't remember, I looked this up a while ago, but it's, I think, the energy production. So this is not only of course, for households, is around like 20-25% of the greenhouse gas emissions. So it's a very big share, but definitely not the only thing.

**Ellen 10:44**

If you would, if you put it in the scale?

**Stefan 10:47**

Yeah. So. It's very important. So a six.

**Ellen 10:55**

Um, would you say that energy usage should be a really important question within sustainability, for example, when we talk about sustainability?

**Stefan 11:10**

I think, yeah. Yeah, it is. I think I just think... now we're talking about my behavior. Right?

**Ellen 11:18**

Exactly. So your energy. Yeah.

**Stefan 11:20**

And I'm not sure about this. It's just a feeling I have, I might be very wrong with this. But I think the leverage of like, your individual behavior change, and its impact on the overall output of greenhouse gases, for example, in reducing your energy consumption is not that big as for example, if you would do other activities. For example the big levers in energy consumption is not the individual households, but more like, production and all of that.

**Ellen 12:00**

If you had to scale how important that is to talk about energy consumption, when you talk about sustainability, and then once again, from one to seven?

**Stefan 12:12**

I think it's a nowadays it's a three or four. Because I think just because, for example, if you think about light bulbs, they have gotten very energy efficient. It's very typical that, at least in Germany, it's very typical that households have solar panels, because it has been highly subsidized. So I think, in this area, there already has been a lot of progress towards a more sustainable consumption. But that's, again, that's just my perception. It could also be that I believe that I'm better in energy consumption than in other aspects, like the things I mentioned before like meat consumption, plastic use and all of that.

**Ellen 13:04**

Do you know how much energy you spend each month?

**Stefan 13:07**

No.

**Ellen 13:09**

Do you know how much you pay for it?

**Stefan 13:13**



No, actually, I don't. I should know. Because I got the bill. But... no.

**Ellen 13:21**

Why do you think that you don't know how much you spend?

**Stefan 13:27**

Um...

**Ellen 13:29**

It's totally fine.

**Stefan 13:31**

Because I'm not that good in tracking my financial spending probably. Also, like, I'm a person who more focuses on those things where I think I can change a lot. And I don't think I could reduce my energy consumption that much. I'm already like, a way of trying to only heat when I need it and switch off the lights and all that so that's probably why.

**Ellen 14:01**

Do you know where the energy that you have in your home is coming from?

**Stefan 14:09**

Hm. No, I don't. I'm just pretty sure it's not completely green energy. But I'm not sure. I should know, I suppose.

**Ellen 14:21**

Do you actively think of saving energy when you are in your home?

**Stefan 14:25**

Yeah.

**Ellen 14:27**

Yeah. If you said one to seven? How much do you think of it?

**Stefan 14:31**

Five.

**Ellen 14:34**

Do you have something to elaborate?

**Stefan 14:35**

Um, yeah. For example, like, the classic would be if you open the windows, you put off the heaters, because there are thermostats in there and the heaters will go crazy if it's cold. Of course, switch off the lights and the heaters. Yeah, all those things. And I have to say, I also am doing this quite a bit of financial reasons, not only out of sustainable reasons. Because I remember in the last flat that we were living in we got an extremely high electricity bill. So that also made me more aware of it.

**Ellen 15:19**

Yep. Do you have any ideas what is stopping you from saving even more energy when you're at home?

**Stefan 15:26**

Um, yeah. Convenience? I don't want to have to wear two sweaters in my room when it's cold. Same as I don't want to sit in the dark. Of course, you could, it wouldn't be such a big hassle for you to do that in order to save energy. But also, is there really that much more benefits you add by reducing it so much more?

**Ellen 15:58**

And if you think generally about sustainability, how do you think you can be motivated to have a more sustainable behavior?

**Stefan 16:09**

Hmm, that's a good question. I think something... because I already said, like, it's a lot about habits, right? And I think a big step in changing your habits is being aware of your habits, and also seeing some, like quantification, like having some kind of measurement. So for example, it would be very nice to know, what is my energy consumption? How much? How much meat am I eating off that? And also, then maybe also have like a translation of this. What does this actually mean in greenhouse gases? And also there, you could play a lot, make the numbers a lot more dramatic, right? So because, for example, I once saw a video where they talked about all those small changes on a small scale. So if every individual would shower two minutes less or something like that, which impact that would have on a large scale. So if everyone would do that. Because then you see, people always like to see numbers, right? And then we see. Then you see the effect of you making those little changes. And I also talked about this a lot. Sometimes feels like yeah, does that really matter? And then you will notice, like, yeah, actually, if everyone would do it would matter a lot.

**Ellen 17:45**

Um, can you think of if you had some kind of experience, that kind of changed your behaviour regarding sustainability?

**Stefan 18:00**

What, I'm not sure if I understand the question?

**Ellen 18:02**

It could be if you had some kind of experience, maybe you watch a documentary, maybe you saw an exhibition... something that made you realize and then change, actually change your behaviour about it.

**Stefan 18:11**

Ah. I think documentaries is a very good word here. A lot of like, the documentaries of Leonardo DiCaprio, what it was called and by, Al Gore. And it's not only documentaries, but all those, like, it's a lot of about the videos I see on social media, or talks of very bright and famous people like Al Gore, or Bill Gates does a lot in that regard. And, yeah, so because I see those kinds of videos are genuine media, that always kind of reinforces my awareness about it.

**Ellen 19:07**

Okay. And then can you think of some kind of experience that would change your behavior with your energy household consumption?

**Stefan 19:15**

No... I don't. Like I would like one. I think I could see the energy consumption on the website and all that, but it's in Danish.

**Ellen 19:25**

It can be any kind of experience. As you mentioned, before you saw a documentary. Would a documentary, for example, change?

**Stefan 19:35**

Not specifically on energy consumption.

**Ellen 19:40**

If we say that you would be the one to design some kind of experience that would motivate people to save energy. How would you do it? What kind of elements would you then use in this experience? Would you try to, for example, would you try to make it fun? Would you make it interesting?

**Stefan 20:00**

Interesting, definitely. And like I said, I would try to make it... to make my behavior more measurable. Like of course, and you mentioned in the beginning, gamification. That's always like, can be a powerful tool in changing behaviors. Most of the I think gamification is very tricky

is to design. And most of the gamification apps or whatever, not specifically now on sustainability that I used never worked with me. Maybe because I'm not a super competitive person or something, I don't know. But I mean, this could be, gamification can be super powerful. But this could be something but for me, just seeing the numbers and having some stories behind it, in terms of like, what I mentioned before, if we all did that, you could save this, and this would equal... That's what I see a lot of times marketing, this would equal planting this many trees or something like that. That will make interesting for me and probably also be powerful in changing my behavior.

**Ellen 21:16**

And then I have some questions about gamification, as you just mentioned. And first of all, when I say the word gamification, what comes to your mind?

**Stefan 21:30**

I did a seminar on gamification. So, it's sometimes hard to bring it into one sentence, right? But the definition you said in the beginning, using game elements in a non-game context, and the goal is always to steer the behavior of an individual or a group into a certain direction.

**Ellen 21:55**

And then I would like to ask you that if energy saving would be presented in a gameful way to you, do you think that will motivate you to save more energy?

