From efficiency to decency

Cultivating energy needs in urban communities

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BEATRIZ PINEDA REVILLA

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Beatriz Pineda Revilla

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door

Beatriz Pineda Revilla
geboren te Burgos

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Acknowledgements

Little did I know, that when I finished writing this thesis, a few months later, the Covid-19 crisis was going to make the reflections brought up by this work so timely and central in the current societal debate. The experiences during the period of lockdown have, to a certain extent, questioned the ways we lived before the pandemic hit our daily routines. This time of reflection and uncertainty has shaken up many of our beliefs, and brought up to the surface questioning of our needs, both as individuals and as society: “Do we really need to commute everyday or can we also work from home a few days a week?”; “Are our houses flexible enough to adjust to other ways of living?”; “Do we really need to fly so often for a weekend getaway or can we also find joy in the local surroundings?; “Can we feel connected using just technology?”; “Is it necessary to rush from A to B all the time or, on the contrary, is it possible and even desirable to slow down?”. For many (the luckiest who have remained healthy), this lockdown has made us experience and value forms of slow-living that normally go hand in hand with a reduction of our energy needs, bringing us closer to low-energy lifestyles. Therein lies the bridge with the work undertaken in this thesis. While writing these acknowledgements, still immersed in the process of going back to the so-called “new normal”, and facing an uncertain future, I have been witnessing and participating in many discussions (many of those also digital) among friends, relatives, colleagues, neighbours, or even among strangers in the street. These exchanges at 1,5 meters distance, are shaping new ways of interacting, moving, feeling, etc., in short,

new social norms that will guide how we understand and behave in our own "new" realities from now on. May this thesis inspire those looking for more sustainable paths to reshape our taken-for-granted assumptions in relation to how we live and consume. Hopefully we do not need to wait for another crisis, or for more imminent manifestations of the environmental crisis we are already all immersed in, to reevaluate and act upon our lifestyles.

After this initial reflection that aims to contextualise this thesis, I would like to start thanking the people who have helped me and supported me along this path of pursuing a doctorate. Where to start? There is always a beginning or at least there is always something that I believe initiates a chain of events. In the case of my PhD, the beginning is clear to me. Back in 2015, I was looking for a PhD position after having completed the Research Masters Urban Studies at the UvA and have felt that I needed to continue learning more about conducting research in order to become a 'real' researcher. With a technical background in architecture, urban planning and design, I always thought that I had to do an extra effort to catch up to become a social scientist. Prof. Willem Salet, who knew my inner drive, called me one day and offered me the possibility to coordinate and lecture in a new course that he was organising, a course born to teach future planners how to address the ever-growing environmental challenges in and around our cities: "Climate Proof Development of Cities and Strategic Planning". "This can be an opportunity for you to teach students about the research topic you love so much, food planning, and at the same time, prepare a PhD proposal and let's see where this brings us". These were more or less his words, at least the way I remember them. Without hesitating, I accepted the challenge. Also in 2015, I met another very important person, a planner who shares my passion for the topic of food planning, Prof. Arnold van der Valk, who helped me enormously in my research endeavours during an uncertain period of my professional soul searching. He introduced me to Social Practice Theory, the theoretical framework I have further developed in this thesis and taught me to look at the world through the lens of practices. I did not know at the time that he would become my mentor, as it was never formally stated or arranged in that way, but he always kindly assumed the tasks of a mentor (and continues to do so). This is how my PhD journey began. Prof. Willem Salet, and Prof. Arnold van der Valk, without you both I would not be where I am today. I am very honoured that you are part of my PhD committee, closing up in this way a chapter we, somehow, started together.

As a reader, who might be now wondering, is this dissertation about food planning then? Not really. As with many other things in life (and in planning!), what actually happens is not what you originally expected, and this also brings good and surprising contributions to our lives, which I like to embrace. While already working at the Department of GPIO (Human Geography, Planning and International Development), an opportunity to do a PhD came up. A JPI (Joint Programming Initiative) Urban Europe project was awarded to my to-be supervisors: Prof. Luca Bertolini, Prof. Karin Pfeffer and Dr. Federico Savini. As part of CODALoop (Community Data Loops for Energy-Efficient Lifestyles), a PhD position became available around mid 2016 and, once more, I embarked on a new adventure. My supervisors gave me a lot of freedom to make the research my own and shape it the way I wanted to, which, even if scary in the beginning, I learned to appreciate. Incorporating Social Practice Theory as the way to frame the research problem was present from the beginning and a special place for food was allocated within my research, as food is one of the dimensions of our lifestyles that demands more energy (to be produced, processed, distributed, consumed, etc., not to mention the energy lost when food is wasted). Also, a small change, at first sight, but conceptually crucial, the title of the project evolved from "Energy-Efficient Lifestyles" to "Energy-Conscious Lifestyles", which set the tone and began to shape my PhD research.

I could not have had a better team of supervisors. This is not the first time that I say this (also to them). Everybody in academia knows how tough and confusing supervision of PhDs can go. My experience was pleasantly the opposite. Luca, Karin, and Federico have been truly a team, complementing themselves in their own strengths: Luca keeping an overview of the PhD trajectory and giving me guidance, but letting me work to find the path; Karin with her meticulous attention to the detail, always with a question ready to help me sharp my argumentation; and Federico with his very own direct and critical way of proving feedback, undoubtedly in a constructive way, which I appreciate very much. Meeting with you has always been an enjoyable and learning experience. To a large extent, this comes from the mutual respect and friendship you all have developed along the years. This has taught me an equally important lesson: a successful academic (at least for me) is not someone with a high publication rate, locked in a room writing articles, he/she is someone that nurtures his or her academic community and, at the same time, gets inspired by it. Thank you for your support and availability these last years

and above all for having given me the opportunity to become an independent researcher.

Not all PhD candidates have the opportunity to experience what it is to be part of a big research project during their trajectory. Even if it is demanding and frustrating at times - like any collaborations among big teams that congregate multiple partners and disciplines - I learned enormously from my involvement in CODALoop. I learned how to coordinate such a large project, to make concessions and build bridges in order to facilitate common understandings, which when working with different disciplines and cultural backgrounds can be sometimes a challenge. In this way, I learnt how to frame the same research problem from different perspectives rooted in different ontological and epistemological disciplinary traditions. Also, I learnt how important periodic face-to-face meetings are when research partners are all spread over Europe; many things can be better (and much faster) understood over a glass of wine while having a nice dinner. For all these lessons I would like to thank again Luca, Karin and Federico, but also our partners in Istanbul, Graz and Delft. You have been wonderful hosts when we visited you in your respective countries and universities. Thank you for your friendly and convivial attitude during the whole process, I keep fond memories of our collaboration.

Next, I would like to thank the members of the three communities I worked with during these years. This dissertation could not have been possible without their cooperation and collaboration. I will start with the De Meevaart community considering the special place this occupies in my heart. Since the first time I entered the doors of this community center back in 2013, I realised this was a unique place full of initiatives that were actually improving the life of the local residents. Along the years, and together with many of its members, I explored several research topics related to food, such as self-organisation in urban agriculture projects and the role of food rituals in preventing food waste. I had the opportunity to get to know the volunteers behind the different initiatives working at De Meevaart while helping them in their gardens or preparing delicious falafel in the kitchen of the community center. Thank you, Dr. Fabiola Jara for being a wonderful companion in these explorative incursions and for teaching me how an anthropologist approaches the topic of food. When I had to choose the communities for my PhD, I thus immediately thought about De Meevaart. Many people there have supported me in my PhD path, and my thoughts and gratitude go especially to: Mieke Maes, founder of

Atelier K&K, a woman with a contagious positivity; Rene Janssen, a community organizer who is very dear to all the regulars; Stamatios Doulis, a comedian who helped me make the topic of sustainability accessible to all audiences; and Jeffrey Spangenberg and Ron Langdon who shared their personal stories. Thank you all and thank you, Nooshi Forozesh, for your support.

I did not find the community of self-builders from Buiksloterham, they found me. At the beginning of my fieldwork, a group of proactive and inspiring builders showed interest in my research activities and we started our collaboration from there. They kindly invited me to their homes and to the activities they were organising at the time in their community. I would like to specially thank Frank, Wim, and Annabel for their support and for sharing their knowledge during the Energy Story Nights. Also, Wim, Annabel, thank you for the warm reception you offered to the whole CODALoop team during our visit to Buiksloterham. I will always remember how you opened your house to us with a glass of champagne. I wish you lots of learning and experimentation in the building process of your wonderful houses.

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PhD trajectories tend to be long journeys during which you meet and work with many colleagues who, all in their own ways, leave a mark. Although risking to forget some of you, I will give it a try, starting with my dear colleagues from room B.4.12: Andrew, Koen, Thijs, Arend, Lilian, Kim, Guowei, Josse, Sara, Edda, Irene, Antonio, Christian, Irma, Ori, Ramesh, Francesca, Debra, Sam, Ying-Tzu, George, Joeri, and Andres. Thank you for always being there

sharing your daily stories and making this dark room with no direct sunlight, much brighter. A special mention to my two wonderful paranymphs Daan and Meredith, who have offered me their support at the moments when I most needed it. Many more colleagues have made these years at the UvA unforgettable, especially Mendel, Nanke, Anna, Els, Tuna, Maria, Marco, Jochem, Bas, Michiel, Hebe, Inge, David, Martijn, Carolina… I hope our paths will continue crossing. Also, with great excitement, I would like to thank my new colleagues at the Hogeschool van Amsterdam from the Lectoraat "Coördinatie Grootstedelijke Vraagstukken".

And because life is much more than doing a PhD, it is time to thank my friends and family who have unconditionally supported me, no matter what I do (or no matter if they understand what I am working on). After more than ten years living abroad, I am grateful to have maintained good friendship from my high school and university years. Thank you Yoli, Esther, Olga, Adriana, Aser, Igor, Amaia, Aitor and Laura. Your friendship means a lot to me and keeps me rooted. Special mention to Rosario, who started as my flatmate and classmate at university and became my best friend. We are very different and you have taught me many things but the most important one has been to understand the meaning of the word "always" because you have always being there for me and I know you will always be. To my Amsterdam friends, thank you for the countless gatherings around delicious food, the drinks at the windmill on Fridays, the walks, rides, swims… You know who you are, you have made Amsterdam a home away from home. To my parents, there are no words to express my gratitude for their unconditional support in all the steps I took and that bring me to the present moment. From you I have learned to be resolute and determined, to fight for what I consider just and to be true to myself, and kind to the others.

The final words go to my own family. Luis, I cannot imagine a better person to share my life with. After all these years, you continue inspiring and surprising me, always supporting me in everything I do, including this PhD. Thank you for helping me during my fieldwork: carrying and setting up a screen all over town to project a documentary; capturing some of the research interventions with your beautiful photos; helping me build a website for CODALoop; and lately, helping me with the layout of this book. Thanks to you, it looks even more beautiful. We are a good team. The best proof is our daughter, Julia, who joined us almost two years ago now and what a ride it has been since

then! Thank you, Julia, for making me a mother, one of the most, if not the most, important roles in my life. You made me very efficient and gave me the extra motivation to finish this dissertation on time. I truly hope that this work is another stepping stone towards a better future and that it helps preserving the beauty of our world for you, your generation, and the ones to come.

CHAPTER 1

TOWARDS THE CULTIVATION OF ENERGY NEEDS

The need to reduce CO_2 emissions in order to stop, or at least curb, the fatal consequences of climate change and guarantee quality of life to current and future generations is becoming self-evident. In 1972, the first United Nations Conference on the Human Environment was held in Stockholm, marking the starting line of the roadmap to sustainable development. Since then, the urgency to tackle climate change and the awareness of the importance to address sustainability issues have been increasing. One of the last milestones was the Paris Agreement, signed in 2016, by which a global consensus was reached to keep the increase in global average temperature below 2 degrees Celsius. The main measurements agreed upon were the so-called 20/20/20 targets: reducing greenhouse gas emissions by 20%, increasing the share of renewable energies to 20% and reducing energy consumption by 20% (by investing in energy efficiency) by 2020 (Liobikienė & Butkus, 2017).

We are already in 2020 and, as the aforementioned study reveals, the Netherlands (among other European countries) has not managed to meet these targets. The increase in energy consumption is one of the main environmental challenges identified by the international community to fulfil these targets, as it has the biggest impact on greenhouse gas emissions (Liobikienė & Butkus, 2017). This PhD delves into this enormous challenge by focusing on the role that urban households, with their daily life choices, play in building a global future based on low-carbon lifestyles (Hajer and Dassen, 2014).

So far, the main approach to cope with the increase in energy consumption has been to target public and private investments in the domain of energy efficient technologies and appliances. While certainly reducing the intake of energy necessary to sustain our daily life, these investments in energy efficiency do not question the practices that underlie the use of energy in the first place. They do not tackle the diffuse culture of consumerism that characterizes contemporary lifestyles, especially in urban areas. It is now widely acknowledged that energy savings from technological innovations are overestimated as they do not consider the so-called rebound effects. The potential energy (and monetary) savings by households are "reinvested" in additional activities or goods, thereby maintaining current energy consumption levels and in some cases even increasing them (Buchanan, Russo & Anderson, 2015). Some examples of this rebound effect are the expenditure of the expected savings in higher comfort (Gram-Hanssen, 2014; Morton, Griffiths & Barbu, 2013), the growing number of electrical appliances, the increasing size and number of individual dwellings (Backhaus, Breukers, Mont, Paukovic & Mourik, 2011, p. 54) and the rapid growth in car ownership and distance travelled (European Environmental Agency, 2015, p. 25). The result is an overall increase – instead of the necessary decrease – of energy consumption. Therefore, despite the fact that energy efficiency in OECD countries has significantly improved in the last four decades (International Energy Agency, 2013), the decrease in total energy use only started happening recently (International Energy Agency, 2016). Besides and most importantly, when fewer improvements in energy efficiency policies were introduced, as it was the case in the last two years, it led to a net acceleration in global energy demand growth, which rose by 2% in 2017, driven by economic growth and changes in consumer behaviour (International Energy Agency, 2018).

Knowing all this, why is it that the average urban household does not think that much about its energy usage? And if they do think about energy usage, why do they find it so hard to change their lifestyle to reduce it? On the one hand, energy is deeply embedded in people's lives. Most everyday practices that constitute our modern lifestyles (such as showering, eating a hamburger, or driving) entail the consumption of energy. Energy is so ingrained in people's routines and habits that it's become almost invisible, taken-for-granted. This "invisibility" (Shove, 1997) of energy consumption makes it very difficult for individuals to connect a certain behaviour with the amount of energy it requires and to change it (Shove, 2003). Energy, unlike water or waste, is

intangible (Gronow & Warde, 1998). It is based on established infrastructures of technological systems (Shove & Warde, 1998) that supply energy as a "generic resource, the need for which is as self-evident as it is taken for granted" (Shove & Walker, 2014, p. 45).

On the other hand, even if ever more people are becoming more aware of the energy they consume and the need to reduce it, there is a certain "addiction" associated to these energy-intensive lifestyles (Klare, 2016). A consumerist lifestyle provides a certain social status (Lutzenhiser & Gossard, 2000) and "comfort and convenience" (Shove, 2003) that are not easy to give up. On a societal level, these individual narratives align with a discourse that correlates consuming energy with societal progress, feeding the idea that energy accessibility enables societies to develop further and faster (Lutzenhiser, 1993; White, 1943). Existing studies corroborate this rhetoric of uninterrupted growth and continuous rise of energy demand. A global increase of 48% in energy demand is predicted between 2010 and 2040, and it will be very unevenly divided – an increase of 18% in OECD countries and 71% in non-OECD nations, whose fast-paced economic growth is expected to translate into increasing levels of energy consumption (U.S. Energy Information Administration, 2016).

A blind reliance on technology to solve environmental problems seems to characterize our current thinking (Rosner, 2004). Energy efficiency measures are encouraged by European and national policies, as the 20/20/20 targets exemplify. New technological developments in the field of energy efficiency are presented as a "technological fix" that, somehow, hides and postpones facing the real challenge, our current unsustainable production and consumption patterns (Urry, 2010). Therefore, there is an urgent need to go beyond this technological debate on energy efficiency and to explore "the types of consumption and demand that efficiency policies support and perpetuate" (Shove, 2018, p. 1).

Moving beyond debates on energy efficiency and reduction of energy consumption allows us to focus on how the need for energy occurs in the first place and how energy needs are contested and reduced. Focusing on reducing energy demand aims to tackle the problem at its root. If there is less need for energy in the first place, less energy will be consumed. This is the societal challenge that this thesis seeks to address. Conceptually, it builds on the grow-

ing body of practice theory scholarship that acknowledges that people's energy consumption depends on and can be explained by looking at the practices they perform in their daily lives (e.g., showering, cooking, driving, etc.) (Hui, Day & Walker, 2018; Shove & Walker, 2014; Shove, 2018). These practices are multiple, often non-linear and unpredictable. They all bundle together shaping different types of lifestyles. An extensive body of work has mainly focused on analysing one specific lifestyle domain, housing (Stern, 1992; Yohanis, 2012); however, housing choices and practices are highly interconnected with other lifestyle dimensions, such as mobility, food consumption, leisure, and others. As recent research has claimed, a shift towards low-energy lifestyles in all their dimensions is necessary for safeguarding the quality of life of current and future generations (Backhaus et al., 2012; Mont, Neuvonen & Lähteenoja, 2014; Van Acker, Van Wee & Witlox, 2010).