**Stefan 22:06**

Um, it depends. Like, I know how powerful gamification can be. And that it is used in different contexts and the power of gamification. It's something we also see in games, they're highly addictive, and it can actually be super dangerous powerful. But like I said, I'm until now, just know those examples. Not out of first hand. For me, it hasn't been that powerful yet, when it was implemented in, for example, the gym app that I'm using as a scoring system and all of that. It's, it doesn't affect me, but I also think it's probably not very well designed. So what I'm saying is, I'm not doubting that it can be a powerful way. But I haven't had the experience yet.

**Ellen 23:02**

Okay. If you would rate how much you think it would motivate you from one to seven?

**Stefan 23:09**

Based of my limited, like good experience with it, it would be a two, two or three.

**Ellen 23:21**

And then if, for example, your energy usage would be presented to you in a visual way. Do you think that will motivate you to save more energy?

**Stefan 23:30**

Yeah, definitely.

**Ellen 23:33**

Yeah. How would you rate that from one to seven?

**Stefan 23:34**

I'm, I'm a big fan of visuals and visual analytics. So six. Yeah.

**Ellen 23:39**

Why do you think it will motivate you? To visually get your energy consumption?

**Stefan 23:45**

I mean, visuals are always good in conveying and aggregating information in a very short and precise way, and also convey meaning. And the brain is also just more receptive to visual stimulation, which really beats reading the numbers in the table for itself.

**Ellen 24:11**

And then I have an example. If you imagine a situation that you could actually collect points that could result in some kind of reward from your landlord. And these points depend of how much energy you spend. Do you think that would motivate you to save more energy?

**Stefan 24:30**

That definitely. It would, like if you would make it like this and it would translate directly into some cost savings of the rent or so. What wouldn't motivate me is what often used in this, like you earn points, and then you can go to some store and get a reward. But if it's like translated into, like an immediate benefit. Also, if it's just a little bit, that would motivate me because that, then this is something I can use for saving money. I can always use that. Not so much with something I get from the grocery store or so. And I would also be very effortless. Like I could, if I just, like, put the heating a bit down, it will directly translate into cost savings for me without me having to do anything. Even though they probably are pretty minimal, but long term is very beneficial.

**Ellen 25:35**

If you have to rate how motivated you think you would of such a situation from one to seven?

**Stefan 25:42**

A seven. A six or a seven, yes.

**Ellen 25:44**

Okay. And then I have another situation. If you would be able to see and compare your energy usage to your neighbor's energy usage, do you think that will motivate you to be the best in saving energy?

**Stefan 26:02**

To some extent. Like I said, I'm not competitive and not that competitive. But of course, probably not so much myself, but I can see this being super powerful. And it would also motivate me. For example, if I see that I'm so much better than the neighbors, that wouldn't have a motivating effect on me. But if I see like, okay, I'm actually horrible with my energy consumption compared to my neighbors. That in turn, so it's again this like, negative and positive difference, yeah. Similar to that. Yeah.

**Ellen 26:44**

If you had to rate from one to seven, how motivated you think you would be?

**Stefan 26:50**

Um, so yeah, like I said, it depends on how I'm actually performing. But ok. So now, let's say the scenario is that I noticed I'm way worse than the others. That would be very motivating. So seven again.

**Ellen 27:07**

And then I have a situation that if you would get feedback on your energy spending. Do you think that will motivate you to save more?

**Stefan 27:16**

Yeah. So you mean feedback in terms of like you could do this to improve your...?

**Ellen 27:21**

Yeah, it can be any kind of feedback.

**Stefan 27:23**

Definitely. Yeah, obviously.

**Ellen 27:25**

Yeah. How much motivated you think you would be from that?

**Stefan 27:30**

Also, like a six, because it also ties in into this of making it as easy as possible to change. Because you get me like, yeah, you know what to do.

**Ellen 27:46**

How often would you like to get such kind of feedback?

**Stefan 27:50**

Um, I think, every month, because I also don't think it's... I think shorter intervals wouldn't make sense because it's quite hard to see significant patterns in just such a short timeframe with things like energy consumption. And, yeah, so once a month, would be the minimum interval I would say.

**Ellen 28:20**

And the feedbacks you would like to have?

**Stefan 28:22**

Also based on that, yeah.

**Ellen 28:25**

That was actually our last question, thank you.

## Interview 8: Chiara 11/4 2019

**Lucia 0:00**

Hi, and thank you for coming for our interview, before we start, I would just like to say that we're going to record this interview with our phones, and that we will use the information in our thesis. And the information is going to be seen just by us, our sensor and our supervisor. And we just need your confirmation day you are okay with this.

**Chiara 0:27**

I confirm that I am okay with this.

**Lucia 0:28**

Okay, thank you. And before we start with the questions, I would like to ask you if you can introduce yourself, like, where are you from? Where do you live, your age? what do you do?

**Chiara 0:42**

Okay, I'm Chiara I come from Italy, from Milan. And I'm 25 years old. I live in Copenhagen, close to the lakes. And I'm studying my master in brand and communication management at CBS, Copenhagen Business School. And I'm in the process of writing my thesis at the moment. So I'm almost graduating, hopefully.

**Lucia 1:06**

Okay, and that's perfect. And before, also, before we start with further questions, I will introduce you to three terms that we often use. And if you don't understand any of them, please feel free to ask. First one is sustainability. And we define sustainability in terms of environmental sustainability, and as meeting human needs, without compromising the help of ecosystem and the environment. The second term is sustainable actions, which we define as behavior, that seeks to minimize the negative impacts of your action on the environment. And the third definition term is gamification. Which is the use or usage of game elements in non-gaming context. Everything clear?

**Chiara 1:57**

Yes, everything. Ok.

**Lucia 1:58**

Cool.

**Lucia 2:00**

So I'll start with the first question and ask you how important is sustainability for you?

**Chiara 2:08**

It is important, I always say, very important in my everyday life, I, I started to be more conscious about my actions. And like trying to be more sustainable, like, maybe like starting from, I don't know, if I go out with friends and stay in the park, then I pick up what I want to use, like if I added something or, or yes, I don't leave stuff around. And also like, can you consider maybe like, differentiating the garbage as a sustainable action? Okay, then. Okay, putting a lot of effort in that, because I didn't. I wasn't used to that before. And yes, I'm trying to, like, also for myself more. I watched many documentaries lately. Yeah, like, resources in general. So water or other environmental elements, and I tried not to waste water, or other resources, I'm more cautious.

**Lucia 3:18**

And if you need to scale that for one to seven, seven being the most important, where would you put yourself?

**Chiara 3:28**

Five. Because I'm still in the process of getting better. But like, a, it's something that I think about in my everyday actions

**Lucia 3:37**

And why do you care about sustainability?



**Chiara 3:43**

Because I think that it's important for our future. And we really need to find different methods to conduct our lives. And respect the environment around us, because if we continue at this pace, like in our in our actions, there will be no, like environment in where you live in in the future, for yet next generations as well. So I think that like, what I can do that using some not studying something related to that, so I would probably not work in something related to that. I can change my behavior, my everyday action.

**Lucia 4:30**

And would you say, would you consider yourself as a sustainable person?

**Chiara 4:37**

Yes. Also, I would say so. Yes. I'm trying to do all the stuff that I have said before, like, recycle things. And yeah, trying to be respectful, respectful of the environment and not affected in a bad way, with my behaviors and my actions.

**Lucia 4:56**

And if you need to scale it again, from one to seven?

**Chiara 4:59**

I would say five again, because yes, I'm not the most sustainable person on earth, but I'm trying to like get it all together.

**Lucia 5:07**

And as you said, that you are doing certain actions? So you would also consider yourself as a person who is engaged in such a, in such as sustainable actions?

**Chiara 5:16**

Yeah. will say so.

**Lucia 5:18**

And if you need to scale that again, would you say again, five?

**Chiara 5:21**

Yes. Because like, I think that I could do more, definitely could inform myself more, and maybe meet me be more active in that as well, because, I'm more like, kind of changing the behavior that I already had and not adopting new ones towards a sustainable way of living. Which I think that it's my, I mean, it will be the next improvement in my life.

**Lucia 5:45**

And how do you feel when you act sustainable? What kind of feelings do you get?

**Chiara 5:51**

I feel good. And like it. Yeah, it's kind a rewarding, because you, you feel you're actually doing something good. And I don't know if it makes you feel less guilty, right, over all the all the things that you hear about, like, we destroying our environment and, and our world, so like, it's like, you're acting in a way that it's against what we're facing right now, with all the issues that we're facing right now. So I, it makes me feel less guilty like some kind of reward.

**Lucia 6:30**

And what would you say what motivates you to act sustainably?

**Chiara 6:36**

I think that it's mostly for what I hear from the news or I read the on Facebook or seeing the documentaries is like, yeah, all the information that we got everyday about how the situation or the desperate the situation is becoming. So that's a huge impact on me.

**Lucia 7:00**

And you said you put yourself on a scale of one to seven as five, right? So what is actually so can you to behave more sustainably?

**Chiara 7:12**

Maybe like some laziness. Because it's not, It's not something that I'm used to. And it's not something that also I learned from my parents. I don't think it was such a big concern in the past or like, I mean, of course, some people had it, probably, but like non in my family. So it's not something that I've been taught to do. But it's something that I've learned to do and, yeah, I think that I'm, I'm in the process, but I still have to include in my habits or the sustainable ones.

**Lucia 7:47**

And I'll switch now to the questions regarding your household energy consumption. So what would you say when I say the word household energy consumption? What would you say that it's included?

**Chiara 7:59**

I will say like, electricity, water heating? And that's it I would say.

**Lucia 8:07**

That okay. And do you think that energy consumption affects the environment?

**Chiara 7:13**

Yes I do.

**Lucia 8:15**

And if you need to scale it?

**Chiara 8:16**

Like seven.

**Lucia 8:17**

Why?

**Chiara 8:19**

Because I think that, like, yeah, it's at the base of the... Yeah, like, everything. I mean, every element that we said, I think the environment so how like water, for example, like, seems like as I was saying before, was looking at this documentary in which they were saying that our, water resources are more and more scares, scares, and, and then we need to pay like, a lot of attention in that because a lot of cities are going towards their, the zero in which they won't have water anymore. And that shocked me. So like, I'm really, really, how do you say?, I'm really concerned about our water, water consumption at home and always a closing things. And I try not to waste it. And like regarding the heating, like, your emissions go in the atmosphere. So like, if like the CO2 emissions rates rise, like it's not good for the environment, and global warming and everything on large scale. And considering the electricity consumption, like I can say that we're at indoors, and because we here in Copenhagen, we are with our new global energy company. So all our electricity is coming from renewable energy.

**Lucia 9:48**

Okay, so you know, where your energy is coming from?

**Chiara 8:52**

Yeah.

**Lucia 8:54**

That's good. Do you know maybe how much energy spend each month?

**Chiara 9:54**

No, I don't know.

**Lucia 9:57**

Why would you say that? Why you don't know?

**Chiara 9:59**

I didn't know. I mean, I can look for it, like we are planning, which you say is like, our much we be on the base of what we consume. And we have, we're staying in the arrange that they gave us. But I don't remember it right now.

**Lucia 10:15**

Okay. Fair enough. And do you think that... you said all of that they concern anything that energy affects environment? Would you think that it's also important question for sustainability?

**Chiara 10:32**

In which sense?

**Lucia 10:35**

So do you think that like, when you use energy, that also you should use it in a sustainable way?

**Chiara 10:42**

Yes. I think so. Like from what we said before, like, if sustainability is like, like....making your actions not affecting the environment in a bad way, then yes, of course, because they are part of your actions, your consumption in terms of like eating meat, or electricity

**Lucia 11:02**

And if you need to scale it again, would you say seven again?

**Chiara 11:02**

Yes, I would say seven again.

**Lucia 11:09**

And when you are at home, would you say you actively think about saving energy?

**Chiara 11:16**

Yes, I do. As I said before, like, I'm always concerned about turning the lights off when I leave the room or like if we do not need to turn it up on, Like, I wouldn't do it or also the water. I am very concern about that.

**Lucia 11:31**

And on a scale of one to seven? What would you say?

**Chiara 11:35**

Okay, I'm not the most concerned but I'm still concerned more than before. So I will say six.

**Lucia 11:40**

Yeah, good. And what is actually stopping you for saving more energy?

**Chiara 11:48**

Maybe, since I live with some roomies, I don't want to be always the annoying one, saying like, piss off or close the water or whatever. So sometimes I'm just like, okay, let it be like, also, if I get the chance to close it or to say that to them, I do.

**Lucia 12:06**

Okay, good. And how do you think you could be motivated to more sustainable behavior, now In a more general way?

**Chiara 12:15**

I think that a huge motivation for me comes from listening to experts opinion or documentaries. So in general from something that really interests me, so something that I also enjoy, like, it's a knowledge to enjoy getting. So I will say like, watching documentaries or participating to more, to more events related to sustainability or topics related to that.

**Lucia 12:43**

And have you ever experienced something or had an experience which change your behavior regarding sustainability?

**Chiara 12:51**

Yes, like, as I said, the documentaries that they watch really open my mind. I mean, it's something that we, we hear in general, like, try not to waste the water it or not to, like, yeah, don't leave the heating on if it's warm outside. But still, like, maybe you didn't know what's behind all of that. I mean, not everything. So like, for example, watching this documentary about the day zero in a different city, about the water in a different city, really changed my mind that like I was very, I feel very guilty, if I waste water, like I started also, like, turning it off if I'm taking showers, that would, I mean, I wasn't doing it before. It was like, okay, whenever I want to be warm, I don't care about water running. And I'm not like, I am kind a scared about that. I am more concern.

**Lucia 13:45**

And could you think of an experience that would change your actions or motivation to saving energy in your home?

**Chiara 13:54**

Like did I had an experience?

**Lucia 13:58**

Yes exactly.

**Chiara 14:02**

No, actually, I can think about...No, I can, like, I was writing an exam last semester about blockchain solutions in the like, it was in the realization of the CEO 21. Paris Agreement. And, and they're really open my mind to about like, CO2 emissions that like, it was like a word that I wasn't aware of. So no, they are the objectives said, United Nations, like, sets for the future. I wasn't aware of that. So that really changed my, my, my, my perspective that I got, I got new knowledge and the more consciousness about that, so we said it was my experience.

**Lucia 14:58**

Okay. And if he could design an experience that would motivate you to save energy, how this experience would be, would you make it informative? On? Would you make it interesting? Learning?

**Chiara 15:16**

I would make it entertaining, but in a way, not, not too much fun. Like, because like it then it could like lower the importance of the topic, maybe so entertaining in a way that, like, engage the watcher. Yeah, the people the person looking at it or be engaged. But yeah, not fun, maybe more entertaining and knowledge for sure. It's a big part of that. Yes, entertaining and good, everything knowledge wise.