Moving from these premises and academic embedding, this research empirically explores the energy needs that motivate energy-related practices and experimentally engages with methodologies and techniques that trigger their change. It unpacks in the field how energy demand is questioned and reduced. It recognizes that energy needs are not self-determined but result from a combination of individual choices and spatially situated processes of social interaction (Southwell & Murphy, 2014). Therefore, the contestation of energy needs requires examination of not only the individual but also its social context. Individuals live and influence a socio-spatial context that greatly affects how they perceive themselves, the decisions they make based on this awareness, and the concerns they have towards energy. This thesis focuses on one specific type of social context, the local community, understood as a relational space (Massey, 2005) shaped by social interactions that, in turn, regulate the social norms that define energy needs.

For many decades, economists and social psychologists focused on reducing energy consumption by tackling individual behaviour (for a detailed overview of social psychological theories see Jackson, 2005). Individuals were considered as rational beings, the "homo economicus", ready to make the most optimized choice to fulfil their own interests when having enough information and the freedom to choose. Thanks to emerging digital technologies (e.g., smart meters, sensors, etc.) data and information about energy consumption is more accessible than ever. Despite all these favourable conditions, these individually centred approaches have not brought the expected results (Breukers et al.,

2009; Davoudi, Dilley & Crawford, 2014; Geels, Schwanen, Sorrell, Jenkins & Sovacool, 2018). This research builds on a body of literature that challenges the way individuals consume (Backhaus et al., 2012; Breukers et al., 2009; Jackson, 2005; Mont & Power, 2009; Power & Mont, 2010) and on previous research that explores the potential of the community level to affect societal change (Peters & Jackson, 2008; Middlemiss & Parrish, 2010; Mulugetta, Jackson & Van der Horst, 2010; Peters, Fudge & Sinclair, 2010; Creamer, 2017). As Backhaus and colleagues (2012) explained:

> Research on the sociology of consumption indicates the need for a paradigm shift in thinking about how to foster changes towards more sustainable lifestyles; from a focus on individuals, to a focus on wider communities and social norms and practices; from a focus on changing discrete behaviors to a focus on changing entire lifestyles, cultures and values; from a focus on top-down approaches and information provision to shared community approaches and leading by example. (p. 17)

In order to advance this paradigm shift, this thesis focuses on how the challenge of current energy needs and the impetus towards energy-saving actions take place within urban communities, through social interactions. It is at the level of the community that the common understanding of what is "normal" is constructed. These shared norms allow individuals to consider whether to fly to a faraway destination or stay close to home to enjoy a holiday; to be omnivorous, vegetarian or vegan; to own a car or choose for public transportation and rent a car when needed, to name a few examples. This process of challenging energy needs happens, as revealed by this work's findings, through discursive processes among community members, which enable the contestation of current energy-intensive lifestyles.

The notion of "decency" is central to the contestation of energy needs and lifestyles as addressed in this research. Building on the work by Bartiaux, Frogneux and Servais (2011), the term "decency" allows the questioning of the moral standards of appropriateness according to which social practices unfold. It combines different levels, namely what is appropriate for an individual and what is appropriate for society in general. Crucially, a discussion around decency requires a reflective process of comparison between one's own situation and that of other members of a wider community. A discussion around decency can trigger various questions: "what is a decent life"; "how much is

enough for me"; "which practices in my lifestyle, which require the consumption of energy, could I (or am I willing to) give up so that others (members of my own community or of society in general) can have a decent life too". The research presented in this book dissects how the activation of this reflective process takes place by examining the following main research question:

> *How do social interactions within a community enable the activation of discursive processes that can question current energy-intensive lifestyles?*

In order to answer this question, theoretical, methodological, empirical and policy contributions are presented. The structure of the book is as follows. In Chapter 2, I develop the theoretical foundations, building on the work of Giddens (1984) and Bourdieu (1977), in order to focus on this reflective process and the transformative capacity of people to reflect on and transform their own practices. This transformative capacity enables a certain "awareness which has a discursive form" or "discursive consciousness" (Giddens, 1984, p. 374). Based on this concept, I coined and developed the term "energy discursive consciousness", the ability actors have to put into words their own energy-related actions. In this theoretical chapter, I develop a conceptualization to explain how energy discursive consciousness is activated within a community by explaining through which frames, spatialities and information the cultivation (and potentially the naturalization) of energy needs may take place. As discussed further in this chapter, this thesis has mainly focused on unpacking the cultivation of energy needs leading to questioning standards of normality.

Chapter 3 presents the methodological approach of the work. It explains the choice of three specific Amsterdam-based communities as well as the methods, techniques and modalities used to gather the data necessary to answer the main research question. An Ethnographic Action Research (EAR) (Tacchi, Slater & Hearn, 2003) was conducted with the community of self-builders in the northern quarter of Buiksloterham and with the communities that gather at the community centre De Meevaart, in the Indische Buurt, a neighbourhood located in the East of Amsterdam. I employed a Netnographic Action Research (NAR) with the Sustainable Community of Amsterdam, due to the higher levels of hybridity between physical and digital space (functioning primarily as a Facebook group but also with infrequent physical meet-ups). All details about both methodologies, research interventions, ethical considera-

tions, limitations of the approach, and my role as researcher are discussed in this chapter.

Chapters 4, 5 and 6 unpack the notion of cultivation of energy needs building on the empirical work. Each chapter delves into one specific building block and dissects the role of frames, spatialities and data in the process of cultivation.

In Chapter 4, I explore the importance of framing to understand how members of a community make sense of their lifestyles in relation to their need for energy. Having access to this information is crucial to explore which type of frame articulations enable discursive processes that can question current energy-intensive lifestyles; in other words, which type of frames contribute to the activation of energy discursive consciousness and the cultivation of energy needs. This chapter aims to answer the following research sub-question by analysing how the three communities frame their energy needs:

> *Sub-question 1: How do different framings of energy needs contribute to the activation of discursive processes that can question current energy-intensive lifestyles?*

Chapter 5 delves into the spatiality of the three Amsterdam-based communities to analyse the role that different types of spatiality (physical, digital, hybrid) play in sparking energy discursive consciousness. Building on the work by Davoudi and colleagues (2014), in this chapter I focus on three sociological processes through which energy discursive consciousness is enacted, namely "coercive", "mimetic", and "normative". The community, as a space shaped by social interactions, is presented in this chapter as "a negotiating ground" (Castán Broto & Baker, 2018, p. 2) where energy needs are challenged, evolve, and eventually, may be reduced or even disappear. The communities I work with present different levels of hybridity (i.e. how their physical and digital natures are combined), allowing for a detailed analysis of how the spatiality, the intertwined socio-spatial and relational configuration of the three communities, affects the three aforementioned processes. Chapter 5 will address the following research sub-question:

Sub-question 2: How does the spatiality of a community shape the activation of discursive processes that can question current energy-intensive lifestyles?

In Chapter 6, I analyse the differences between notions of data, information and knowledge in order to investigate the role that energy-related data and information play in activating energy discursive consciousness, i.e. how energy-related data and information become meaningful, collective knowledge. The research interventions with the three communities show a wide range of energy-related data and information, from soft (personal stories and experiences) to hard (statistics and footprint calculators), allowing me to explore the role that each can play in sparking discursive exchanges that can challenge energy needs. Chapter 6 examines the following research sub-question:

Sub-question 3: What is the role that energy-related data and information play in the activation of discursive processes that can question current energy-intensive lifestyles?

Chapter 7 summarizes the main findings and outlines possible avenues for future research and community-oriented energy policies. In addition, I also highlight how contemporary social research might question the consumption practices that underlie society's energy needs. This requires a shift in the manner in which scientific research sets its questions to address planetary sustainability. It repositions the focus from the domain of efficiency to that of social norms, from a techno-managerial field to a socio-spatial one. This reflection can be extended to other scientific domains studying contemporary society's consumption patterns, beyond that of energy consumption.

CHAPTER 2

BUILDING A CONCEPTUALIZATION OF CULTIVATION

It's like an emotional roller-coaster, it's so hard, you almost feel like exercising on a daily basis and to be motivated gets so hard. Life gets busy, but I really like that quote: "what difference is going to make one plastic bottle that I buy? Say 7 billion people". When I get discouraged on days like these because the change on a global scale is small, because we need a 360[1] degree change coming from all the parties, from government, from businesses and from the individual… and yes it's going to be slow but just because it's going slowly, I don't think we should stop and be apathetic about it. What we make, every single decision, every day, makes a huge difference, and you know what, it makes me feel great at the end of the day. And, if I inspire at least one person during that day I'm going to keep at it. So, I totally get you and I get pessimistic, but I always try to find these "positives", these victories. It shouldn't stop us from doing our work and making changes within our communities, no matter how small they are; let's not get defeated.

(SCoA testimony during one of the meet-ups, 2018-02-08)

Part of this chapter is based on the published article: Pineda Revilla, B. (2020). Shaping energy norms in digital communities: The contribution of online discussion boards to questioning energy needs in Amsterdam. Energy Research and Social Science, *67*, 101586.

[1] The member meant that we need a 180-degree change but the original quote has been kept.

This quote from a very active member of the Sustainable Community of Amsterdam (SCoA), illustrates the importance of the role of individual agency in affecting social change. For this person, social change happens every day, every time we take a decision, whether a conscious or an unconscious one. Even if the decision seems as insignificant as buying one plastic water bottle, this small decision reinforces the entire unsustainable system behind it and most importantly, reinforces understandings of what is "normal", in this case, what is normal to do when you are thirsty and would like some water. Today, many people face similar dilemmas, which go beyond buying a plastic bottle. Most of the practices associated with Western lifestyles (e.g., daily driving, flying frequently, eating animal products, drying clothes in a dryer, etc.) are very energy intensive and are increasingly becoming more normalized. For example, flying for leisure several times a year (or in some cases, even each month) has become almost a right that no one seems to contest. Furthermore, flying to faraway destinations has become an activity that affirms one's high social status. Faced with this reality, the question posed by a large body of research is how to reduce energy consumption.

Disciplines such as economics and psychology focus on how behaviour is changed at the individual level. Economic approaches see individuals as rational beings who, when presented with the right amount of information (e.g., audits, labels, etc.) and/or efficient devices, will make the most rational decision to reduce their energy bill. Psychological approaches have invested in behavioural interventions, such as the provision of feedback, to change routines. The economic and psychological approaches that dominated past interventions have not had the expected outcomes (Breukers et al., 2009; Davoudi et al., 2014; Geels et al., 2018). Later in this chapter and also on Chapter 6, I will provide more details on this type of studies in relation to reducing energy consumption.

By focusing on affecting individual behaviour by means of providing information and new technologies, little attention has been paid to understanding why people consume energy in the first place. As argued by sociologists already two decades ago, "people are interested in services, not energy" (Wilhite, Shove, Lutzenhiser & Kempton, 2000, p. 115). Understanding how and why people need those services (e.g., eating a hamburger, checking social media on the phone, going scuba diving, etc.) is crucial for exploring ways to tackle not only energy consumption but also energy demand (Shove &

Walker, 2014). To achieve this aim, sociological research suggests a different unit of analysis. Instead of focusing on individuals, sociological approaches look at social groups and social practices to understand how conventions and social norms are shaped and how long-term societal change happens. Practice theory is such an approach that defends on the one hand, that social structures enable and constrain actors' practices and, on the other hand, that by performing these daily practices, actors reproduce those same social structures but also have the possibility to change them. It is this transformative and reflexive capacity (Giddens, 1984) that enables actors to shape their daily practices and affect change. Going back to the quote that opens this chapter, this reflexivity, which I argue can be gained during community interactions, is crucial when actors face daily choices. This ability to reflect and then act consequently, confers this person with the power to influence systemic change, even at a small scale. For her, it is the aggregated effect of individual decisions that can make a difference. This way, she acknowledges the role that active agency can play in affecting societal change. The quote at the beginning of this chapter also exemplifies my own understanding of agency and its relation to social change, which I aim to examine in this theoretical chapter.

In the first section, I provide a summary of behavioural change models, differentiating between the so-called internalist and externalist models, depending on where they fall in the structure-agency dichotomy. The second section provides an overview of integrative models, in other words, those that aim to combine internalist and externalist models. Practice theory, being one of these sociological integrative models, is explained in detail in the third section, which also showcases different practice theory approaches, depending on their diverse understandings of agency. In this section, I start by presenting current practice theory approaches, in which agents almost disappear from view in detriment of social practices, and then go on to cover early formulations of practice theory by Bourdieu and Giddens, who offered more inclusive and active formulations of agency that acknowledge the actors' transformative and reflective capacities. In the fourth section, I zoom into the latter approaches to present how their active take on agency opens the possibility to focus on "energy discursive consciousness" and "energy decency", and the linkages between them. In the fifth section, I delve into the processes of "cultivation" and "naturalization", originally formulated by Wilk (2001), exploring how this work addresses the notion of cultivation. Finally, the chapter concludes by explaining how the subsequent thesis chapters provide the nec-

essary building blocks to unpack the concept of cultivation with the help of empirical evidence.

Internalist vs externalist behavioural change models

Analysing individual energy use is a complex task, mostly undertaken by economists and social psychologists who have developed multiple behavioural change models that aim to understand and predict pro-environmental behaviour (for a detailed review of social psychological theories see Jackson, 2005). A useful point of departure for my overview is based on the agency–structure debate, which distinguishes between the so-called internalist and externalist behavioural models. The internalist models are the ones that focus on factors internal to the individual, such as values, attitudes and intentions. One of the most important internalist models is the rational choice model (Elster, 1986; Homans, 1961), which states that consumers make choices by calculating the individual costs and benefits of their actions, choosing the option that maximizes their benefits. The model assumes that if individuals have access to sufficient information, then they will make informed rational choices. This model has been extensively criticized by other models, for example, the "adjusted expectancy value" models argue that individuals make choices on the basis of expected outcomes and values, instead of on the basis of self-interest motives. Two examples of this group of models are the "theory of reasoned action" (Ajzen & Fishbein, 1980), which takes into account the influence of other people's attitudes on individual behaviour and the "theory of planned behaviour" (Ajzen, 1991), which extends the previous model by taking into account people's perception about their own control over a situation. Other critics of the rational choice model highlight many of its limitations in explaining human behaviour such as assuming that choice is rational, that the appropriate unit of analysis is the individual, and that decisions are always driven by self-interest. Critiques of rational choice acknowledge these limitations and focus on the following aspects: (1) the role that the automaticity of behaviour (habits and routines) plays in reducing the cognitive process towards a rational decision; (2) they criticize the self-interest assumption due to the fact that behaviours are embedded in social contexts that shape individual preferences; and (3) how emotions can overrun the cognitive rational factor in the decision making process (Etzioni, 1988; Zey, 1992). One of the critical responses to rational choice is the "value-belief-norm" model de-

veloped by Paul Stern (Stern, 2000; Stern et al., 1999), which states that individual norms emerge from a set of values and beliefs.

As previously stated, there are also other models that focus on factors external to the individual, such as incentives, norms and institutional constraints, and see these as exerting a crucial influence on individual behaviour. These externalist models are popular in disciplines such as applied behavioural analysis or evolutionary economics (Jackson, 2005). The "normative conduct" model (Cialdini, Kallgren & Reno, 1991), which analyses the influence of social norms to encourage or inhibit pro-environmental individual behaviour, is an example of an externalist behavioural model. In this model, Cialdini and his colleagues (1991) distinguish between two types of social norms: descriptive and injunctive. Descriptive norms refer to what people normally do. By copying the way others act, individuals do not have to question every single action and save cognitive efforts, what Simon (1976) calls "procedural rationality". Injunctive norms refer to what should be done in society. These injunctive norms reflect societal moral rules that influence individual actions, motivated or constrained by expected social awards or sanctions (Jackson, 2005).

While the internalist perspective focuses on agency and positions individuals as agents seemingly independent from social structures, the externalist perspective concentrates its efforts on the structures, which seem to act as external forces that constrain individual agency. However, behaviour is a "result of internal and subjective (personal) and external and objective (situational) characteristics" (Van Acker et al., 2010, p. 232). This was already pointed out by Kurt Lewin back in 1936 in his work *Principles of Topological Psychology* (Householder, 1939). Therefore, for behavioural models to be complete, they need to acknowledge and bridge internalist and externalist approaches, in other words, they need to aim at achieving integrative models that consider both internal and external factors when explaining human behaviour. Focusing only on internalist models would imply that human action is seen as independent from social structures, while focusing only on externalist approaches would present individuals as constrained by external forces, entirely out of their control. This so-called structure–agency dichotomy, deeply embedded in social sciences debates, will be discussed in detail in following sections.