**Lucia 15:59**

And now, I will actually ask you questions about gamification. And as earlier I mentioned definition of it, but when I say the word gamification, what is the first thing that comes to your mind?

**Chiara 16:14**

It's, it's like an experience, which, yeah, which is fun, I will say and entertaining, but more related to a fun.

**Lucia 16:28**

Good. And if energy saving will be presented in the more gameful way that make you spend less energy?

**Chiara 16:36**

Yes, I think so. But as I said before, yes, I will focus more on the entraining side then to fun part. So it depends on the game, he has to be a game in which the game elements are not like, just like

towards the game and just for the fun part, but they also have to present the user with, with like knowledge and yeah, dare to be enriching and engaging in that sense, but maybe like, through a nice design or more interactive elements, then you will engage the consumer, user more. Yeah.

**Lucia 17:15**

And if you need to scale that from one to seven in terms of motivation? Would that motivate you?

**Chiara 17:23**

Yeah, I think so. I think it will be, I'm already interested in the topic, so it's not something that I wouldn't be interested without the gamification part. So I would say five again.

**Lucia 17:33**

Okay. And if energy usage will be presented in more visual way, would that change you, motivate you or engage you?

**Chiara 17:42**

Yes definitely, like seeing pictures, or yeah, as I said, like more entertaining. So like, I like I like and I dislike what I see. No, for me is sticks more to my mind. So like, if I see images of what the actual consequences of my behavior in sustaining both terms are, then I recall, they stick to my mind more, and I become more aware of that. And for sure, I'm going to remember about that, when I'm acting.

**Lucia 18:12**

And if you need to scale that from one to seven.

**Chiara 18:13**

I will say six.

**Lucia 18:15**

Yes. And now imagine that you would collect points, which will be from landlord, and then this result in a reward, according to how much energy in your household you spend, would that motivated you to spend less?

**Chiara 18:34**

Yeah, I think that would be a super good idea, actually. Maybe not personally, because like, I am still really concerned about the topic and, and the thing in general. But of course, it will be something that will boost my motivation as well. Now, obviously, if you're not like, fundamental was to do this for many, many people, you will be me something that will change their behavior and will change in their behavior.

**Lucia 19:00**

And if you need to scale that, again, from one to seven?

**Chiara 19:03**

I would say six again.

**Lucia 19:04**

Yeah. And if you see, actually, if you'll be able to compare your average energy use to your neighbors, would that motivate you to be kind of the best?

**Chiara 19:17**

Okay, I'm not the most competitive person. So, no, I think I would prefer just to have points for myself without knowing what other people are doing. Or like, being presented with visuals.

**Lucia 19:31**

And if you would be presented that you're the worse?

**Chiara 19:36**

Okay, well, yeah, I will feel like excited for what other people I mean, if other people can see what I'm doing and see the time the worse than it becomes bad like for Yeah, it's more about like the opinions that other people would have about me then the intrinsic competition, motivation that I have.

**Lucia 19:59**

Okay, and if you need to scale that in that term?

**Chiara 20:05**

That will be very important, like six again,

**Lucia 20:06**

Okay. And the last question, if you would get a feedback on your energy spending, the feedback can be in any form, so it can be in a visual way, it can provide tips, and I mean you can elaborate afterwards how would you like to have it, but would motivate you to spend less energy?

**Chiara 20:14**

Yes. Absolutely. And also think that that would be a nice strategy to also gain some knowledge and all you can actually do better, better, like not just getting points or being graded on what you're doing. But also like, how can you actually act better? Or like, can you progress and improve in your, in your behavior? So yeah, that would be super.



**Lucia 20:55**

And if you need to scale this again from one to seven?

**Chiara 21:00**

I think it's a six again, yeah, very good idea.

**Lucia 21:01**

And regarding the feedback, would you like to get it once a week, daily or monthly basis?

**Chiara 21:10**

I will say not daily, for sure. Okay. either. I never experienced this. So I don't know if maybe weekly is annoying. I didn't know too much maybe while on a longer term, like on one month term, then it's like you can see like, improvements on a longer term and then you're more motivated to do better and you still know that you have more time to do better, like you don't feel the pressure. Okay, by next week, I should be better and then it becomes like something that is totally overwhelming. So I would say once a month.

**Lucia 21:47**

Great, thank you so much for your time.

**Chiara 21:50**

You're welcome.

## Interview 9: Emma 11/4 2019

**Ellen 0:01**

Good. Okay. Thank you for taking your time. And as I said, we will record this on our phones and use it in our thesis and it's only us, our supervisor and our censor that will have the information. So just want to make sure that you agree to participate.

**Emma 0:18**

Yes, I agree.

**Ellen 0:20**

Thank you. And I would like to start if you could start with introducing yourself.

**Emma 0:25**

And so my name is Emma. And would you like to know where I'm from?

**Ellen 0:30**

Yeah, where you're from, how old you are, where you are living and your occupation?

**Emma 0:34**

Well, I am 26. I am from Australia but I'm living here in Copenhagen. And I am doing my master at CBS, as well, and working in marketing.

**Ellen 0:49**

And I would just start off by defining three words that we will use in this interview. And the first is one sustainability and when we say that we mean environmental sustainability. That is meeting human needs without compromising on the ecosystem. And then we'll also talk about sustainable actions and behavior, which is behavior that seeks to minimize the impact on the environment. And then later on, we will talk a bit about gamification, which is the use of game elements in a non-gaming context. Okay. And you can just ask, if it's something you don't understand, you can ask more about it later.

**Emma 1:27**

Sure.

**Ellen 1:28**

Yep. Good, then I would just like to start off by asking you how important is for you to be sustainable?

**Emma 1:34**

I think it's, it's becoming more important. I am definitely more aware of it, especially because of how often it's in the media and how much my friends are talking about it, how much my colleagues are talking about it. And I guess I was probably, I probably had a naive approach towards it. And didn't really know what sustainability was and what my footprint was. But now I think that I'm definitely trying to be more aware, in things that I can. Like in terms of how I recycle or the products that I'm consuming, making sure they're not traveling too far. Or maybe I'm consuming... I'm actually, I'm definitely consuming less meat than I was, for example.

**Ellen 2:21**

If you have to rank how important that is for you to be sustainable from one to seven, where it's seven is that it's very important. Where would you put yourself?

**Emma 2:32**

At the moment I'd say probably a five.

**Ellen 2:36**

Yeah. And why do you care about sustainability?

**Emma 2:40**

Mostly for the environment. But then also, I guess, I'm thinking more long term too, in terms of our quality of life, my potential kids' quality of life, and, you know, further down that family line as well.

**Ellen 2:59**

Do you consider yourself as a sustainable person?

**Emma 3:04**

Yes, and no. Coming from Australia, I mean, it's completely... I would say it's unsustainable to be flying between Denmark and Australia, and I do a lot of traveling. So even within Europe or to America. So in that sense, I'm not. I think that in the past, I've been quite relatively wasteful with food when I wasn't aware of it. And then, you know, I, in the past also hadn't made any thought towards like meat consumption. But yeah, so like I said, I think it's changing towards being more sustainable. And trying to be more aware of it at least. But yeah, I think up until probably this year, it hasn't been sustainable.

**Ellen 3:50**

If you would, once again, rank yourself on a scale from one to seven. How do you consider yourself, how much you consider yourself as a sustainable person?

**Emma 4:01**

That would probably be as in right now, or? In general, like cumulatively, or right now?

**Ellen 4:05**

Yeah, that's right now.

**Emma 4:06**

Right now, I'd say it's more probably towards a four.

**Ellen 4:20**

Would you consider yourself as a person who engages sustainability? And that have a sustainable behavior and take sustainable actions?

**Emma 4:33**

I wouldn't say outwardly so. So in terms of, you know, I think like if my friends were to say, who is your sustainable friends, I don't think someone would bring up my name. But... oh no, now I can't remember the question...

**Ellen 4:51**

If you would consider yourself as someone... if you have a sustainable behavior?

**Emma 4:56**

Yeah. I'm sorry. That's right. But I think that like, like I was saying, because I'm more aware of it. I'm trying to change just certain things in my life that I feel like I can control.

**Ellen 5:10**

If you would rank your sustainable actions, from one to seven. Where do you think you would put yourself?

**Emma 5:19**

I'd say five. Yeah.

**Ellen 5:21**

Yeah. How do you feel when you act sustainable?

**Emma 5:29**

I definitely feel better. I don't feel like I'm a better person. But I feel like I'm at least trying to help. Although sometimes I still feel confused about... am I doing it the right way? Or is this even helping kind of thing?

**Ellen 5:43**

Okay, why do you think you feel confused?

**Emma 5:46**

I think, I guess a lot of the action that is spread in the media and stuff is that it's got to be this really extreme action, like, cut out all meat, or don't fly, only take the train or, which is literally not possible.

**Ellen 6:07**

Yeah.

**Emma 6:10**

Yeah, you know, like, little things like, make sure you're recycling. But then there's even times where someone was like, oh, no, that's actually goes into plastic, because it has plastic in it. But I

thought it was cardboard, like, I mean, I had no idea. So just some things where maybe it's not as clear how you should be sustainable. Like, there's all these grand ideas of how to be sustainable. But in practice, I think sometimes it's slightly harder to figure out where you are on that scale of how you're contributing.

**Ellen 6:41**

Yeah. What is motivating you to act sustainable?

**Emma 6:48**

Um... I think, like I said, like, I want to help. I obviously don't want the planet to completely explode. I'd like to be able to survive and have the similar life to what my family have been able to have and what other people have been able to have. And again, also like the future generations, not even just including my family, actually. But everyone.

**Ellen 7:13**

What do you think is stopping you from behaving even more sustainable?

**Emma 7:20**

Um. It is selfish reasons. I think like, I enjoy eating chicken, or if I can eat beef at a restaurant, then I'm probably going to. I think also, I guess the number one thing embarrassingly, would be laziness. Like, I mean, sometimes it is more effort to... I can't think of an example... But sometimes it is more effort to do sustainable things like to take a train instead of to fly to Berlin or something, or to figure out exactly what's in my recycling before I split it up, that sort of thing.

**Ellen 8:08**

Yeah. Now, I'm going to ask you a bit of questions about your household energy consumption. And when I say household energy consumption, what will you say is included in that?

**Emma 8:22**

Is that more on the energy consumption side than the household side?

**Ellen 8:26**

That is the energy consumption, but in your household?

**Emma 8:32**

So I'd say that's any electricity use, any water use, any gas use. Probably that.

**Ellen 8:41**

Do you think that the energy consumption is affecting the environment?

**Emma 8:49**

Yes. From what I've, you know, learned just over the years, it's, you know, if you're using too much electricity, and it's coming from black sources, then of course, you're impacting. I don't know, I can't remember. But I have a feeling that gas usage isn't that good, either. So. And like, obviously, if you waste any water than that's also not great.

**Ellen 9:12**

So if you have to scale how much you think it affects the environment from one to seven, where seven is that it effects a lot. Where would you put it?

**Emma 9:27**

I think I would say like a five. Especially if you're not, if you're not, if you're not very mindful of your energy consumption then I think it could be more, but I think we try really hard to turn things off.

**Ellen 9:43**

Yeah. Do you think that the energy usage is an important question, when you talk about sustainability?

**Emma 9:50**

I think so. Because I sort of feel like it's taken a backseat to a lot of the main conversation at the moment, which, as I mentioned, is like the travel with carbon emissions. And then, yeah, food consumption.

**Ellen 10:05**

Yeah. Why do you feel that it has been taking a backseat?

**Emma 10:11**

I guess, like what's mostly communicated, you know, they've sort of stopped. I know, in Australia, they had, for example, they had a lot of ads, like, turn off your lights when you're not there or when you walk out of a room. Or turn off the taps, only have a three minute shower. I mean, that was also because we had really severe droughts, but I feel like that was just a lot of that. Advertisement also said it but also by my parents, or, you know, by family members. But now it's more like, well, are you vegan, are you vegetarian, how often are you flying? What are you doing to stop climate change? And what are you doing to be more sustainable in your consumption? But it's less about energy consumption. I think it's more about the products that you're buying and the activities that you're doing.

**Ellen 10:59**

Okay, yeah. If you would, once again, scale, how important do you think it is to include energy consumption when you talk about sustainability, from one to seven. Where do you think you would put it?

**Emma 11:12**

Tricky question. I guess I'd say that it's equally as important. So I'd probably put it as a seven.

**Ellen 11:20**

Do you know how much energy you spend each month?

**Emma 11:24**

No. I am not the bill.

**Ellen 11:28**

You don't know how much you're paying either?

**Emma 11:33**

Actually, maybe I should be off record. I think that we actually avoid paying our electricity bill for like a whole year. Haha. So um, yeah. And then I remember we got like a bulk payment, but I can't, I honestly can't remember how much that was?

**Ellen 11:54**

Do you know where your energy is coming from in your household?

**Emma 11:59**

No, I recall something being Dong? But now I'm confused. Because now when I think about it I feel like Dong doesn't exist.

**Lucia 12:09**

That's Ørsted now.

**Emma 12:10**

Yeah. So then I would assume that now it's green. But I hadn't actually thought about that.

**Ellen 12:16**

Okay. Do you actively think of saving energy when you're at home?

**Emma 12:20**

I do. And I actually had a conversation with my roommate, literally three days ago. Because she always leaves the light and the fan on in the bathroom. And I'm like, turn it off. Or like, she will

flush, like, makeup remover pads. And I'm like, what are you doing? Like, put it in the bin, there is a bin right next to the toilet. So just that sort of thing.

**Ellen 12:44**

Yeah. If you were scale how much you activity think of it for one to seven?

**Emma 12:51**

I would actually say like a six? We think about it all the time. We even have like roommate discussions on recycling as well. So yeah.

**Ellen 13:00**

Do you have any ideas what is stopping you from saving even more energy at home?

**Emma 13:10**

Um, again, I think it's that sort of laziness, convenience thing. I think you get used to a way of living, it's just habit. And like I said, back home, they used to be really strict drought regulations. For example, you had to have a timer in your shower, and you could only shower for two minutes. And that was it. And, like, my parents were really strict on that. But I think now, like, I you know, I don't find myself having 10 minute showers, but you know, I'm not that strict on it. Like, I don't take all the... my, my parents used to even take all the plugs out of the wall and turn them off and everything. And I mean, it's a great idea. And it also saves costs, but I'm not going to go around my entire house and unplug every appliance when I go to sleep.

**Ellen 13:59**

If you think generally about sustainable behavior, do you have any ideas how you could be even more motivated?