Integrative behavioural change models

There are several models that aim to bridge internalist and externalist approaches. For example, the ABC (attitude-behaviour-context) model (Stern, 2000; Stern & Oskamp, 1987) states that behaviour (B) is an interactive product of internal attitudinal variables (A) and external contextual factors (C). Some social psychologists have pointed out that the role of habits is missing in this model. Stern (2000) sought to include the notion of habit, developing a model that comprises attitudes, contextual factors, personal capabilities and habits (as cited in Jackson, 2005). In this same line of thought – almost forty years ago – Triandis (1977) proposed his theory of "interpersonal behaviour", which explored the role of social factors (including social norms) and emotions (rarely taken into account in these models) in forming intentions, which he considered as antecedents of behaviours. In his theory, habits are also mediators of individual behaviour. For Triandis (1977), individual behaviour is "a function partly of what I intend, partly of my habitual responses, and partly of the situational constraints and conditions under which I operate" (as cited in Jackson, 2005, p. 95). Another integrative model is the "motivation-opportunity-abilities" (MOA) model, developed by Ölander and Thøgersen (1995), which incorporates the concept of ability, containing both the habit and the knowledge to perform a task. The concept of opportunity refers to the external constraining or enabling factors considered both by Stern (2000) and Triandis (1977). The MOA model attempts to "integrate motivation, habitual and contextual factors into a single model of pro-environmental behaviour" (as cited in Jackson, 2005, p. 97). Another even more encompassing integrative model is the one developed by Bagozzi, Gürhan-Canli & Priester (2002), the "model of consumer action", which focuses on the "act of trying". In addition to including affective, normative, habitual and social factors, it highlights the importance of non-conscious cerebral factors in influencing the process of decision-making. Bagozzi and colleagues (2002) state that the act of trying is crucial – it is "mediated by the intention to try and moderated by both the frequency and the recency of past trying or past behaviour" (as cited in Jackson, 2005, p. 98). Even with this encompassing and elaborated model, its highly conceptual complexity diminishes its empirical applicability.

This brief summary of integrative behavioural models aims to show that behavioural mechanisms are not straightforward. There are many factors and variables that need to be considered when seeking to predict pro-environmen-

tal behaviours. Despite their added complexity, integrative models that encompass both internal and external behavioural factors deserve further exploration. Going back to the structure–agency dichotomy, all the aforementioned integrative models still lean more heavily in the direction of agency, despite acknowledging contextual factors, such as social norms and other constraining and enabling factors. In principle, they still seek to analyse individual behaviour, which is, in turn, framed by external determinants. This choice is reflected on the unit of analysis of these integrative models, the individual. Individuals are ultimately responsible for their own behaviour (also when it changes). Furthermore, this emphasis on agency has clear consequences for policymaking. Current policies focused on changing individual behaviours, either by providing information, in the hope of increasing awareness and changing in attitudes, or by providing incentives (economic benefits) or disincentives (taxes and fees). This dominant policy approach testifies to the fact that models rooted in economics and social psychology still exert a powerful influence on policymaking, despite the noted failure of individual incentives and disincentives to deliver the desired behavioural change (Geller, Erickson & Buttram, 1983; Geller, 1981; Mckenzie-Mohr, 2000).

Social practice theory divergences

In addition to economists and social psychologists, sociologists have also sought to understand how and why people do what they do. However, sociological approaches are tackling this challenge from a very different angle. Instead of focusing on individual behavioural change, the unit of analysis is social groups and social practices. This sociological perspective – in particular social practice theory notions and understandings – have shaped the micro-sociological approach that guided the theoretical and methodological paths of my research. Practice theories can be considered integrative theories that aim to combine the internalist and externalist approaches mentioned previously by acknowledging that social life is made of social interactions and social practices, through which people reproduce and transform their world and, at the same time, also themselves. The emphasis shifts from the individual to the social context or the "situation", as already suggested by Goffman (1967) in the 1960s: "Not, then, men and their moments. Rather, moments and their men" (Goffman, 1967, p. 3).

Social practice theory was first developed in the 1970s and 1980s by Pierre

Bourdieu (1977) and Anthony Giddens (1984). Since then, many different practice theory approaches have emerged, integrating this theory into cultural consumer studies (Schatzki, 1996, 2002, 2010; Reckwitz, 2002a, 2002b; Warde, 2005; Røpke, 1999, 2009; Southerton, 2012; Shove, 2003, 2010, among others). Early foundations of social practice theory differ with the views of more recent practice theorists mainly in their positions towards agency and its relation to social reproduction and change. In the next section, I will shed some light on this specific disparity to argue and justify my own stance.

The ontology of practice theory is a "flat ontology" (Schatzki, 2016b). In contrast with other approaches, such as transition studies and their multi-level perspective on transitions, which defend the stance that different levels of the social exist (e.g., niche, regime and landscape), each with its own dynamic (De Haan & Rotmans, 2011; Geels, 2002), practice theorists argue that social change happens only at one level, the level of the practice: "This characterization holds whether practices are thought of as forming sets of homologous fields as in Bourdieu (1990), systems that uphold regularized relations of dependence between individuals and groups as in Giddens (1979), bundles and complexes as in the work by Shove, Pantzar and Watson (2012), or a plenum as [in Schatzki's (2016a) work]" (Schatzki, 2016b).

There are many definitions of social practices, each emphasizing different aspects of practices. Despite that some authors, such as Nicolini (2012), state that arriving to a single definition of a practice would be too constraining and would go against the "open-ended practices ontology" (Spaargaren, Weenink & Lamers, 2016, p. 7), I provide here some definitions, repeatedly cited in recent practice theory studies. For Reckwitz (2002a, p. 249), a practice is "a routinized type of behavior which consist of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge". This definition implies that it is the practice that has the aforementioned "qualities" and not the individual. Individuals are considered as mere "carriers" or "hosts" of a practice (Reckwitz, 2002a). Schatzki (1996, p. 89) defines a practice as "a temporally unfolding and spatially dispersed nexus of doings and sayings". He adds that "understanding specific practices always involves apprehending material configurations" (Schatzki, Knorr Cetina & Von Savigny, 2001, p. 3). These doings

and sayings, plus the material arrangements, "hang together" in practices thanks to four integrative elements of a practice – practical understandings, general understandings, rules and teleoaffective structures (Schatzki, 2002, p. 59-112) – covered further in this chapter. Both, Schatzki and Reckwitz underline the importance of materiality in the study of practices, seeing materials as a resource. They state that in order to understand practices, both body and things (or technologies) are important, with Reckwitz (2002a, 2002b) giving special importance to the role of technologies.

A recent interpretation by Shove and colleagues (2012) identifies three elements that constitute a practice: the "material" (equipment, technology, infrastructure), the "meaning" (images, discourses, representations) and the "competences" (skills, know-how). According to the authors, in order for a practice to exist these three elements need to be linked; if those links are destroyed, the practice disappears. For example, looking at the practice of cycling, the material elements would be the bike, the cycling path, the helmet, etc. The meaning would be to believe that cycling is good for your health, for saving money, or for protecting the environment. The competences would be to be able to cycle and understand the rules of cycling. The same way that elements link together to form a practice, also practices connect together to constitute bundles or complexes of practices. Bundles are arrangements of practices defined as "loose-knit patterns based on co-location and co-existence", while complexes of practices are anchored to a specific place and represent "stickier and more integrated arrangements including co-dependent forms of sequence and synchronization" (Shove et al., 2012, p. 17). These "practical guidelines" for what a practice entails have helped to grasp the complexities behind the reproduction of social practices, increasing the popularity of practice theory among students and scholars from diverse backgrounds (Spaargaren et al., 2016). This spreading has happened at the expense of simplifying how social change takes place and barely glimpsing the surface of a much more complex understanding of social reality dynamics, as a personal communication with Elizabeth Shove back in 2017 revealed.

The continuous "making and breaking" of nexuses between the elements of a practice or between practices themselves, confers a dynamic nature to this social theory and to practices, informing in this way how societal change unfolds. Practices are not static – quite the opposite – they are in a state of constant flux and evolution. Practices are considered as "entities", in the long

term, and as "performances", when looking at specific moments, as they are composed of multiple doings and sayings (Shove et al., 2012). The dynamic nature of practices and of bundles and complexes, in space and time, will be explored later on in this chapter when I introduce the notion of decent lifestyles and explain how they are shaped in time.

Active agency and its relation to social change

All the definitions of a practice highlighted above share an emphasis on routinization and the passive agentic role conferred to the "practitioner". In other words, individuals are seen as mere performers of habitual practices, having almost no saying in what they do and say. As Weenink and Spaargaren (2016, p. 64) state, "when the carrier concept is combined with an emphasis on the routinized, habitual and taken-for-granted nature of practices, there is a risk of portraying social change in a rather deterministic way". In response to this critique, several practice theory scholars have recently sought to address the nature of agency, aiming at reconsidering the role that actors can play in the reproduction and transformation of social practices (Hui, Schatzki & Shove, 2017; Spaargaren et al., 2016). This acknowledgment can be observed already in the following definition, which best positions the notion of practice in this research:

> social practices are shared, routinized, ordinary ways of doings and sayings, enacted by knowledgeable and capable human agents who – while interacting with the material elements that co-constitute the practice – know what to do next in a non-discursive, practical manner. (Spaargaren et al., 2016, p. 8)

Spaargaren and colleagues reserve a special place in this definition of practice for "knowledgeable" and "capable" agents, who have the ability to reflect and shape the practices they perform. In order to understand the practice theory approaches that allocate a prominent position to the agency of actors, it is necessary to go back to the foundations of practice theory established by Bourdieu and Giddens. Both approaches overcame the structure–agency dichotomy by understanding practices as both the constitutive and transformative factors of social change. Their focus on practices makes it possible to explain the variety of relations between the everyday routine activities taken by individuals and the long-term existence of social institutions.

In his structuration theory, Giddens (1984) states that social structures are both the medium and the outcome of human action. Social structures frame the actors' practices and, in turn, actors reproduce these social structures by performing their daily practices. Also, actors have the power to change their actions and thus shape social structures. His notion of agency is defined by four key concepts: reflexive monitoring of action, practical consciousness, discursive consciousness, and transformative capacity. Giddens defends that individuals have the ability to continuously be aware of the flow of events around them, which helps them understand what is going on at every moment, as he calls it, "reflexive monitoring of action". Individuals are, as well, able to switch from "practical consciousness" to "discursive consciousness". Briefly explained, practical consciousness is the day-to-day knowledge that allows people to perform their daily activities. Most human actions rely on this practical knowledge, the basis for routinized behaviours. Individuals tend to repeat the same practices to create a routine. Routines confer safety and reduce insecurities of not knowing how to act in society or having to question every single action, which requires high cognitive efforts[2]. However, at the same time, individuals have the ability to engage in discursive interactions, related to their own actions. This discursive consciousness allows for the contestation of one's practices, paving the way for the actors' "transformative capacity", which is very important in Giddens' notion of agency or "active institutionalization" because it projects conscious intention into action. This transformative capacity explains creativity, innovation, and social change. Agents have the enabling power to change their daily practices and, in turn, social structures, if discursive consciousness is activated. This concept is at the core of my theoretical framework and will be covered in detail in next sections of this chapter.

While Bourdieu also shares this view of the transformative capacity of individuals, his understanding of agency differs from Giddens' in the weight given to conscious intention regarding the performance of social practices and therefore, in the reproduction of social structures. Examining one of his main notions, "habitus", illuminates his particular view of agency. Bourdieu (1990) defines habitus as:

[2] Concepts similar to Giddens' practical consciousness are Schatzki's (2010) "practical intelligibility" or Bourdieu's (1977, 1979) "sens pratique" or "feel for the game".

> a system of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which generate and organize practices and representations that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary to attain them. (p. 53)

These "structuring structures" are first acquired by individuals in their early childhood, the moment of initial contact with social structures. Bourdieu uses the term "dispositions" to differentiate habitus from routines or habits. Dispositions suggest the active side of the habitus by establishing a difference between "structured structures" and "structuring structures". Repetition creates habits, which are structured structures that frame individual actions, but habitus goes beyond repetition and routines. Habitus enables structuring structures, i.e. dispositions that are able to shape action. In other words, looking at habitus, instead of at habits, helps explain how previous experiences might *orient* individuals to act in a certain way but does not determine their actions (Swartz, 2002). The difference between Giddens' and Bourdieu's approach lies in the degree of consciousness contained in habitus and dispositions: "the dispositions of the habitus represent informal and practical rather than discursive or conscious forms of knowledge … Habitus-generated action is generally not consciously reflective" (Swartz, 2002, p. 63S). Giddens gives much more importance to the notion of consciousness and its relation to action than Bourdieu. "Habitus" confers an active dimension to agency, overcoming the deterministic view that individuals are locked in their old habits and allowing them to shape their current and future actions.

For Bourdieu, practices are the product of what he calls "an encounter between a habitus and a field which are, to varying degree, 'compatible' or 'congruent' with one another" (Bourdieu, 1991, p. 17). All practices happen in a specific social context or setting, what Bourdieu calls "field", thereby determining the individuals' habitus. Bourdieu (1991) states that if there is a lack of congruence between the habitus and the field, most probably the individual would not know how to react in a given situation. Therefore, practices are embedded in a context that is both spatial and temporal. In this work, I will address this context as "spatiality", particularly in Chapter 5. In researching

discursive interactions, my work will highlight the role that the spatiality of these interactions plays in activating discursive consciousness.

Beyond energy consumption: understanding energy needs

The application of the theories outlined above to the study of energy is marked by significant disparity. Economists and social psychologists mainly focus on reducing energy consumption by tackling individual behaviour, while sociologists, even if also interested in reducing energy consumption, have as a priority to understand and reduce energy demand (i.e. why people need energy in the first place) by looking at social practices (Hui et al., 2018; Shove & Walker, 2014; Wilhite et al., 2000). Building upon this latter body of literature, in the remaining sections of this chapter, I will develop a framework for examining the challenge of energy demand reduction that delves deeper into the relation between agency and social change, which as some authors point out "remains underexposed in many contemporary practice theories" (Weenink & Spaargaren, 2016, p. 61). The reasoning behind this framework is rooted on my view on social practices and the "agency-inclusive formulation of social interaction and reproduction" (Weenink & Spaargaren, 2016, p. 61) that I presented above.

For decades, policy discourses about reducing energy consumption have avoided the deep and controversial question of energy demand. One of the reasons for this might be that increased energy consumption is widely associated with societal progress (White, 1943). Such narratives and assumptions have reinforced the idea that needing and consuming energy is something normal – even desirable – for a society to progress. As White (1943, p. 350) argues, "the key to the future, in any event, lies in the energy situation". Another reason might be that energy is invisible (i.e. it is often taken for granted), which creates inertia around energy consumption. Furthermore, consuming energy is linked to practices that confer people with an attractive identity and/or with a higher social status (e.g., traveling to the other side of the world to enjoy a holiday, driving a fast car, etc.), which are not easy to give up. Energy is so embedded in people's lives (Nye, 2010) that there is a "tendency to conceptualize energy as a generic resource", instead of a component of social practices (Shove & Walker, 2014, p. 45).

Energy consumption results from both energy-related needs and aspirations (e.g., having a bigger house with a garden, owning a yacht, etc.) and routinized practices (e.g., showering, cooking, etc.) that make them more resistant to change. To realize an epistemological shift whereby the current focus on energy consumption is replaced by an emphasis on energy demand, researchers and policy makers have to consider both aspects; however, energy research and policymaking have largely overlooked the role that policy can play in shaping energy needs (Shove & Walker, 2014). Recent research has pointed out the need to increase the visibility of energy demand in areas of policy that are not obviously related to energy systems, such as health and education (Royston, Selby & Shove, 2018). It also stresses the need to explore the spatiality and temporality of energy-related practices, in order to unpack how energy demand is shaped (Hui et al., 2018).

Historically, the study of energy needs has been used to differentiate between modern and traditional societies, assuming that "traditional people consume to satisfy fundamental or biological needs, while moderns pursue superficial and inauthentic wants" (Wilk, 2001, p. 110). This dichotomy implies "a moral distinction between 'needs', as involuntary bodily experience linked to survival, and 'desires' as hedonistic pleasure-seeking" (Belk, Bilkent & Askegaard, 1996 as cited in Wilk, 2001, p. 112). However, both needs and wants/desires are present in all societies, whether modern or traditional (Latour, 1993; McCracken, 1988). The traditional–modern dichotomy seems too narrow to provide an adequate approach for looking at needs and consumption. The boundaries between needs and wants are always socially defined, and living standards are more political and socio-cultural than biological. Therefore, the term needs should cover the whole spectrum from needs to wants, namely "the entire field socially defined as luxuries and necessities, the full range of conceivable standards of living in a particular time and social setting" (Wilk, 2001, p. 113). Bartiaux and colleagues argue that "it is impossible to completely separate desire and 'need', since desire focuses on new objects that it transforms into 'objects of needs'" (Bartiaux et al., 2011, p. 70). Wilhite and his colleagues (2000, p. 117) highlight that thinking in terms of luxuries or necessities "impede[s] the discussion of important theoretical issues surrounding the growing social demand for energy and how wants are constructed and manufactured."

Energy needs "are socially defined and embedded in a specific sociotechnical

system" in which technologies, social practices and social norms play a crucial role (Bartiaux et al., 2011, p. 71). Looking into how cultural studies frame energy consumption, the work of Malinowski and Brown should be highlighted. On the one hand, Malinowski (1944) contends that culture and institutions provide citizens, rather than society, with their "basic needs" and "cultural derivative needs". On the other hand, Brown explores how culture functions to provide the needs of society as a whole, as opposed to those of individuals (Bartiaux et al., 2011, p. 69). Drawing on these two understandings of needs, scholarship has approached energy use as a historically constituted and reconstructed process that is embedded in a specific society and culture.