**Emma 14:13**

Um, I think more information, but like I said before, not this doom and gloom information on the big picture, but more on the little things. Like, you know, that knowledge that there's plastic actually hidden behind the cardboard, or, you know, maybe it's lazy, but if it literally said, this is a plastic recycling, this is cardboard recycling. Or when you have a shower for five minutes, this is how much water you use. Or when you leave a light on in a room that you're not sitting in, this is your impact. Like that would be really cool to see I think.

**Ellen 14:52**

Can you think if you had some kind of experience, that change your behavior about sustainability? It could be any kind of experience.

**Emma 15:06**



Yeah, funnily enough, I think it was like... okay, no. I have two examples. Like one was probably, I'd say last year, and it's more of a broad thing. And it could also be like, you know, a lot of people could probably prove me wrong. But I think just how crazy the weather was in Denmark last year, like when the harbor froze, but then all of a sudden, it was the best summer in a 100 years. And then like Australia had these really, really harsh summers and winters where, even there was a drought in winter, and that's just not common. So I think like in that view, it made me realize that being sustainable is a lot more important. In lots of different reasons. I could not driving my car around everywhere, just when I could walk there or something like that. And then also, like, funnily enough, I think it was two weeks ago, I did a focus group for salmon sustainability. And I'd never thought about that ever. But even just in that two weeks, I was like, oh, maybe I... that was honestly two weeks ago was when I was like, okay, I'm going to try and eat less meat. Basically.

**Ellen 16:19**

Yeah. Can you think of some kind of experience that you think would change your behavior with the saving of energy in your home?

**Emma 16:32**

Um. I would have to say, maybe it's no energy, though. But definitely growing up with these crazy droughts that was, and I guess it was implied. It was an indicator that what you're doing at home, affects the environment. And whether it's, you're using too much water, and we literally, the dams are a 37 % full or something, like, you'll literally not going to be able to shower or drink water. But then also, I think it's just having that knowledge of; oh, okay, I'm like really a part of this. Like, I'm not separate to it. So even though that's not necessarily, I mean, what is energy? But yeah, even though it's not necessarily like electricity.

**Ellen 17:17**

If you would be the one who designed some kind of experience that will motivate people to save energy in their homes. How do you think, what elements would you include? Would you then try to make it fun or interesting or something like that?

**Emma 17:34**

I think I'd make it fun. Um. I'd probably try and use less of the scare tactics that are out there at the moment. Because, unfortunately, I think some people get desensitized to them. And I probably, just, it would be, I'd make it fun. But obviously, it needs to be informative. Like I need to also have, okay, there's a solid foundation of knowledge behind this. But can I give an example?

**Ellen 18:07**

Yeah, yeah. Sure.

**Emma 18:08**

There was this campaign in Melbourne. We have our public transport cards, they are called mykis. And there was this huge campaign about train safety, like standing back from the platform, making sure you're not rushing when you get onto the train and all this stuff. And they made an iPhone game out of it. And they also made a song. And the song was like, really popular, like, all the kids knew all the words. And I thought that that was really cool. Just like to have that element to it. And it made people actually pay attention, rather than just letting it sort of filter out.

**Ellen 18:46**

I mentioned the word gamification to before, but when I say gamification to what comes to your mind?

**Emma 18:56**

Um. Like, poker. Like, going to the casino.

**Ellen 19:01**

Okay. So as I told you gamification is about taking those game elements that they have to like a non-gaming context. So a everyday situation, for example. And do you think if energy saving would be presented to you in a more gameful way, do you think that would motivate you to say more energy?

**Emma 19:20**

Yeah, I do. Because I think it would make you more *cognizant* of it. You know, you really think, I mean, if you're playing the game, and then you're doing similar actions in your everyday life, you're probably going to think about it at one point.

**Ellen 19:35**

Yeah. If you had to scale that from one to seven, how motivated you think you would be?

**Emma 19:43**

I mean, I'd say like, probably a six. Like, I have to really try to not think about the game, if I was playing it.

**Ellen 19:55**

And then I have the example if your energy usage would be presented to you in a visual way. Do you think that would motivate you to say more energy?

**Emma 20:04**

Yes, definitely.

**Ellen 20:06**

If you would scale, how motivated you would be from one to seven? Where do you think you would put it?

**Emma 20:11**

I would actually say, a seven, that would be really impactful.

**Ellen 20:14**

Why do you think you would be so motivated?

**Emma 20:17**

I think, firstly, I'm quite a visual person, that sort of thing really sticks with me, I guess, I would say. And I just think that it would somehow make it more tangible. Like seeing it in the flesh, if that makes sense.

**Ellen 20:38**

And then if you have the situation, that you would collect points that could result in some kind of reward from your landlord. And the point is depending of how much energy you save, do you think that would make you motivated to save energy?

**Emma 20:53**

Oh, my God, 100 %. All my roommate would like sit and read by candlelight or something.

**Ellen 21:00**

So from one to seven, how motivated you think you would be?

**Emma 21:04**

I'd say a seven.

**Ellen 21:07**

Why do you think you would be so motivated?

**Emma 21:08**

You know, it's a shame. But I think like. For example, if the price would be to save money, then money is like the world's greatest motivator. But then also, I think, like, even if it was just like, ah... Ok, now, I can't really think of an example of what would be good from my landlord. But let's make sure you get slightly back from your deposit. More back from your deposit, or like,

maybe you get, you know, a month longer than you thought, if you want it. Yeah, I can't think of other examples. But I just think that it would be a really good, really good motivator.

**Ellen 21:49**

And then if you had a situation that you will be able to compare your energy usage to your neighbours energy usage, do you think that will motivate you to kind of be the best?

**Emma 22:01**

I think so. I mean, as long as... I guess the thing would be, I'm sure that if that happens, then it would sort of average it out. So it's all relative, but then yeah, definitely. And it actually ... we've spoken about how we wished that we knew a bit more about our neighbours, like not in a noisy way, but just in like. That's a shame, we don't know anyone in our building. So like that could be kind of fun too.

**Ellen 22:26**

How much do you think that will motivate you, to be able to compare with your neighbours from if you have to scale it from one to seven?

**Emma 22:35**

I would say six again, I think.

**Ellen 22:38**

And then if you have the situation that you would get feedback on your energy spending, do you think they were motivate you to spend less?

**Emma 22:46**

Would I be getting feedback from just any one?

**Ellen 22:51**

Yeah, it could be any kind of feedback, but feedback about how much energy you are using in your home.

**Emma 23:00**

To some extent, I think. But I guess it depends of what sort of feedback it is. Because if someone was like, overly critical, and you feel like you are trying quite hard. I mean, that would, to me, that would be deemed motivating. Because then I'm like, like, yeah, I'm trying, you know?

**Ellen 23:20**

What kind of feedback Would you like to have?

**Emma 23:25**

I think if I was really doing the most that I felt I could, then of course, I would want like positive feedback. If there was something where it's like, you're doing this really well. But this you can improve on. That constructive feedback would be awesome. If someone came up to you, and you're like, you obviously aren't trying it all know. And you were trying like that would obviously.... Yeah, it wouldn't be great. Yeah.

**Ellen 23:51**

But if you think they would get such constructive feedback, how often would you like to receive it?

**Emma 23:58**

Maybe like a monthly check in?

**Ellen 24:00**

Yeah. Do you think that would, that kind of feedback, do you think that would motivate you if you have to scale it from one to seven?