Building on this tradition, it becomes evident that any approach to energy practices cannot be taken for granted or decided in advance. Cultural contexts influence what people identify as their energy needs and, in turn, also the practices they perform in order to satisfy those needs (Wilhite, 2013). These practices are bundled together as part of different lifestyles, which depend on both the individual's personal circumstances and aspirations as well as the wider socio-cultural contexts. Different lifestyles encompass different energy-related practices, which overlap across different social domains such as dwelling, mobility, food consumption, leisure, etc. The term "sustainable lifestyle" has been used since the UN Conference in Rio de Janeiro in 1992, which promoted the so-called Local Agenda 21. This programme was based on "the idea that changes must come from below, from changes in the everyday life of ordinary consumers" (Gram-Hanssen, 2012, p. 117). These changes, in other words, are expected to occur in everyday practices as individuals aim to establish more sustainable lifestyles. Going beyond the term "sustainable", I propose the notion of "decent lifestyle", as it implies standards of morality and appropriateness, which are not only applicable to a small group of people but to society in general. The notion of decency requires of the individual to engage in a reflective process in order to compare one's own practices in relation to those of a wider community. This process of reflection connects well with the stance of active and reflective agency defended so far.

Unpacking energy decency through energy discursive consciousness within communities

Giddens (1984, p. 374) defines the notion of discursive consciousness as "what actors are able to say, or give verbal expression to, about social conditions including especially the conditions of their own action; awareness which has a discursive form". In the context of energy demand, the notion of "energy discursive consciousness" refers to the ability actors have to reflect upon and articulate their own energy-related actions. Energy discursive consciousness epitomizes the ability to reflect verbally, visually, and bodily on the energy-related practices that constitute one's lifestyle within his or her community. Energy discursive consciousness emphasizes the active position of agency within social practices and explains how its emergence makes it possible to overcome deterministic views that consider individuals as passive carriers of received habitus.

In order to capture the key social processes at play when individuals ascribe meaning to their energy-related practices, I propose to enrich this understanding of discursive consciousness with the notions of "decency" and "decent lifestyle". The concept of decency was originally introduced by Bartiaux and colleagues (2011). When applied to social practices that relate to energy, it enables an explanatory framework that combines (and therefore also redefines) both cultural and individual dimensions of energy needs. Each culture determines what counts as a "decent" standard of living in its own way. At the same time, each person has a unique, individual vision of their own decent lifestyle. What is decent for one person might be perceived as austere or, on the contrary, excessive by another. Therefore, people choose their own (low or high) energy-consuming lifestyles and give meanings associated to their energy-related actions, choosing from pre-existing discourses in circulation. As Bartiaux and colleagues argue, "meanings and significance must remain open and allow different possibilities among which to choose" (Bartiaux et al., 2011, p. 82). Also, Shove (2003) advocates "social and cultural diversity" in the meanings that are attached to energy needs, and underlines the importance of considering the characteristics of the local context.

This plea for a decent lifestyle, in which people give meaning and significance to their own actions, entails that individuals question the taken-for-granted, and sometimes even imposed, ways of living. It entails that they ask fundamental, self-reflective questions: How much energy is needed so that I, and the future generations, can have a decent life? Which energy-related activities in my life do I consider meaningful and which are more superficial? If I could

only use half of the energy that I consume now, which activities would I relinquish?

The reflective process that happens when discursive consciousness is activated is key to challenging current energy needs and advancing towards decent lifestyles. The extent to which these questions lead to an adaptation of energy practices depends, however, on how the process of self-reflection occurs collectively. This level of reflexivity, which takes place within communities, is identified by a network of connected agents that share, contest, and redefine social norms. Energy needs cover a wide range of needs and wants. Accordingly, the ways in which energy needs appear, evolve, are contested, and eventually disappear is a process that happens not only at the individual level, but also through social interactions in urban communities. Social interactions among people who belong to the same community or communities contribute to shaping social norms and to creating new understandings of energy and, in turn, define what constitutes a decent lifestyle today and in the future. Looking at these processes through the lens of decency enables us to explore reflective and discursive mechanisms that can challenge current energy needs. How these discursive mechanisms are triggered, i.e. how energy discursive consciousness is activated, is explored below.

Activating energy discursive consciousness – the first step towards the cultivation of energy needs

Contesting energy needs requires paying special attention to the practices in which those needs are embedded. Their routinized character makes practices more resistant to change, as they belong to the sphere of "doxa", or the realm of unconscious common beliefs embedded in the habitus (Bourdieu, 1977). Besides doxa, there is the sphere of "heterodoxy" (Bourdieu, 1977), a realm of discussion, debate, and argument in which habitus is contested, challenged, and potentially transformed (see Figure 1). Effecting a transition from the sphere of doxa to that of heterodoxy is crucial if individuals are to contest and redefine the social norms at the roots of energy consumption. Energy discursive consciousness can be understood as the process that allows this transition to occur at the level of the community. Yet, how is energy discursive consciousness activated?

Two processes, studied in detail by Richard Wilk (2001, 2002), are key to understand the activation of energy discursive consciousness. The first is the "cultivation" process, which "extends and expands existing needs in new directions, bringing bodily experience into open discourse, debate and contention" (Wilk, 2001, p. 116). During this process of cultivation, people's routines are subjected to a reflective process that might lead to a change in their habitus, unless people favour their old habits (Gram-Hanssen, 2011). Needs might be cultivated as a result of performing daily practices in a different way (e.g., deciding to lower the thermostat by one degree), using a different technology or tool (e.g., keeping a house fresh in summer with natural ventilation rather than using the air conditioning), or by challenging the 'normal' way of doing things (e.g., doing laundry less frequently[3]).

The cultivation process cannot be understood separately from the complementary process of "naturalization" (Wilk, 2001, 2002). There are two types of

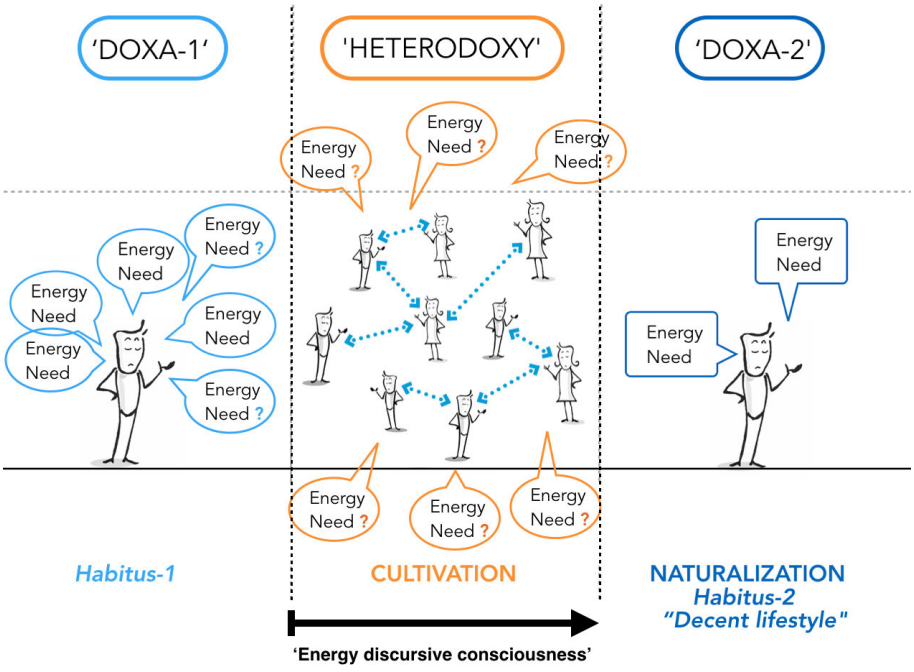


Figure 1: The relationship between cultivation and naturalization processes (Source: author)

[3] The frequency of washing individual clothes has been increasing over the last decades due to new cleanliness norms (Shove, 2003).

naturalization processes: "submersive", which keep needs in the realm of the habitus, and "repressive", which bring needs back to the realm of the habitus. These types of naturalization neither lead to the development of a new habitus nor favour an old habitus. This is why I mobilize this concept and I understand naturalization as the process through which actions that have been consciously reflected upon are transformed into new routines, thus shaping a new habitus. The cultivation phase requires a high level of attentiveness and cannot be sustained for very long. Thanks to the naturalization process, an old habitus is transformed into a new habitus that has assimilated a reflective practice into a routinized practice, needing much less attentive effort (or even none at all). In addition, the naturalization process can remain incomplete if agents realize that an old habitus is preferable to a new one.

I contend that the individual's ability to verbally reflect upon and express their own energy-related actions – namely energy discursive consciousness – enables first a process of cultivation and then, potentially, a process of naturalization. Cultivation and naturalization processes can take place at the individual level: one reflects whether it is necessary to fly to have a nice holiday (cultivation) and potentially chooses a closer destination (naturalization). When cultivation and naturalization processes happen at the community level, however, discursive and reflective interactions among community members take place and can reshape social norms, challenging conceptions of the energy use required for a decent life. This reflective process has a much higher cumulative impact on individual choices. Continuing with the example, when members in a community share their positive experiences of a nice nearby vacation destination (avoiding airport queues, no jetlag, cheaper, etc.), others might consider emulating them when planning their next holiday. Besides, if holidaying close to home becomes very desirable, it would change the status associated with distant, exotic destinations.[4] Social norms and values evolve through such communication, in this case, towards less energy intensive and more decent lifestyles.

Cultivation and naturalization processes are, therefore, peculiarly interactive

[4] Some of the new words that entered the Swedish language in 2019, such as flygskam (flight shame) or tågskryt (train brag), capture the social shifts in Swedish travel choices, driven by climate activists such as Greta Thunberg. The last couple of years have seen record train passenger numbers (Henley, 2019) and "23% of Swedes reduced their air travel in 2018", according to a WWF press release (2019).

processes and, as I will show in Chapter 5, take place in spatialized communities. Figure 1 gives a schematic visualization of the relation between the different processes mentioned above. Cultivation processes occur in the realm of "heterodoxy", characterized by discussion and argumentation, where the habitus can be challenged. Naturalization processes take place in the sphere of "doxa", where the habitus settles into its routinized nature (although talking of habitus implies that its contestation is always possible if a cultivation process is activated). Processes of cultivation can be empirically observed through methodologies that evaluate how individuals interact in a specific place. In order to observe processes of naturalization, it would be important to carry out longitudinal observations to capture the differences in individual behaviour. While knowing whether changes occurs or not in the daily practices of individuals is of extreme importance, it is equally important, and yet much less commonly found in social research, to understand the social mechanisms that trigger change, i.e. observing cultivation while it unfolds. This latter point is the one I chose to focus on, also in light of the feasibility of the study within the temporal resources allocated to the PhD trajectory.

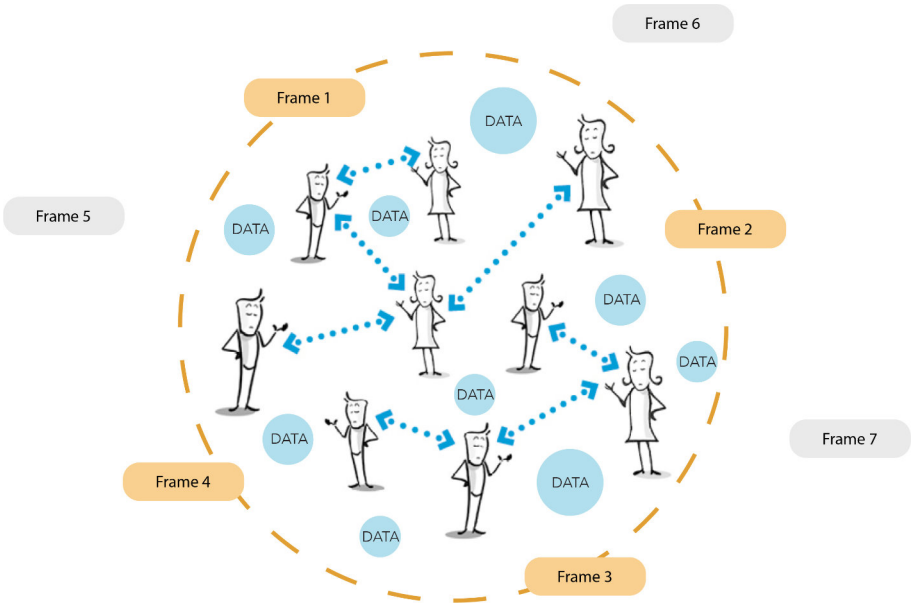


Figure 2: The three core dimensions of cultivation of energy needs: frames, space, and data (Source: author)

The forthcoming chapters unpack the concept of cultivation by looking at three core dimensions – frames, space and data – all of which play a crucial role in the process of cultivation. Figure 2 illustrates that different frames influence how community members make sense of their energy needs. Different types of energy-related data and information are visualized as bubbles "floating around" while the cultivation process unfolds. Some play bigger roles in the activation of discursive processes, others smaller ones. Some influence the beginning of the process, while others are present throughout the entire process of cultivation (as illustrated by the different sizes of "data bubbles" and their place in the graph). Finally, the space where the cultivation process takes place, I argue, is the space of the community. It is not closed (and thus represented with a dotted line) – on the contrary – it is a space open to interactions with other communities, where other cultivation processes might take place. This permeable representation shows that one individual can (and most certainly does) belong to more than one community and does experience different dynamics and discursive interactions, all of them shaping notions of energy decency.


UNDERGROUND
London Travel Information

CHAPTER 3

THE MULTIPLE PRACTICES OF EAR IN RESEARCHING ENERGY NEEDS

Everything is ready. The beamer is on. The flyers are on the table. The coffee cups and the cookies are waiting to be picked up. I look at the clock on the wall. It is seven o'clock. Only a few people are in the room and most of them are researchers. Where are the neighbours? After spending months talking to local initiatives about our research project, sending personal emails, posting messages on the local networks' social media, distributing flyers in mail boxes around the community centre, hanging posters in bars, local churches, community centres, supermarkets… where are the neighbours? I knew that for most neighbours in the Indische Buurt coming together to discuss how to reduce their energy consumption was not going to be thrilling, but I had a wonderful plan of activities to make it informative and pleasant for them. I knew engaging citizens is a tough task but I thought I had some experience with it. In the last years, I have been always bringing together people trying to create communities around the topics that interest me, with some success. That is why, at the start of my PhD research, I was very excited to have the opportunity to try once more to create, not only one, but several communities, grounded in different neighbourhoods in Amsterdam, around the topic of energy use reduction. So, where were the neighbours? Most probably, they were immersed in their daily live activities, which most probably imply consumption of energy, and most probably not thinking about it at all. Now, looking back at these first stages of the exciting

"hands-on" ethnographic journey I initiated, this first reality check, in that room of the community centre De Meevaart, made me understand that in order to engage people I should go to where they are and understand what makes them tick.

This a posteriori reflection of my fieldwork reveals some of the methodological challenges I faced, which will be presented in this chapter. As explained in previous chapters, the aim of my research is to analyse how social interactions in a community enable discursive processes that can question current lifestyles which, in most cases, are quite energy intensive. In order to answer this research question, there are two main requirements: first, to have access to a community (ideally to several different communities) whose members are interested in coming together regularly to discuss about their daily energy-related practices; and second, to experiment with different intervention formats, in order to explore which ones can be more effective in sparking these community discussions. Hence, I use a methodology that allows me to both gain a deep understanding of the local context and to engage with the needs and wishes of the communities analysed, while at the same time, applying this local knowledge to the design of interventions aimed at sparking group discussions around the topic of energy demand reduction. In other words, I deploy a methodology that is rooted in the intertwined relationship between knowledge and action – *Ethnographic Action Research* (EAR) – which was initially developed to explore new understandings and implications of Information and Communication Technologies (ICTs) for development (Tacchi et al., 2003). Despite its niche origin, EAR was developed with the intention to be applied in other fields and with other purposes as a versatile, transferable methodology (Tacchi, 2015).

This chapter is structured as follows. The first section explains EAR as a combination of ethnography and action research that implies, on the one hand, the immersion and long-term engagement of the researcher in the field in order to understand the local context and, on the other hand, reflective action. EAR pays special attention to the process and the reiteration of an "action research cycle of plan, do, [observe and] reflect" (Tacchi, 2015, p. 223). Thanks to "informed reflection", the researcher is able to critically reflect on the actions undertaken and to plan for the next ones more effectively (Tacchi et al., 2003, p. 2). This reflective back and forth allowed me to adjust the initial research de-

sign several times and to experiment with different interventions suggested by the community members. During my fieldwork, I had a twofold role – observer and actor – in the reality in which I was immersed (Kolb & Fry, 1975; Mosconi et al., 2017; Straatemeier, Bertolini, te Brömmelstroet & Hoetjes, 2010). Conducting an EAR requires a certain set of practices and entails ethical considerations that will be covered in this chapter.