**Emma 24:09**

Yeah, I do. And I think that would be a seven. Because sort of, like I mentioned before, when I'm confused, or when I don't know if what I'm doing is correct, or I don't know how much my actions are impacting. Then it doesn't give you that sort of reference point to get back to. But if someone's giving you like monthly feedback, and you can be like, cool. I'm on track. Or I slipped up a little bit here or so. Then maybe that would be more helpful, more motivating. Yeah.

**Ellen 24:35**

Okay, thank you. That was actually our last question.

## Interview 10: Luisa 11/4 2019

**Lucia 0:01**

Thank you for coming. Before I start, I would just like to inform you that we're going to record this interview with our phones. And then the information will be available for our thesis and for us our sensor and our supervisor. And I just need your consent that you okay with this information.

**Luisa 0:20**

That's okay for me.

**Lucia 0:26**

Thank you. And also, I would like to ask you, if you can introduce yourself, your name, where you're coming from your age, would you do?

**Luisa 0:31**

So I'm Luisa, I am from Germany, but I live in Copenhagen Am I am 26. And I'm a student and a part time worker.

**Lucia 0:40**

Okay, thank you. And also, before I said with the questions, I will introduce you to three terms that we will, will use quite often in this interview, and if you don't understand them, please feel free to ask. So the first thing term is sustainability. And we define sustainability in terms of environmental sustainability and as meeting human needs, without compromising the health of the ecosystem and environment. The second word is sustainable actions, which we define as behaviors that seeks to minimize the negative impact of your actions on the environment. And the third term is gamification, which is the use of game elements, but in a non- gaming context such as health industry or education. Is everything clear here?

**Luisa 1:31**

I think somebody at a later point of time and whenever I can ask?

**Lucia 1:34**

Yeah. Of course.

**Lucia 1:36**

Okay, then I will ask my first question, which is, how important is sustainability for you?

**Luisa 1:42**

For me, sustainability is very important, because I mean, all over the media and also, when talking to other people, it's quite clear that, like, our Earth, or our where we living is kind of limited. So all resources are limited. And thinking about me, but also thinking about next generations, it's important to kind of keep the resources and try to not over use everything. So if I would have, if I would need to rank it?

**Lucia 2:15**

Yeah, if you can scale it, maybe from one to seven, seven being the most important.

**Luisa 2:19**

Then I would say six.

**Lucia 2:20**

Yeah. And why do you care about sustainability?

**Luisa 2:24**

It's mostly because I'm, like, in general, a person who was caring about other people, not only about myself, and it's also because people talk a lot about it, especially nowadays, I think it's, it's becoming more and more like thinking back, I don't know, 10 years back, maybe it was not such a, like, broadly discuss topic as it is today. Because, um, yeah, I mean, all the.. how to say. It's becoming just like more important in general. Because there is like, you can already feel that the earth is getting warmer, that like resource are getting scars, that water and some areas like people don't have water, for instance. And yeah.

**Lucia 3:12**

And would you consider yourself as a sustainable person?

**Luisa 3:15**

Um, I tried to be a sustainable as possible, but I wouldn't say that I'm the most sustainable person like, and but I for myself, consider as being sustainable is that I'm separating waste at home, that I tried to use only paper stuff instead of plastic. And that I'm not getting when I'm going grocery shopping, or when I'm just going to shopping in general, I always tried to bring my own bags and just want to reduce plastic waste in general.

**Lucia 3:45**

And if you need to scale this from one to seven, where would you put yourself?

**Luisa 3:52**

Then I would say maybe 4 to 5?

**Lucia 3:56**

Okay. And would you consider yourself as a person who engages in sustainability and takes action?

**Luisa 4:04**

Not really, I'm considering it. So I was, for instance, considering going or renting one of those kayaks at Kayak Club and go around collecting waist, but I have to be honest, but not only related to, like, one reason was that I think it's important to keep the water clean, but also because it's for free then to run the kayak, and it's kind of a win win situation. So not only for caring about the environment, but also to get something for free, actually!

**Lucia 4:41**

And if you would scale yourself from one to seven, where would you put yourself?

**Luisa 4:44**

And then maybe four, because I'm trying to I try to reduce waste, but I'm not super actively, like participating in demonstrations, or I'm not participating at events that are specifically taking place for sustainability related topics.

**Lucia 5:06**

And how do you feel when you act sustainably?

**Luisa 5:11**

I have positive feelings afterwards, like, I feel as if I how to describe it, it's actually good, of course, like positive that I did something. I mean, my actions are not as big as if they would change a lot. But at least I have to claim that I took part in changing something. And so in general, positive, but not as if I would have changed like the whole world.

**Lucia 5:45**

Okay. And what motivates you to act sustainably?

**Luisa 5:50**

Hmm like mainly intrinsic things like caring about other people, and knowing that maybe also little bit, because other people like it's such a big topic, some also maybe a little bit influenced by other people, because it's, it's becoming more important. So I also act more sustainably than I was 10 years ago, where it was not, not such a big topic. So intrinsic, but also both extrinsic to kind belong to the society.

**Lucia 6:23**

Yeah. And what is stopping you to behave more sustainable?

**Luisa 6:29**

Maybe my laziness. So for instance, participating, participating at those events, I could have time for it. But then I just have other preferences like going to, I don't know presentations about a topic or something like that. But you said actions is more like doing active do something.

**Lucia 6:48**

Yeah. exactly?

**Luisa 6:50**



And then it's, yeah, mostly, most likely my laziness, some point or sometimes. But nothing else I can think of.

**Lucia 7:01**

Ok. And now I will ask you three questions about household energy consumption? Hmm. So when I say energy, household consumption, what do you think it's included in that?

**Luisa 7:16**

And like, how heavily I'm using my lights at home, how much water, I like hot water I'm consuming, and how, like, if I would use my charge stations a lot, like if I would charge my phone longer than I would need to charge it, for instance.

**Lucia 7:40**

Yeah. And do you think that energy consumption affects the environment?

**Luisa 7:47**

I think so. Because, for instance, I mean, the energy needs to come from somewhere. And I know it's different resources together, just energy, I'm not super familiar with the whole process of how to, like, get the energy, but I know that there's like, more sustainable or like more environmental friendly ways than others. And it's like that the world is trying to, of course, do more with those environmental friendly ways. But it's still hard to like, supply the whole world with only this environmental friendly way.

**Lucia 8:25**

And you can need to scale it from one to seven, how much how much effect it has on the environment?

**Luisa 8:31**

Energy consumption?

**Lucia 8:35**

From one to 7, of course.

**Luisa 8:42**

I would actually rather maybe use the percentage to scale here... like how much of the whole sustainability like now, let's say, okay, I'm sticking to your to your scale, let's say, five.

**Lucia 9:01**

And do you think that energy usage is important question for sustainability?

**Luisa 9:09**

yeah, since it kind of belongs together, so as important.

**Lucia 9:13**

and if you need to scale it again?

**Luisa 9:18**

Five.

**Lucia 9:19**

Okay. Um, do you know how much energy spending each month? do you know, how much energy you spending your household or in general?

**Luisa 9:29**

I have no clue actually.

**Lucia 9:34**

Do you know where your energy is coming from?

**Luisa 9:37**

I don't.

**Lucia 9:37**

Fair enough!

**Lucia 9:41**

When you at home, do you think of saving energy?

**Luisa 9:44**

Yes, I do. So we have many, like, lights at home. And whenever I'm, for instance, just watching a movie, then I tried to like use as less as possible. And then also, I tried to reduce the time I'm showering with hot water. And whenever I'm putting on the water, I tried to stop it. As soon as I'm done. Like, as, if I don't need any more than I would just stop it.