In the second part, I will introduce the three communities based in Amsterdam that constitute the backbone of the research: the community of self-builders from Buiksloterham (BSH) in Amsterdam North, the community around the community centre De Meevaart in the Indische Buurt (IB) in Amsterdam East, and the Facebook community the Sustainable Community of Amsterdam (SCoA). Figure 3 presents the timetable of research activities and research interventions during my fieldwork, which took approximately one year, from May 2017 to August 2018. This central figure will be explained in the different sections of this chapter, while complementary information regarding the research interventions and research activities can be found in Appendix 1. The process of finding, engaging, and working with these three communities was a complex endeavour that constituted a large part of the presented work. It is part of the EAR methodology to organize the process of community interaction in a way that continuously reflects and copes with the emerging challenges during the fieldwork. Because EAR methodology grants an active role to the researcher (which, in turn, influences the situations at hand), I will also reflect on the limits and opportunities of this particular aspect of the methodology. Sharing and critically reflecting on the methodological choices serves to improve EAR methodology, leading to more effective research in the future. With this goal in mind, I chose a chronological presentation of the research design and the research steps instead of an analytical explanation of the different instruments. This chronological approach allows me to show the research cycle behind an EAR: plan, do, reflect and back again.

The third section of this chapter focuses on the process, "how one conducts an EAR", and its steps: "planning research", "collecting and documenting data", "organizing, coding and analysing data", and "planning and action". Also, it presents the different research methods of data collection and data analysis used, such as participatory observation, in-depth interviews, actor mapping, focus groups, etc. The fieldwork I conducted with the community of self-

builders from BSH and the community around the community centre De Meevaart will illustrate the process of conducting an EAR.

The fourth section of this chapter is dedicated to presenting the work done together with the SCoA. The research conducted with this community deserves a separate mention as I developed and applied a variation of the main EAR methodology. With this online community, I combined netnography with action research, which I call Netnographic Action Research (NAR). A netnography or "ethnography on the Internet is a new [back in 2002] research methodology that adapts ethnographic research techniques to the study of cultures and communities emerging through electronic networks" (Kozinets,

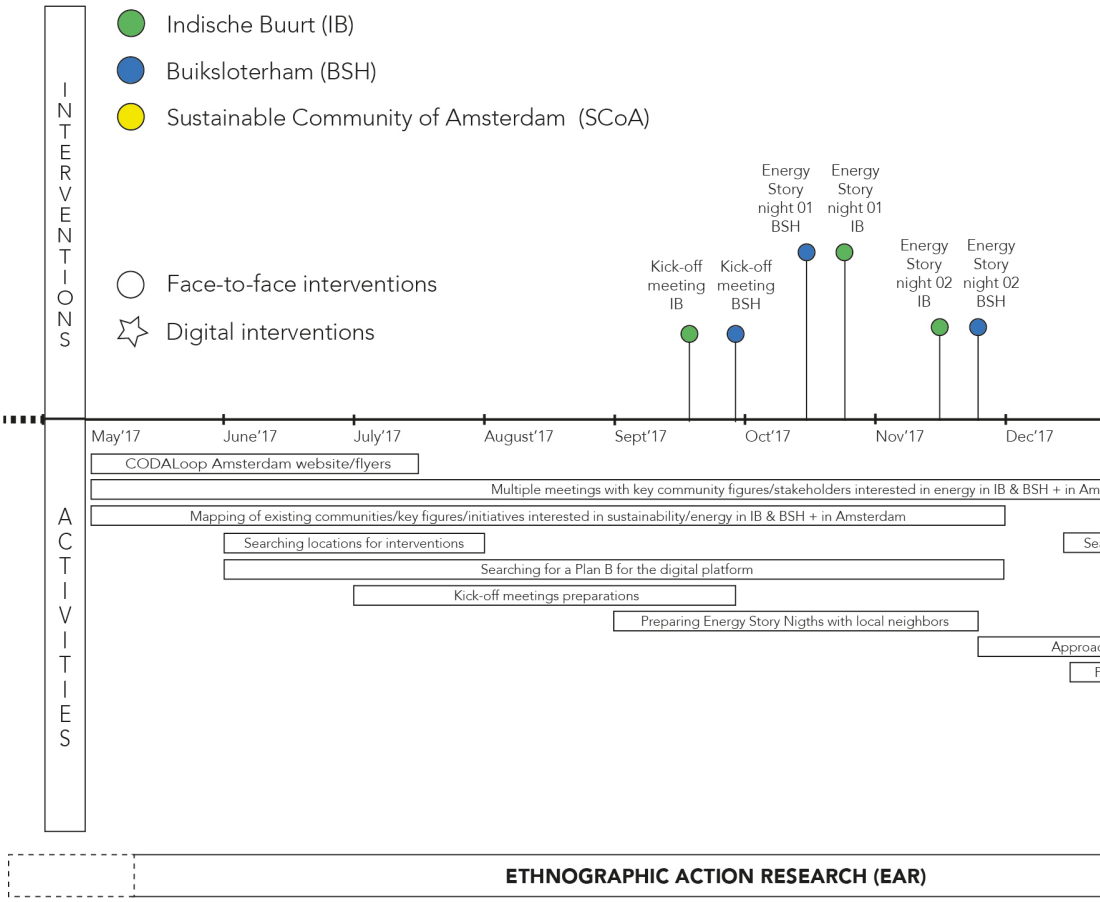
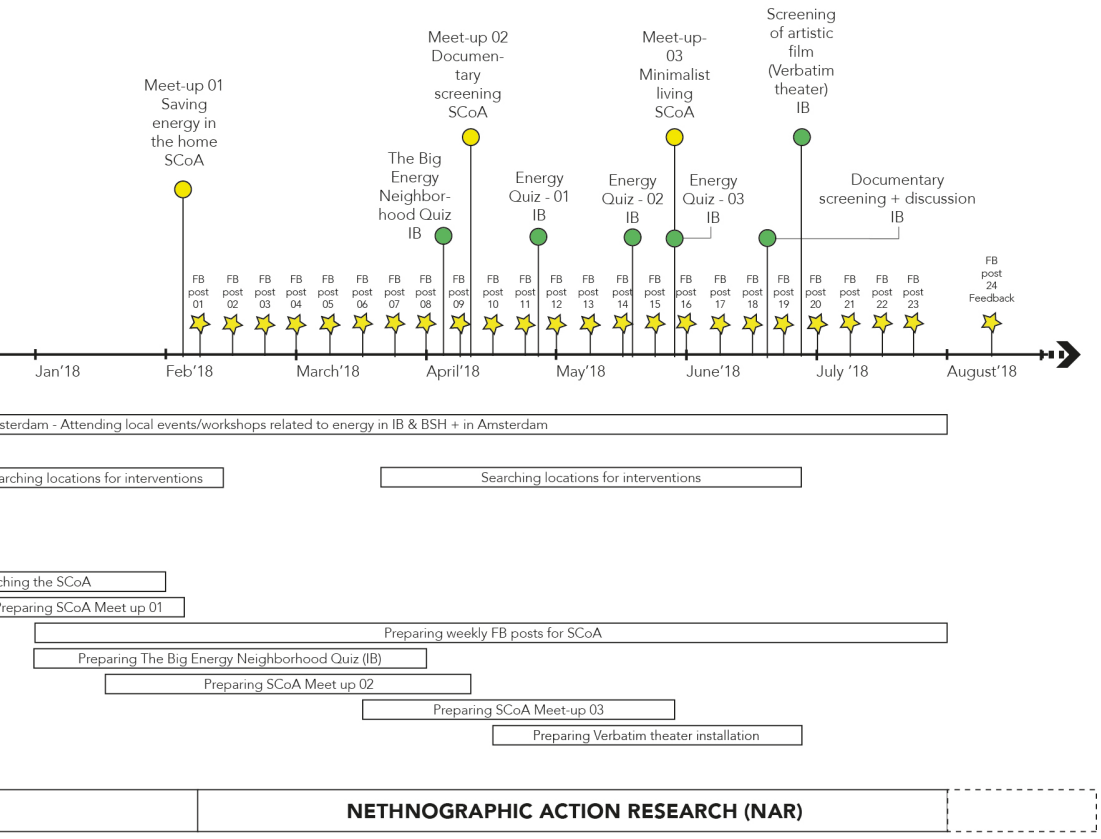


Figure 3: Timetable of the research activities and research interventions (Source: author)

2002, p. 2). Despite the similarities between an ethnography and a netnography there are several important differences, as pointed out by Kozinets (2010): the social interactions are mediated by a technological medium; the identity of the interacting participants can be anonymized; access to data and data gathering coming from online social interactions are relatively easier to process and the online conversations can be easily archived. All these aspects transform the nature of the social interactions and data collection process during a NAR, compared to an EAR. This thesis builds on and combines the six steps of Kozinets' netnographic methodology (2002) – research planning, entrée, data collection, interpretation, ensuring ethical standards, and research representation – with action research methods. This way the knowledge ac-



quired during the netnographic process is used to design targeted face-to-face and online interventions, with and for the SCoA.

In the final section, I will present the methodological conclusions, including the lessons learned during and after the fieldwork and several methodological contributions.

The value and challenges of conducting EAR

The combination of ethnography and action research makes EAR especially suitable for research that requires a deep understanding of the local context – in this case, a deep understanding of how several communities frame their lifestyle choices and the need for energy associated to those choices. This knowledge of the needs and wishes of the community is fundamental not only to engage with the community members but also to integrate it in the design of the interventions aimed at challenging energy choices, i.e. to translate this local knowledge into action. Continuous observation and reflection are required during this process. Four questions guide EAR: "what are we trying to do"; "how are we trying to do it"; "how well are we doing", and "how can we do it differently/better?" (Tacchi et al., 2003, p. 5-7).

During the fieldwork I periodically asked myself these questions. By reflecting on "what am I doing?" and "how am I trying to do it?", I tried not to lose sight of the research goal and how well the research strategy was contributing to achieving it. However, it is worth noting that ethnography is an open-ended practice that requires careful participation and observation of a specific context in order to get a deep understanding, termed as "grounded knowledge" (Glaser & Strauss, 1967). Each ethnography relies on "the acuity of the researcher-as-instrument" (Sherry, 1991, p. 572) and is "visibly affected by researcher interests and skills" (Kozinets, 2002, p. 3). Therefore, knowing in advance what you are going to discover in the field (and how well it is going to serve your research goals) is almost impossible. These first EAR stages are called "broad research" and are characterized by activities such as social mapping and contextualization (Tacchi et al., 2003). During this initial phase, "the focus is on learning about and understanding the community and building connections with it" (Tacchi et al., 2003, p. 19). Who are the main actors and what are their motivations? Are there any frictions among the members? In which spaces does the community prefer to interact?

Most times, what the researcher finds in the field is different from what was anticipated, necessitating frequent evaluation of the achievements and shortfalls ("how well am I doing it"). This re-evaluation of the process, "how can I do it differently/better?" and at times, of the research goals, leads to the adjustment of the short-, medium- and long-term research plans. As the ethnography advances, the plans are tailored to better suit the needs of the community and to allow for more-realistic research goals. This is what Tacchi and her colleagues (2003) called "targeted research". At this point of a research process, there is a need to "clarify needs and problems, prioritize issues and objectives, identify gaps in your knowledge and produce rich data on targeted themes, build on relationships with stakeholders and communities and engage participants" (Tacchi et al., 2003, p. 26). Both broad research and targeted research follow the same iterative process: planning research, collecting and documenting data, organizing, coding and analysing data and, planning and action (MacColl, Cooper, Rittenbruch & Viller, 2005). The third section of this chapter will focus on the "how" and will explain the implementation of these four aforementioned steps in the fieldwork conducted with two of the selected communities.

EAR's roots lie in the notion of "communicative ecologies". EAR was originally developed to research "the actual use of, and interaction with, technologies in the wider context of people's lives and social and cultural structures" (Tacchi, 2004, p. 93), in order to identify communication opportunities and barriers before developing and implementing a certain ICT. Communicative ecologies refer to "the complex systems of communication, media and information flows in a community" (Tacchi, 2015, p. 223). These complex systems are intertwined in socio-cultural and technological structures and involve the relationship between people, media and activities, what Slater (2013) calls "communicative assemblages". This emphasis of EAR in uncovering the communicative ecologies of a specific context came as a reaction to the technological determinism and "results-based management" that characterize developmental action (Tacchi, 2015). That media and communication technologies are crucial to solve problems (e.g., increase citizen participation) and that "measuring" is needed to assess impact are assumptions that go beyond development studies and are currently very present in fields such as urban studies, for example in its critic of the "smart city" (Cardullo & Kitchin, 2019; Mcfarlane & Söderström, 2017). In applying EAR to research energy-related practices, it is crucial to develop an understanding of the "communica-

tive ecologies" of the communities selected in order to enable local engagement, to experiment with different interventions (face-to-face, digital, and hybrid), and to assess how they enable specific discursive processes at the community level.

EAR is a very specific type of ethnography that addresses some of the limits of more classic ethnographies (Majoor, 2018). It belongs to the category of "micro-ethnographies", which requires a short immersion by the researcher (from a couple of weeks to a few months) in the study context to explore a very specific issue (Bryman, 2008, p. 403), and "applied ethnographies", in which the researcher goes into the field with a clear goal, in most cases, linked to an organization's interest (Majoor, 2018). EAR follows an "ethnoventionist approach", dealing with the daily affairs of people (ethno) while maintaining a hands-on focus on interventions (interventionist). Ethnoventionism emerged in management and organization development studies as a way to gain a deeper understanding of change dynamics within an organization. The main difference with EAR is the emphasis of EAR in understanding the communication, media and information flows in a community, in other words, the communicative ecologies within a community.

Furthermore, EAR is a multi-method approach. It combines ethnographic, action research and participatory methods (to the extent that the community members are also engaged in the research process). The following methods characterize an EAR: participatory techniques, such as mapping to get to know the local communicative ecologies; participant observation, taking fieldnotes, in-depth interviews, short questionnaire-based surveys, group interviews or focus groups; and diaries and other self-documentation methods (Tacchi, 2015; Hearn, Tacchi, Foth & Lennie, 2009). In an EAR, "all participants … can contribute to the research, feeding back their thoughts and observations and actively engaging with the research process" (Tacchi et al., 2003, p. 13). While participatory methods were explored with all three communities, the SCoA was the most active community in providing feedback and contributing to the design of the interventions, namely the meet-ups and the Facebook posts. The backbone of EAR are the fieldwork notes. "Writing it all down [at the end of each day is crucial;] every experience, conversation and encounter can be treated as 'material' or 'data'" (Tacchi et al., 2003, p. 10).

I kept daily notes in a notebook, writing down the main activities I performed

each day, the people I talked to, the emails I sent, the places I visited and who was there, and other actions. These fieldnotes are not only descriptive but also interpretative and helped me gather my impressions of what I thought happened in the field every day. Reading these notes regularly helped me to reflect on the process, to make sense of how community member framed their lifestyles, and to prepare better for the interventions with each community. EAR encourages using at least three methods to triangulate data, for more-robust findings (Tacchi, 2015). In my research with the three communities, I combined participant observation with in-depth interviews with key members, fieldnotes and the interventions themselves, which in most cases can be considered as focus groups. A detailed description of the methods employed with each community is provided in the third section of this chapter.

The researcher plays a crucial role in the EAR process. The researcher is both an observer and an actor. There is a thin line between becoming almost a member of the community, thereby experiencing the nuances of the context and the behaviour of the members, and, at the same time, preserving enough "strangeness" to analyse each situation with objectivity (Yanow, Ybema & Van Hulst, 2012). This is the in-between space that I navigated during my fieldwork. By participating in community meals, helping organize community meetings, attending social events such as drinks at the local bar, I slowly gained the trust of the community members. Right from the beginning, I introduced myself and my research so that everybody was aware of my role. In time, as I started organizing and facilitating the interventions, I became a sort of "social-cultural animator", as Tacchi and her colleagues describe, the role of an EAR researcher is to "help[s] breathe life into the projects and the underlying dynamics of the community" (Tacchi et al., 2003, p. 27). With both the community of self-builders from BSH and the community gathered around De Meevaart, I truly became a "social-cultural animator", sometimes in a pushy way. The community members got used to see me distributing flyers in the neighbourhood, posting messages on social media, sending personal emails encouraging participation in the interventions, etc. In the case of the SCoA, I became part of the core team since the beginning and we designed and organized all the community interventions together.

During the entire fieldwork, the role of the researcher covers five main intertwined tasks: 1) engaging and building trust with the communities; 2) designing the interventions based on the local knowledge acquired; 3) organizing the

interventions (advertising them, taking care of practicalities such as finding a location, ordering or bringing food, etc.); 4) facilitating the interventions (in most cases also implying an active role as a participant); and 5) analysing the interventions afterwards.

This complex role, as observer but also as an actor with multiple tasks, entails many ethical challenges which I reflect upon in my fieldwork notes throughout the whole EAR. Doing this particular research practice requires ethical action, acting with confidentiality and not revealing members' testimonies and opinions. Also, treating people with respect and listening carefully to their needs are crucial for building trustworthy relationships. As Tacchi and colleagues state, "you need to first understand people's perspectives and beliefs … before you can consider whether and how your project might challenge them" (2003, p. 29). This perfectly applies to this research and its goal to challenge the need for energy of the community members. As the case portraited studies will illustrate, this is not an easy task. For example, in the case of the SCoA, the members were already busy transitioning towards less energy intensive lifestyles when I entered the field. However, the members of the community built around De Meevaart had different personal circumstances and other priorities in life, seen as more important than evaluating their energy needs. My role as a researcher was to understand the sensitive issues (e.g., unemployment, health issues, etc.) that could interfere with the research goals and determine where to draw the line. In the next section, I present the three communities and unpack the nuances of the fieldwork process.

Three Amsterdam communities and their energy needs

I selected the cases according to criteria of geographic diversity, proximity to the researcher to ensure feasibility, and diverse social composition. Geographically, I chose the neighbourhood scale assuming that physical proximity would be key for encouraging and creating community interactions. Two Amsterdam neighbourhoods were selected, the Indische Buurt (IB) in Amsterdam East and Buiksloterham (BSH) in Amsterdam North, because of prior experience and familiarity. I live close to BSH, so I can consider myself a neighbour, and I have an extensive network of personal contacts in the IB from previous research endeavours. Also, the fact that one of these neighbourhoods, BSH, is currently under development and the other, the IB, is fully consolidated (both socially and physically) provided a valuable opportunity to compare them in

terms of the spatiality of social interactions. The two communities were not preselected but rather emerged as case studies through the EAR process – the community of self-builders in BSH and the communities that gathered at the community centre De Meevaart in the IB. These two communities interact mainly in physical spaces (street and neighbourhood facilities, and the community centre, respectively). Due to my research goals, I was also interested in analysing how members of a digital community interact and how these interactions challenge the members' energy needs. This search led me to the Sustainable Community of Amsterdam (SCoA), a digital community using Facebook as a platform, with whom I conducted a "Netnographic Action Research" (NAR). The three communities are presented below with a description of their surrounding neighbourhoods (BSH and the IB), in order to better understand their local context.

Case study 1: Buiksloterham (Amsterdam North) and the community of self-builders

The neighbourhood

Buiksloterham (BSH) is a 100 ha former industrial area in Amsterdam North, which used to host an airplane factory, a Shell oil laboratory, a large shipbuilding industry and other manufacturing businesses. Over time, most of the companies closed their doors or moved to other locations, leaving behind a waterfront brownfield, with many areas where the soil is still polluted. The City of Amsterdam, instead of buying out the remaining businesses and giving the site to a big developer, decided in 2008 to start experimenting with a more incremental planning approach. This organic, bottom-up approach fitted perfectly with the outbreak of the financial crisis back in 2008 and the following recession years. The zoning was changed to allow for a mix of uses, leading to a diverse mix of residents such as designers, architects and other creative entrepreneurs who started to populate the area. What characterizes these stakeholders is their common vision for BSH, based on circular economy principles.[5]

Housing development is being encouraged in the area, with 2,700 units fore-

[5] For an example of this experimental approach see the creative incubator De Ceuvel (http://deceuvel.nl/en/).

seen by 2030 with active involvement by the Municipality (30% designated as social housing). There is space for another 2,000 housing units by private investors. In 2011, the Municipality sold housing lots in areas that were not polluted to those interested in building their own home, the so-called self-builders. This is how a community started to grow in BSH. There are 12 building groups and approximately 88 individual self-building parcels (400 housing units). Some of these new residents set up a foundation called City Lab Buiksloterham and created a digital platform "Buiksloterham.nl"[6] and a blog "BSH 05"[7] to connect and exchange (e.g., tips on how to build your own home or sharing construction tools).

An important moment for the development of BSH took place in March 2015. More than twenty stakeholders, including local entrepreneurs, residents, the City of Amsterdam, the Amsterdam water agency (Waternet), and others came together to sign the manifesto "Circular Buiksloterham", agreeing on the sustainable and circular principles for the development of the area. In this vision, energy plays a crucial role. BSH's goal is to become energy self-sufficient with a fully renewable energy supply by 2034 (Buiksloterham.nl). The ulti-

Figure 4 : Buiksloterham administrative boundaries (Source: Google Earth)

Figure 5 : Aerial view of Buiksloterham (Source: http://topsy.fr/hashtag.php?q=%23amsterdamnoord)

[6] Gebiedonline - Buiksloterham website (www.buiksloterham.nl).
[7] Blog BSH 05 (https://bsh5.nl/).

mate aim of this manifesto is to investigate "BSH's potential to become a world-class living lab for Circular Cities" (Metabolic website).[8]

The community of self-builders

The community that showed the most interest in the research were the self-builders who live in Bosrankstraat (the first street built) and Monnikskapstraat (the second street built). This group of families were the pioneers who, back in October 2011, decided to sign up for a plot in BSH and moved to this, at the time, neither popular nor populated part of Amsterdam North. They did not know each other but they were all inspired by this "raw, industrial area near the water". They define themselves as "adventurous home builders and residents" with a vision (from their blog BSH 05). They were attracted by the space, the water, the relatively low location costs and the proximity both to the centre and to the creative area NDSM (old shipyard converted in the last decades in Amsterdam's new spot for artists and entrepreneurs). In 2011, not many people saw the potential of this up-and-coming neighbourhood. However, since 2013 the area has been transforming rapidly into a residential neighbourhood and many new residents are moving into the newly built apartments.

Figure 6: Bosrankstraat self-building houses (Source: brochure Noordwaarts from 2011, in blog: http://bsh5.nl)

Figure 7: Group of self-builders in NDSM (Source: blog http://bsh5.nl)

[8] Metabolic is a sustainability consulting firm based in Amsterdam (https://www.metabolic.nl-/projects/circular-buiksloterham/).

Case study 2: The Indische Buurt (Amsterdam East) and the De Meevaart community

The neighbourhood

The Indische Buurt (IB), (the Indies Neighbourhood) is located in the eastern part of Amsterdam. It was named after the former Dutch East Indian colonies and built in the early 1900s to provide housing for native Dutch, blue-collar workers. This growing working class was the consequence of the rapid expansion of manufacturing and transportation industries due to the opening of the new harbours and canals. Amsterdam and the IB experienced a blooming period until the 1970s when manufacturing began to decline. The housing stock, constructed quickly to house the large working class, went through a process of disinvestment and deterioration, which accelerated processes of suburbanization. Many of the original native Dutch citizens moved to the suburbs, going up the social ladder meant moving out of the inner city (Anderiesen, Reijndorp, Bartlema, & Buenting, 1990). As a result, the empty apartments became home for unskilled immigrants, known as "guest workers", largely from Turkey and Morocco, who had come to the Netherlands to work in factories.

The process of urban renewal that followed applied a controversial philosophy known as "building for the neighbourhood" (Anderiesen et al., 1990). The aim of the renewal programs was to renovate or replace run-down tenements preserving the working-class character of the neighbourhood (Van der Pennen & Wuertz, 1985). As a consequence of that urban policy, the IB still has a high concentration of low-cost housing, which today is considered problematic because it did not encourage a mixing of population groups at the time. Current urban policies, both at the national and local level, favour a social mixing approach that aims to improve living conditions in poorer neighbourhoods by increasing social diversity and attracting the creative middle class.

In the IB, the role that the housing associations and the local government have played and continue to play in this transition into a mixed-income neighbourhood is crucial. After the privatization of the housing associations in the 1990s, rents have been raised to market levels and the social housing stock has been renovated and part of it has been put up for sale to encourage homeown-

ership. In 2007, the IB was included in the list "De 40 Vogelaarwijken", which included the 40 most "problematic" neighbourhoods in the Netherlands, in terms of safety and social cohesion (Gemeente Amsterdam Dienst Onderzoek en Statistiek, 2007). In order to improve this status, the local government received generous subsidies to "work" on the neighbourhood. Since then, among other actions, the local government has invested in the beautification of the public space, greening the neighbourhood and creating attractive squares and streets. Also, the local government has influenced urban planning policies to facilitate the opening of certain types of shops, restaurants and cafes that appeal to the middle class while restricting others like call centres, accelerating gentrification processes. As Hagemans, Hendriks, Rath & Zukin (2015) state, this transformation can be observed in streets such as the Javastraat, one of the main arteries of the Indische Buurt, which runs parallel to Balistraat, the street where the community centre De Meevaart is located.

Part of these subsidies ("vogelaargeld", in Dutch), allocated to "problem" neighbourhoods, were used to support citizens' initiatives and to encourage civil society participation. By empowering people and allowing them to take

Figure 8: Indische Buurt administrative boundaries (Source: Google Earth)
Figure 9: Aerial view of the Indische Buurt (Source: Fotographie Siebeswart) http://siebeswart-.photoshelter.com/image/I0000hZsTqDSyBXg

responsibility in the co-creation of their own neighbourhood, citizens built new networks and relationships that have contributed to improving the social cohesion of the neighbourhood in the middle- and long-term. The aforementioned retreat of the state and the outbreak of the financial crisis in 2008 gave a push to this process of citizen empowerment, making the IB one of the most well-known neighbourhoods in Amsterdam for its vibrant bottom-up energy. According to the 2017 population statistics, of the 22,932 registered inhabi-

tants half (48.9%) have a non-Western background (19% of Moroccan and 9% of Turkish origin).

The community around the community centre De Meevaart

De Meevaart is a community centre located in the Balistraat, in the north-west quadrant of the IB. In December 2011, after the building was renovated by the municipality, a group of active residents of the IB took the management of De Meevaart into their own hands. Considered as "a unique social experiment", the programming and management of the 1,800 m^2 facility has been in the hands of local residents even since. To make this possible, the Stichting Meevaart Ontwikkelgroep (MOG) was established. The management model and the exploitation plan are oriented towards the creation of new relationships between government, welfare work and IB residents, in which De Meevaart is seen as an equal partner by the government (website: www.meevaart.nl). The centre seeks to provide inspiration and bring residents together to improve their community in a comfortable inviting setting:

> De Meevaart is the living room of the neighbourhood. People walk in for a cup of coffee, to meet each other or read the newspaper. To work, eat,

Figure 10: Community centre De Meevaart (Source: https://indischebuurtbalie.nl/locatie/759/de-meevaart)

> relax and be able to be together. De Meevaart is a community centre where you can experiment with finding new ways for a more harmonious and inclusive society. Where possibilities are central – not the obstacles. Where your own interests can easily merge with the collective interest. Where volunteers and visitors feel at home. And where the volunteers and visitors feel the ownership of the building and do their best to improve the facilities and organization and make the atmosphere even better. Development and participation are central for employees and volunteers as well as for users and management. (author translation from the Dutch language original, https://meevaart.nl/overdemeevaart)

From all the citizens' initiatives taking place in De Meevaart, the group that showed the most interest in the research activities was Atelier K&K (Kans & Kracht) (Opportunity & Strength). Atelier K&K is a foundation that presents itself as a community that "provides a safety net for and by vulnerable residents with a small wallet. Our meeting place is a safe place where every participant can develop further and there is space for new initiatives. Our idea is to let people motivate and inspire each other through three different types of activities: De Proeverij (the Tasting) and De Gouden Handen (the Gold Hands) for informal caregivers and ex-informal caregivers as well as Kunst uit de Kast (Art from the Closet) for people with a psychological or social disability" (author translation from the Dutch language original, http://ate-

Figure 11: Print screen from the website of Atelier K&K (Source: http://atelierkansenkracht.nl/)

Figure 12: Print screen from the website of Wetenschap in de Wijk (Source: http://wijkweten.amsterdam/wetenschapindewijk/)

lierkansenkracht.nl/). Atelier K&K employs a professional for 28 hours a week who is interested in bringing the topic of sustainability and energy consumption into their initiative. Her support and interest in my research were a valuable contribution during my fieldwork as she helped me to engage with community members.

In addition to the main collaboration with Atelier K&K, there was another local initiative that showed interest in my research, Wetenschap in de Wijk (Science in the Neighborhood). This initiative was started back in 2015, under the leadership of a Professor Emeritus who wanted to organize lectures to bring research closer to the residents of the IB. The founder organizes a monthly event around very diverse topics of interest for the neighbours. Only one intervention was organized with this community (covered later in the chapter).

As a final note, it is important to mention that my aim was to engage with all residents and communities that gathered around the community centre De Meevaart and that all research interventions were open to all the IB residents and were advertised in an inclusive way.

Case study 3: The Sustainable Community of Amsterdam

The Sustainable Community of Amsterdam (SCoA) is an online community whose members are interested in living more sustainably. It uses a Facebook group as a platform to interact online. This community is not associated with a particular neighbourhood in Amsterdam and its members live in different areas of the city (also in other places in the Netherlands and a small percentage are abroad). The SCoA was founded in December 2016 by a woman who saw the urgency of discussing about sustainability issues with like-minded people living in her city, in order to inspire and help each other in quest to live more sustainably. The first members were friends and acquaintances of the founder, and the Facebook group allowed them to stay in touch while the community kept on growing. Her dedication to the Facebook group is remarkable; she promptly engages in the conversations and questions posted by the members as they come up. Her positive tone and hands-on approach to tackling daily sustainability challenges have been crucial in making this Facebook community an active and, in this sense, a successful community. The SCoA is growing rapidly. In September 2017, when I was accepted as a Facebook member, the community had 142 members. In December 2017, when I officially started my fieldwork, it had grown to 230 members. By May 2018, the community had more than doubled to 532 members, out of which 476 lived in the Netherlands (370 in Amsterdam). The vast majority are women (80%) approximately 60% are between 25 and 44 years old. In August 2018, at the end of my fieldwork, the community counted 844 members, of which 715 live in the Netherlands (559 in Amsterdam). At the moment of writing (July 2019), there are 1,453 members in this community (the gender and age percentages are still similar to the breakdown in May 2018).

The founder of this community counts on the support of other active members to manage the community. For example, since September 2017, another member started assembling a newsletter and collecting events in Amsterdam related to sustainability to share with the community. This is how these two ladies started the SCoA team. The aim behind this newsletter was to meet regularly in person with other members to continue the online discussions face-to-face. My support, by providing content and helping organize the meet-ups (as I will explain later in this chapter), made their aspirations possible, and the community started meeting regularly in person to discuss different topics re-

lated to sustainability (approximately every two months). The group presents itself with the following introduction:

> We are an online group of active citizens & environmental enthusiasts engaged in an ongoing conversation around sustainability in Amsterdam and the surrounding areas. The goal is to promote knowledge and inspire each other to actively change our collective habits to a more conscientious life.
>
> In addition to an on-going online conversation, we organize meet-ups to connect in person and exchange personal experiences. Some of the topics covered are carbon footprint reduction, single-use plastics, food waste, energy efficiency, sustainable travel, etc.

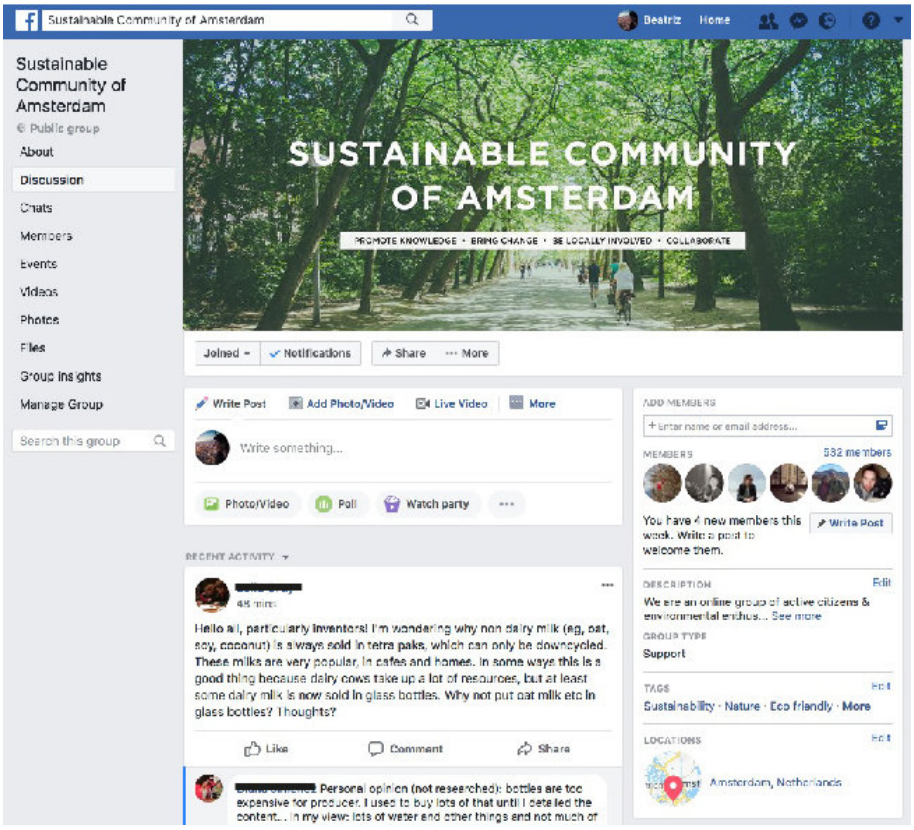


Figure 13: Print screen of the Facebook group page (Retrieved on May 1st, 2018)

-SCoA Guidelines-
Please carefully read the guidelines before posting to encourage meaningful conversation.

-Volunteers Welcome-
If you would like to help with one particular topic or area, please get in touch with one of our admins.

Join the talk, share fresh findings on sustainable tools/organizations/activities in Amsterdam. Dare to ask and make an impact. Let's transform to a greener life together. #fromawareness2action (https://www.facebook.com/groups/SCoDAM/about/).