**Lucia 10:11**

Then you need to scale it again?

**Luisa 10:15**

Maybe, six.

**Lucia 10:21**

What is stopping you to save more energy?

**Luisa 10:15**

Again, maybe laziness, or maybe that I am just, I'm used to using light. And that's just something I grew up with kind of, of course, I could also use candles, sometimes. They also produce light. And even our living room doesn't really need lights, actually, to be honest, because there's like, we have a big window. And they're always like, streetlights. And it's also bright when we don't use our lights, for instance. And I mean, I'm not a person who's showering every day. So this is already kind of, okay, so I would say there are people who are definitely use more water. So I'm fine with not like one of the persons who is using a lot of hot water. But in terms of electricity, like lights, that would be definitely something some room for improvement, but it's then maybe laziness. And just because I'm just use to it.

**Lucia 11:23**

Yeah. And how do you think you can be motivated to act more sustainably now in general?

**Luisa 11:36**

Maybe, if I would have more information from my landlord about my energy consumption, or where the energy is coming from, that would motivate me to either like to be more conscious about it. And then maybe also, if people like, I'm also very influenced by people that surround me. And if one of my friends would like, do something activity, I would not be the person who would start like a movement or something events, I don't know, make people more aware of, of sustainability or something like that. But if some of my closest friends would do something, then I would definitely also to take part to support my friend. And also because I also care about sustainability, but I'm just not like one of the most active person and people in that sense. And yeah, if, if it would be connected to something fun, maybe because I'm also very, like a person who was generally seeking a lot of fun and also like being active. So to combine it with something, like, for instance, I just signed up for the ocean run some things sporty, where you're active, because it was something for yourself, but then you also collect money for, I think, something society related, I don't know, actually, NGO related to things. So having some activity where which I can share with my friends by could participate with my friends. And then just make a fun event out of it.

**Lucia 13:22**

And have you experienced something that changed your behavior regarding sustainability?

**Luisa 13:28**

For me or in general?

**Lucia 13:30**

For you? Yeah. Did you have any experience, or it can be anything?

**Luisa 13:35**

Okay. Ask again.

**Lucia 13:37**

Okay, so have you ever had an experience or experience something that would change your behavior towards sustainable?

**Luisa 13:49**

I'm actually, when I was traveling to South America changed my consciousness and behavior a little bit, because I saw, like, how people and like lesser, rich countries, that they don't have that much money, that the, the not that much money, and also not that much water. So for instance, I went, I was in Peru. And then there was like this big flood coming. And for two cities I was planning to go, there was just no water supply anymore. And then I decided not to go to those cities, because I didn't want to waste their leftovers of water. And just like the whole, like seeing how people who didn't grew up like me, a living and what circumstances they're in, that changed, like, my consciousness or influence.

**Lucia 14:48**

And, if you had a chance to design an experience, that could motivate you to save energy. How this experience would be, would you make it fun, interesting learning?

**Luisa 15:04**

For me, it should be a mix of fun. But for me is kind of going along with entertainment. It's kind of the same, but fun, also, in a way that I'm, like, physically active, kind of, that would motivate me, and then also learning something from it. Like, by acting physically of being physically active, learn something about my consumption, and be more be sustainable at that moment. Or like, at least, like, educate me about being more sustainable

**Lucia 15:47**

Yeah. I know that I mentioned the word gamification before, but when I say it now, again, what comes to mind?

**Luisa 15:57**

Firms trying to companies trying to I mean, you defined it as not related to games or like your actual online games or something. Companies having competitions for consumers or customers to gain prices or to collect points or something like that.

**Lucia 16:27**

Good. And if energy saving will be presented in a more meaningful way. Would that motivate you to spend less energy?

**Luisa 16:37**

I think so, since games for me also include fun. At least if it would be a game that I am, I like to play and it's not too complex, and I could play with my friends, then it would motivate me I think.

**Lucia 16:54**

And if you could scale that from one to seven how much it will motivate you?

**Luisa 16:59**

Five to six

**Lucia 17:01**

In energy that will be presenting more visual way. would that change, you motivate you, engage you to save more energy?

**Luisa 17:10**

Sustainability in a visual way?

**Lucia 17:15**

Energy, your energy usage.

**Luisa 17:18**

Yeah, I think so. I mean, since I'm also a branding student, visuals are quite an important for me, in general, I just like if, like, things are looking nicely and nicely arrange, but also thinking of very drastic pictures, for instance, that make people more aware of actual problems, that could also have a huge impact, like they already have on smoking packages, for instance, just something that kind of scares, but it could be positive or a negative to something that evoke some emotions. And one way and one of those two ways, either positive or negative. Definitely, for me, what have an influence on how sustainable I act.

**Lucia 18:05**

And if you need to put it on a scale again, on a scale from one to seven?

**Luisa 18:09**

Five.

**Lucia 18:11**

And now imagine that you would collect points for your landlord, which could result in reward from that you use, use less energy, if you would use less energy, will then motivate you to spend less?

**Luisa 18:27**

So this reward will be money or doesn't matter what reward?

**Lucia 18:32**

it can be any type of reward, monetary or it doesn't need to be

**Luisa 18:35**

So for you it doesn't matter if it is related to money?

**Lucia 18:38**

Is it important for you?

**Luisa 18:42**

Yes, it is important and I would say six.

**Lucia 18:46**

six, you would like to have it as a monetary reward?

**Luisa 18:49**

Yeah, I think so. Since I'm a student.

**Lucia 18:51**

Yeah. Good. And if you will be able to see and compare your average energy use to your neighbors and they could see all yours would that motivate you to be the best?

**Luisa 19:05**

I think it would actually because I'm, I'm quite competitive person. And also since I know that sustainability is such a high topic, then it would also kind of embarrassed me to see if my neighbors would be better than me or like use less energy than me. So I think this would also be a six then

**Lucia 19:27**

yeah. And if you if you could get a feedback from your landlord or the company's energy companies on your energy spending, would that motivate you to save more energy?

**Luisa 19:44**

Feedback that is only like that only I see?

**Lucia 19:46**

Exactly and it could be in design in any form. So you could get a constructive feedback you can get you I mean, you can actually say how, how this feedback for you should be designed. Also, if you have any idea?

**Luisa 20:05**

I think It could also motivate me but not as much as comparing to the neighbours because then I also have if I would compare myself to the neighbours, I also have like a benchmark kind a to see what I'm compared to and getting feedback from my landlord it would be right?

**Lucia 20:22**

yeah, it could be from the landlord or companies?

**Luisa 20:26**

Then, I always would have to feeling that they kind of want to trigger me and one way because it's a company, then they're interested in making money from me

**Lucia 20:37**

again, so if any, if it's from the landlord?

**Luisa 20:41**

since I don't have a good, like no relationship to my landlord, I don't know that person, then I wouldn't be a bit... how do you say, that I don't trust him that much, you know, so there's no relationship and then the feedback is not as valuable for me as someone who I know and I know that I can trust would give it to me

**Lucia 21:05**

Okay, so on a scale of one to seven?

**Luisa 21:11**

Would be maybe three to four.

**Lucia 21:14**

And if you would get that feedback, would you like to receive it on monthly basis, daily basis or weekly?

**Luisa 21:28**

Maybe monthly, and I don't want to be spammed by this information but monthly is also when I like pay the rent and then it would go along with paying the rent.

**Lucia 21:44**

Good. That was all, and thank you for coming!