Practicing EAR with the community of self-builders and the De Meevaart community: customization, responsiveness and continuity

This section presents in detail what following an EAR methodology consists of by explaining, in a chronological and transparent way, the work done with the community of self-builders of BSH (Amsterdam North) and the De Meevaart community in the IB (Amsterdam East). Figure 3 offers a visual representation of the fieldwork. Appendix 1 contains a complete chronological record of the interventions conducted with each community, specifying the main purpose of the intervention, the date, number of attendees, photos of the event and any other relevant information, serving as a road map of the fieldwork. Also, this Appendix provides a chronological description of the main research activities performed in order to facilitate the organization of the research interventions.

As previously explained, an EAR starts with a phase of "broad research" during which the researcher starts to get an understanding of the reality under study and identifies specific issues that are analysed in depth during the phase of "targeted research". The research process for both phases is the same and includes the following steps: planning research; collecting and documenting data; organizing, coding and analysing data; and planning and action (Tacchi

et al., 2003, p. 31). These four phases are intertwined along the whole EAR but the steps can be still identified.

In May 2017, I started planning my research. In the first months, I performed several activities that were useful for the fieldwork in both case studies. For example, I built a website (www.codaloopamsterdam.org) and I advertised the research activities in different Amsterdam platforms (Smart City Amsterdam, Nudge, 02025.nl, Indische Buurtbalie, Buiksloterham.nl),[9] to increase the visibility of the research project but also to advertise the research activities among the neighbours in both areas. In parallel, I started contacting and meeting with key figures in both neighbourhoods – from civil servants to local entrepreneurs, housing corporation representatives, local non-profit volunteers, artists – trying to find existing communities and individuals potentially interested in the research topic and goals. I attended numerous activities in both neighbourhoods to informally meet the neighbours and gain their trust, such as story nights and dinners with music at the community centre De Meevaart (Story Night Meevaart, Jampot Jamsessie, etc.) and networking meetings in BSH (Circulair BSH). I searched for affordable and preferably free locations for organizing kick-off meetings, to officially present the research activities to the communities, and later, to organize the research interventions. This "planning phase" took approximately four months, from May 2017 to August 2017. I documented my activities with fieldnotes and started to digitally organize these materials (i.e. the collected) in Atlas.ti.

In September 2017 the "doing" started. After these first informal rounds of introductions and positive contacts in the field, I organized a kick-off meeting in both neighbourhoods to present a plan of activities (interventions): monthly "energy story nights", "energy safaris", "meetings with local energy experts", and a weekly "energy challenge" (intended to be sent digitally to the members to keep them motivated in between the face-to-face meetings). The format chosen for these kick-off meetings was the focus group. I envisioned a group discussion to receive feedback and shape possible interventions, together with the neighbours.

[9] Smart City Amsterdam website (https://amsterdamsmartcity.com/). Nudge website (https://www.nudge.nl/).
Gebiedonline – 02025 website (https://02025.nl/).
Gebiedonline – Indische Buurtbalie website (https://indischebuurtbalie.nl/). Gebiedonline – Buiksloterham website (https://buiksloterham.nl/).

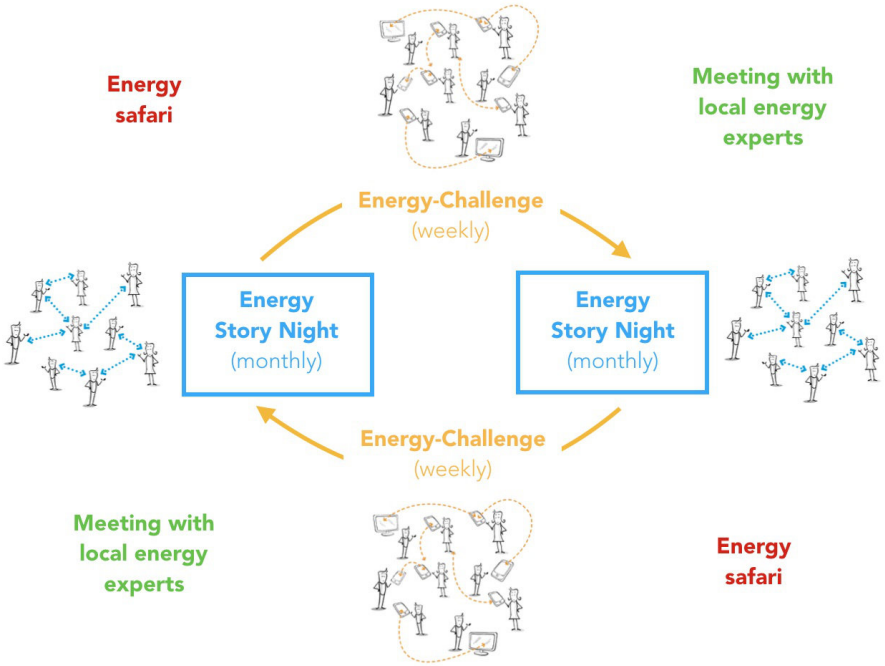


Figure 14: Initial plan of interventions presented at the kick-off meetings (September 2017) (Source: author)

However, the participation in these kick-off meetings was low. This made me realize how challenging it is to engage with people. After reflecting on the outcome of these first two meetings, I re-evaluated my strategy and decided to start organizing a monthly "energy story night" in each neighbourhood. I invited well-known members of the community and asked them to prepare a story to share with their neighbours (and to invite them). They could freely choose the topic of the story; the only requirement was that they had to talk about how they use energy in their daily lives. The neighbours I contacted were enthusiastic. I organized two "energy story nights", in both neighbourhoods, one in October 2017 and the other in November 2017. In BSH, the neighbours chose to talk about how they heat their houses and the building choices they made to save energy at home. In the IB, the neighbours talked about how sustainable it is to eat at home in comparison with eating out and how data from their energy provider gives them new insights into the energy consumed at home.

My role during these interventions was that of a participant facilitator. De-


Figure 15 and 16: Second energy story night in BSH (Source: Milan Ismangil and author)

pending on the size and the dynamics of the group, I used different formats that implied different methods of data collection. For example, in BSH the discussions focused mainly on technology, as that is the interest and expertise of the self-builders who attended the energy story nights. In this case, the neighbours had prepared a PowerPoint presentation, and I merely guided the focus group by asking questions relevant for the research. At De Meevaart, the small size of the group allowed me to explore other formats. Since the invited neighbours were key figures in the community centre, I took the opportunity to conduct an in-depth interview, which shed some light on how to better engage with the communities in the community centre. During the last two interventions, I counted on the support of a research assistant whose role was to conduct participant observation during the interventions, take notes and reflect on the group dynamics and my role. Having access to his notes was useful for increasing awareness regarding my own role as a participant and facilitator during these interventions.

In December 2017, I re-evaluated once more my research plan, following the EAR research cycle of plan, do, (observe and) reflect (Tacchi, 2015, p. 223). Despite all the efforts to advertise and organize the two kick-off meetings and the four energy story nights, the community members were not that interested in attending the meetings. As revealed by later engagements, likely reasons for the low attendance were that, at that point, I had not managed to engage with an existing community at the community centre De Meevaart, and I was still learning how the community of self-builders from BSH frame their lifestyles and how important (or not) is it for them to reduce their energy consumption and energy needs. The interventions were not yet custom-made to

meet their expectations and, most importantly, the interventions were not co-designed, i.e. they were imposed on them.

Therefore, from that moment on, I concentrated my efforts in securing the support of key local actors to help me engage, not just with individuals but with existing communities in the case of the IB, and to design tailor-made interventions in the case of BSH. This plan worked better in the IB than in BSH. In BSH, the self-builders were only interested in a technological approach to energy consumption. They wanted to learn more about how to efficiently consume less energy in their homes by means of technological solutions. Following their wishes, I attempted to organize an "energy safari", a walk in the neighbourhood with an expert that uses a thermostatic camera that measures the energy efficiency of house isolation. Despite my efforts, the community member did not show interest in attending such an activity and, at that point, I decided to concentrate on the other two communities.

At De Meevaart I partnered up with a local key figure, a community organizer, who knows the neighbourhood and the dynamics in the community centre very well. He personally put me in contact with the founders of several communities at De Meevaart, among them the organizer of the community Atelier K&K. Also, he suggested a collaboration with a comedian, also well-known at De Meevaart, and together we designed one of the most successful interventions in terms of the number of attendees, the "Big Neighbourhood Energy Quiz". Between 20 and 25 people attended this event in April 2018, half of them from the group of ladies from the community Atelier K&K. Humour was the main strategy to reach a public that was not very interested in (or even aware of) reducing their energy consumption. The format was straight forward, ten questions about energy issues (dwelling, food consumption, mobility and free time), three options per question, and prizes at the end for the winners. The entertaining atmosphere, with the comedian playing music and making jokes in between questions, kept the public engaged for a couple of hours with the topic.

In the months that followed (April to June 2018), I conducted three other "energy quizzes" with the three sub-groups of Atelier K&K, using a focus group format. Instead of a comedian, the Atelier K&K founder facilitated the interventions. Humour was replaced by trust and the strong community feeling between the members of these three groups, who trust each other and especially


Figure 17 and 18: The Big Neighbourhood Energy Quiz at De Meevaart (Source: Luis Monteiro)

the founder. Prizes were also replaced by "the fun" of seeing if you get the right answer. My role was that of a participant observer, answering clarification questions from time to time. Sharing lunch with the community members before the quizzes allowed them to get familiarized with me and to accept me in the group dynamics. This was especially challenging with the sub-group with psychological disabilities and the sub-group of Turkish women who barely speak any Dutch. No recording, or even notes, were taken during the


Figure 19 and 20: Screening of the documentary Struggles of Green People at De Meevaart (Source: Luis Monteiro)

quizzes to ensure a relationship of mutual trust with the community members. Fieldnotes were taken right after leaving the field.

Another community, "Wetenschap in de Wijk" (Science in the Neighbourhood) showed interest in my research. As previously explained, this community was initiated by an Emeritus Professor who wanted to bring academic research closer to the IB neighbours by organizing a monthly event during

which a researcher presents his or her work. The members who attend this initiative are quite different from those who visit Atelier K&K events. One of the main differences, concerning the case selection criteria, is their higher level of awareness regarding sustainability issues. Hence, a different type of intervention was designed, in collaboration with the organizer of Wetenschap in de Wijk, for this community. In June 2018, we screened a documentary that presented the stories of several Dutch people struggling to transition towards a more sustainable lifestyle. After the screening of the documentary, I facilitated a focus group, which proved to be successful in sparking a group discussion around the topic of reducing energy needs. The focus group was recorded, transcribed and afterwards analysed using the software Atlas.ti.

During the last months of the EAR, I collaborated with two master's students from UvA's Theatre and Dramaturgic Studies programme, and together we envisioned and created an artistic visual film titled *Every Single Decision*. For this visual document, a documentary theatre technique called 'verbatim theatre' was used. This technique consists of creating a fictional narrative by using the exact words used by people, in this case, a narrative of how energy is consumed in Amsterdam using the exact words from the community members that I had been recording during my fieldwork. The goal of this intervention was to analyse the effect that its screening would have in activating a group discussion that can challenge current energy needs.

In order to enlarge the diversity of testimonies, we conducted an online survey sent to people living in Amsterdam, using the personal social media networks of the two students. Twenty-five people sent us back a completed questionnaire, which consisted of three questions: 1) "what do you do in your daily life that consumes energy"; 2) "which energy-related activity/ devices would you be able to give up"; and 3) "what are your wishes for the future regarding the energy transition". These three questions helped structure the narrative in three parts: "I do", "I could" and "I hope". A total of 35 testimonies of people from and/or living in Amsterdam are gathered in the film.

The film was screened four times at the community centre De Meevaart during the WeMakeTheCity festival, organized by the City of Amsterdam in June 2018, with the aim to bring together different initiatives and organizations that are working on the process of city making. Even though members from Atelier K&K and Wetenschap in de Wijk were invited, only one member of

Figure 21: Screening of the artistic film Every Single Decision at De Meevaart (Source: author)

Wetenschap in de Wijk attended one of the screenings. The screenings attracted an audience who was already aware of environmental issues. After each screening, I facilitated a group discussion using the format of a focus group. The reactions of the participants to the film were quite diverse. In general, the less they related to the testimonies shown in the film, the more they focused on the format, while the more they empathized with the testimonies, the more they focused on the content.

Most of the community discussions during the interventions with both communities were recorded. As previously mentioned, only during some interventions with members of Atelier K&K were the discussions not recorded, in order to build rapport. Afterwards, the recordings were transcribed using the Express Scribe software. These transcripts, together with the fieldnotes and material gathered during the fieldwork were analysed using Atlas.ti.

During the initial phase of open coding (Strauss and Corbin, 1988), an initial list of codes emerged from the data. The unit of coding was not limited to the

word or the line, as recommended by grounded theory researchers (Charmaz, 2006). I was open to different units of coding, sometimes there were single words or expressions, other times, full sentences. Also, I was open to find *in vivo* codes. Some appeared from the data such as "space for innovation", as the self-builders constantly used to refer to BSH, or "gezellig" (nice, cosy), used to refer to the moment of coming together as a group or "cijfers met een gezicht" (numbers with a face), used by some of the IB members to give importance both to numeric data as well as personal stories in the process of awareness raising. The initial phase of open coding merged with the phase of focused coding, during which I started to find more conceptual codes. While it is impossible to look at your data with an empty head (theoretically driven codes were present from the beginning of the data analysis process), I tried to look at my data with an open mind.

During this phase of focused coding, categories started to appear, fusing together some of the initial codes. In the case of BSH, some of these categories were: personal efforts to change behaviour; characteristics of the community/BSH area; triggers to activate awareness and technology and energy efficiency. This last category was especially central in all discussions within this community. Some sub-codes within this category were "control", "learning", "independence", etc. In the case of the IB, three categories were similar to those of BSH: personal efforts to change behaviour; triggers to activate awareness; and area characteristics. One category in particular required special attention: cultural aspects. This category had a rich family of codes, such as "habits", "back to the past", "values", and others. I used different colours to group the codes that belonged to the same category, and I used the network tool from Atlas.ti to find relationships between codes and categories (see Appendix 2). This step served as the transition into the final phase of theoretical coding during which more theoretically driven codes emerged. At that point, I started to discover relationships between codes that helped me in the process of theory building.

The fieldwork lasted from May 2017 to August 2018, when I officially stopped with the interventions. However, as it happens with ethnographic research, it is difficult to define a clear end. Since August 2018, I have maintained contact with the most active community members, soliciting informal feedback regarding the entire process. Their voices are also included in this chapter.

Developing and conducting NAR with the SCoA: a participatory approach to netnography

This section is dedicated to the research I conducted with the SCoA (see Appendix 1 for a detailed description of the research interventions conducted with this community). As this is chiefly a digital community, instead of an EAR, a NAR approach was followed. Netnography is a methodology that "adapts ethnographic research techniques to the study of cultures and communities emerging through electronic networks" (Kozinets, 2002, p. 62). As Costello, McDermott and Wallace (2017, p.1) state, netnography "can be adapted and combined with other research methodologies", in this case, with action research methods. The origins of the term "netnography" date back to 1995 when a "pure" netnography required no offline ethnographic research (Loanzon, Provenzola, Siriwannangkul & Al Mallak, 2013). Netnography is a term chiefly attributed to Robert Kozinets (1998, 2002, 2010, 2015); however, as the review of Tunçalp and Lê's (2014) illustrates, other terms have also cropped up in the last decades: virtual ethnography (Hine, 2000); ethnography for the internet (Hine, 2015); cyber-ethnography (Ward, 1999); connective ethnography (Dirksen, Huizing & Smit, 2010); computer- assisted webnography (Horster & Gottschalk, 2012); and netnographic grounded theory (Healy & McDonagh, 2013).

Netnography can range from non-participatory to participatory, depending on how much the researcher gets involved. Many researchers have defended the "passive" approach due to its unobtrusive and bias-free nature (Di Guardo & Castriotta, 2013; Mateos & Durand, 2012). In these cases, netnography becomes a "pure observational" technique (Alang & Fomotar, 2015, p. 24) or, as described by Loanzon and colleagues (2013, p. 1576), a "specialized type of lurking". This non-participatory approach to netnography has been criticized for being a "more superficial, less immersive version" of netnography (Lima, Namaci & Fabiani, 2014, p. 7). Kozinets claimed that it was a mistake to push ethnography towards a form of "unengaged content analysis" and elaborated a new definition: a "more human-centred, participative, personally, socially and emotionally engaged vector" (2015, p. 96). Costello and colleagues (2017, p. 1) offer a detailed review of the evolution of netnography and defend a more active approach to ethnography: "researchers … more engaged in active, real-time participation in their netnographies, … could also contribute to important online social narratives". For all these reasons, I developed and ap-

plied a participatory approach to netnography, what I call Netnographic Action Research (NAR).

There were both active and passive phases during my work with the SCoA, which is normal in an active netnography (Costello et al., 2017). I followed the six steps of Kozinets' (2002) nethographic method: research planning, entrée, data collection, interpretation, ensuring ethical standards and research representation. In a more recent work, Kozinets (2015) has expanded these six steps into twelve phases: introspection, investigation, information, interview, inspection, interaction, immersion, indexing, interpretation, iteration, instantiation, and integration. Despite the added value of this meta-exercise to categorize methodological steps, the research I conducted was informed by Kozinets' earlier six steps approach. While this allowed to more effectively reflect on how to organize the empirical work, it is still possible, a posteriori, to identify the twelve steps of Kozinets' revisited methodology.

In September 2017, I became a member of the SCoA Facebook group, which back then was still in its infancy. The community had 142 members and had been operating for only one year. As part of the passive NAR phase, I monitored the community for a couple of months and in December 2017, I approached the administrator explaining her my research goals and proposing to join forces. She was very positive and after this first online contact we met in person to further discuss our motivations and synergies. This is how I got to know the founder of this community. Understanding her motivations and interests to create and manage the SCoA helped me better tailor the suggestions for our collaboration. For example, she was clearly interested in learning how to reduce her energy consumption at home. That is why we started preparing a set of weekly Facebook posts focusing on this aspect, to spark discussion among the community members.

Also, I got to know another active member who was helping the founder assemble the weekly newsletter with events related to sustainability happening in the city. Together they were the core team behind the SCoA. The ambition behind this newsletter was to meet in person with other community members. Before we started our collaboration, they had organized one meet-up, and their goal was to organize more regular face-to-face community events to continue the online conversation in person.

We started by organizing a meet-up around the topic "saving energy in the home". This can be considered the beginning of the research planning phase, which lasted from December 2017 to February 2018. In these months, I followed closely the online discussions, I met regularly with the SCoA team, and I immersed myself in articles and websites such as Milieu Centraal and Natuur & Milieu[10] to gather data and information for the weekly Facebook posts and the first meet-up. I soon realized that in order to facilitate discussions around the topic of energy, I needed to increase my own knowledge on the topic, so I started learning about various energy-related topics: LED lamps, the electricity consumption of electronic devices, monetary saving associated with certain behaviours, such as lowering the thermostat by one degree or ventilating, etc.

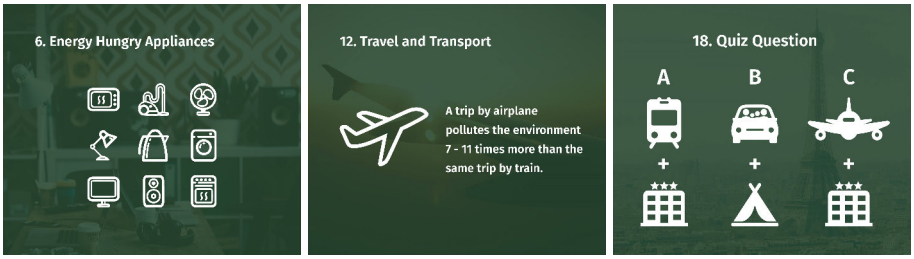
In February 2018, it was my official entrée in the community. I introduced myself in the community's feed (see my message in Appendix 3) and I explained my role as a researcher and the activities the SCoA team and myself had envisioned for the community. In all my posts I tagged the founder and the other member of the SCoA team, who also provided invaluable support with the graphic design of the weekly Facebook posts. February to August 2018 brought the most active segment of the NAR and also the data collection phase. We prepared and posted a total of 24 posts (all posts can be found in Appendix 1). The first 11 posts focused on the topic of reducing energy consumption in the home. The next 7 posts dealt with the environmental impact of holiday choices. These related to mobility (e.g., flying vs taking the train), holiday accommodations, free time activities, etc. The next 5 posts addressed food consumption and the energy impact of daily food choices such us buying seasonal food, "zero miles" products, organic vs conventionally grown foods, etc. The final post was a: "thank you" note and a request to the community members for feedback.

During these six months, I actively participated in the discussions under these posts, mainly moderating the discussions but also commenting and asking questions. Also, I participated in discussions started by other members. In this time, I learned about the community dynamics and the other community members learned about me. I identified the most active members and which

[10] Milieu Centraal website (www.milieucentraal.nl/).
Natuur & Milieu website (www.natuurenmilieu.nl/).

role they played (e.g., "discussion starter", "expert", "discussion animator", etc.).

During these six months, together with some of the active members, we organized three meet-ups, one every two months. The topic of the first meet-up,



Figures 22, 23 and 24: Examples of the weekly Facebook posts (Source: author and Helena Olsen)

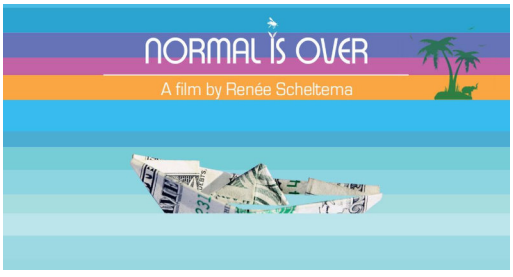
"Saving energy in the home", was decided together with the founder, while the topics of the other two meet-ups were chosen together with the community (using Facebook's pool tool). For the second meet-up we screened the documentary *Normal is Over*, which offers a fresh perspective on the financial and economic paradigms that underlie environmental problems, while at the same time featuring solutions to climate change. We invited the director, who kindly accepted and attended a Q&A session. The topic of the third meet-up was "minimizing waste, a step towards a minimalist lifestyle", and we invited one of the members who is already living a minimalist lifestyle to share her story with the community.

I used a different format in each of the three meet-ups. In the first meet-up, I moderated a focus group during which I asked the community members to reflect about the past, present and future of two daily practices that involve consuming energy in the home. The attendees selected the specific practices for discussion, settling on heating and washing. In the second meet-up, I facilitated a discussion after the screening of the documentary, and in the third I used a combination of an in-depth interview with the invited member and a group interview. All the meet-ups were promoted using Facebook and took place in a "sustainability-oriented" location, the first two in a café and the last one in a shop that sells home-made sustainable soaps. Both owners are SCoA

members, which facilitated the organization of the event. Attendees were asked to make a small contribution to cover part of the location costs.

During this phase, I collected different types of data. First, I copied and pasted online data, specifically the research-initiated discussions on the Facebook page of the community, in a word document. Also, other discussions not di-

Figures 25 and 26: First meet-up with SCoA, "Saving energy in the home" (Source: Helena Olsen)



Figures 27 and 28: Second meet-up with SCoA, screening the documentary *Normal is Over* (Source: Renée Scheltema and Luis Monteiro, respectively)

Figures 29 and 30: Third meet-up with SCoA "Minimizing waste, a step towards a minimalist lifestyle" (Source: Helena Olsen)

rectly initiated by the research but related directly to my research topic or research goals (the questioning of energy-intensive and consumeristic lifestyles) were captured. While collecting this data, I included the members' names and profile photos to recognize them during the phase of data analysis, as well as the emoticons, likes, photos, videos, and other information they shared.[11] The nearly automatic transcription of this type of data speeded up the pace of data collection (Kozinets, 2002). Second, I recorded and transcribed the discussions during the three meet-ups using the software Express Scribe to speed up the process. Also, I added photos to document each event. Third, I took fieldnotes after every meeting with the SCoA team and after every meet-up, reflecting on my observations and informal chats with the members. Also, I wrote fieldnotes after some of the weekly discussions in a memo form. Fourth, I copied and pasted the most meaningful written interactions via Facebook private messages with some of the active members. Finally, I collected the statistics provided by Facebook. In May 2018, the founder made me community administrator, which allowed me to access information regarding member profiles (gender, age, city of residence), the impact of certain posts in terms of engagement, and other analytics.

In addition to the continuous reflection during the data collection phase (especially the fieldnotes), the main phase of interpretation or data analysis took place from August to October 2018. I organized and analysed my data using the qualitative data analysis software Atlas.ti. I started analysing the fieldnotes, the data gathered during the meet-ups and the discussion sparked by research inputs. Then, I continued by analysing the other relevant Facebook posts. The risk of having relatively easy access to such big quantities of online data is that the researcher can get lost in the endless discussions; as Kozinets (2002, p. 6) advises, "researchers will generally want to save their most intense analytical efforts for the primarily informational and primarily on-topic messages". In this NAR, I sought to balance the analysis of textual discourse with the analysis of the discussions and observed behaviours during the meet-ups.

Similar to the analysis of the data gathered with the other two communities, I started with an initial phase of open coding (Strauss & Corbin, 1998). Instead

[11] Members' names and other information that could link them with their testimonies is not used in this thesis; when quoting their posts or statements, members are identified with the letter "M".

of imposing codes on the data, the initial codes emerged from the data and were further refined in successive rounds of analysis. I did not code word-by-word or line-by-line as grounded theory suggested (Charmaz, 2006). Instead, I chose to code both short but also larger segments of data. With this approach, several in vivo codes emerged (e.g., "I'm trying, it's hard", "busy life" or "ongoing conversation"), which were useful to capture the feelings and actions of many community members. By coding larger data segments, sometimes as long as entire paragraphs, more conceptual codes started to emerge ("freedom", "hedonism" or "responsibility"). This initial coding phase organically overlapped with a phase of focused coding and, as mentioned, more selective and conceptual codes appeared.

During this back and forth process, I went through the data several times, sometimes to re-code the data with the new codes that were emerging. As the process of data analysis unfolded, some codes started to group together in categories. Using the colour tool in Atlas.ti, I gave the same colour to codes that were related. The following main categories emerged from the data: cultural aspects; personal efforts to change behaviour; entry points into sustainability; triggers to activated awareness, and others. Within these categories, some codes had more importance than others so I started building a network with those, using the Atlas.ti tool (see this network in Appendix 2). It was at this point that the phase of theoretical coding began. These theoretical codes (e.g., "lifestyle changes" or "needs") hinted at relationships between categories, moving the research forward from analysis to theory building.

In a NAR, as in an EAR, ethical standards must be safeguarded. Three main aspects need to be covered: the researcher's identification, the anonymity of contributing members, and incorporation of members' feedback (Kozinets, 2002). First, the researcher should introduce herself and be clear about her role and research goals, which I could do conveniently via a Facebook post in the community feed (see Appendix 3). This identification was repeated in most of the weekly messages to ensure that new members would understand the purpose of the weekly posts. Using the same graphics and colours contributed to identifying the research-initiated discussions and the meet-ups. Second, I ensured confidentiality by omitting the individual members' names and employing anonymized codes when referring to specific quotes (e.g., "member 1 shared this experience"), similar to what Xun and Reynolds (2010) did in their research on public forums. In their case, they use the word "partici-

pant". Third, at the end of the active phase of my netnography, I requested feedback from the members using a short survey (see Appendix 4). This request was not very successful and only a few members replied. Therefore, I decided to gather feedback in other ways such as during informal chats after the meet-ups or communications via Facebook private messages (this data was collected using fieldnotes). Incorporation of members' feedback is part of the last step in Kozinets' (2002) approach called "research representation". This is an important phase because in a netnography both community members and researcher are co-creating a text and "the sharing and checking of data with community members is an obvious and necessary netnographic step" (Costello et al., 2017, p. 8). Hence, I contacted members whose quotes I included in the empirical chapters in order to request their consent and give them the opportunity to comment on the narrative. To facilitate this process, I sent each member an extract of the chapter where the quote is located to provide them with contextual information.

Throughout the entire NAR I took consistent fieldnotes, written under the form of an autoethnography (Chang, 2008), in order to reflect on the multiple roles that I undertook during my work with the SCoA and how these roles evolved. In the beginning, due to my status as researcher, I was seen as an expert on energy issues who was going to share knowledge with the members to help them save energy. As the online and offline discussions unfolded, this role gradually shifted and I became more of "an active member", part of the core SCoA team, a facilitator of discussions, and organizer of meet-ups. This way, I became a community manager and a content producer. As Antikainen (2007) states, community managers can have a key role in providing members with "quality content" which, in turn, allows members to keep on learning about certain issues, in this case, how to minimize not only their energy consumption but also their energy needs. "Managers and moderators of online communities are particularly well placed to use and benefit from active, real-time netnographies rather than passive, past-oriented netnographies" (Costello et al., 2017, p. 9).

To sum up, during my collaboration with the SCoA, I was an active participant in the daily discussions but also an observer, monitoring the online discussions thanks to the unobtrusive nature of digital communication. Due to the online nature of this community, even after the fieldwork ended, I kept in con-

tact with some of the active members and I still participate in online discussions, although less actively.

Conducting an EAR and a NAR: listening to the community, ensuring engagement and adjusting along the process

In this final section, my aim is to reflect on how well these methodologies have helped me to achieve my research goals and the lessons I learned along the process. Also, I will highlight the main challenges that researchers face when utilizing these methodologies. Both an EAR and a NAR have proved to be both key in finding and engaging with diverse communities. In other words, without an ethnographic approach it would have been near to impossible to identify and gain the trust of the communities I worked with. The ethnographic approach has allowed me to understand how the members frame their energy consumption and their energy needs and to identify the entry points in each community, in order to design tailor-made interventions.

The first lesson I learned is that working with existing communities offers more opportunities to successfully reach the research goals. My first attempt was to address the research at the level of the neighbourhood, aiming at creating communities of neighbours around the topic of energy. This proved to be not the most adequate choice. Physical proximity was not sufficient to enable social interactions among neighbours and to build a community from scratch. Existing motivations and intrinsic interests in energy-related topics are, among others, necessary preconditions for at least minimal engagement. Also, three other limiting factors need to be considered. First, the length of the fieldwork (approximately one year) in relation to the whole PhD timeline (three years) did allow me to find existing communities and to gain their trust; however, one year is a relatively short time period for an EAR, and I could only experiment with a limited number of interventions. Second, I started my fieldwork without any support from other non-research parties, which would have been instrumental in speeding up the process of community engagement. Third, due to the limited budget offering monetary incentives to members to ensure long-term commitment with the research activities was not possible. Also, it is not recommended since these incentives activate extrinsic motiva-

tions that tend to disappear when the incentive stops (Ölander & Thøgersen, 1995).

The second lesson learned is that a high level of community engagement needs to be guaranteed from the beginning of the fieldwork if the researcher aims to monitor how community members shape their energy needs in time. When considering the assessment of how community interactions are able to activate discursive processes that challenge energy needs and current consumeristic lifestyles, both an EAR and a NAR can be considered effective methodologies to achieve this goal, although the choice depends on the specifics of each case study. As explained in Chapter 2, the impact of the interventions was assessed by analysing the discursive communications among the community members. The ideal scenario would have been to have a comparative understanding of how members frame their lifestyles before and after the interventions. This would have allowed assessing how frequent community discussions shape the way members perceive their own lifestyles and the energy-related practices that constitute these lifestyles. However, during my fieldwork it was not realistic to expect community members to attend all interventions, especially the face-to-face events. People were busy and time was limited. Some members attended several interventions and, in those cases, it was possible to monitor the activation of energy discursive consciousness and how the cultivation of their energy needs took place (outlined later in the empirical chapters). Online interventions, such as the Facebook posts with the SCoA, allowed me to track how the most active members were shaping their lifestyles choices during the NAR months. In conclusion, the more intrinsically motivated the community was to learn about energy issues, such as in the case of the SCoA, the higher the levels of engagement and easier it was to gather data. In turn, this allowed me to assess the effect that the research interventions had in enabling the aforementioned discursive processes.

The third lesson learned is that the intervention formats need to be designed in a way that allows the researcher to collect data regarding members' lifestyle choices before and after each intervention and ideally, throughout all the research interventions (including time in between interventions). Different formats allowed me to gather data in different ways. For example, the energy quizzes conducted with Atelier K&K were meant to engage with a community that was not very interested in energy issues and the discussions did not go deep into the reasoning behind members' lifestyle choices. Also, requesting

feedback from these members was more challenging. Despite these obstacles, it was invaluable to work with diverse communities that have different levels of motivation, engagement and awareness of energy issues. One of the added values of this research is precisely this work with communities who are not per se interested in the research goals of sustainable lifestyles.

The fourth lesson learned is regarding the role of the researcher. Flexibility and reflexivity are two crucial requirements for any researcher who attempts an EAR or a NAR. Constant evaluation of the community interests and the research goals is key to not get lost in a process that can seem very messy at times. Even if apparently more time consuming, prioritizing community interests and the members' framings is key in the long term. There is no point in organizing interventions that fit the research goals if they do not speak as well to the needs of the community. Understanding how members frame their energy needs allowed the research to be more responsive to the community's interests, facilitating the engagement with the research interventions. Also, ethical issues should be constantly reviewed. The researcher needs to be transparent in his or her role in order to make sure that the process is fair to all involved parties, both the community members and the researcher. This transparency helps prevent misunderstandings and raising false expectations, especially when the fieldwork phase ends and the researcher needs to progressively disengage from the field.

Many different aspects might influence the effectiveness of an EAR and a NAR in achieving the research goals. In this chapter, I aimed to present, in a chronological and transparent way, the process I undertook with these three communities and the main lessons learned along the way, underlying both the struggles and the small victories. I hope that it helps academic researchers and other interested parties deploy similar methodologies in their work.

CHAPTER 4

REFRAMING ENERGY NEEDS AT THE COMMUNITY LEVEL

Every day, we are constantly trying to make sense of what happens around us, trying to understand the reality we live in. We ask ourselves, "what is it that's going on here" (Goffman, 1974, p. 25). The more experiences we have gathered and the more familiar we are with our surroundings, the less conscious this process is. Following an understanding of the world in which reality is constructed (Hay, 2002), it can be stated that individuals are constantly shaping and constructing their own understanding of issues (Crigler, 1996; Gamson, 1992, 1996; Neuman, Just & Crigler, 1992) "by tapping into the symbolic resources that are available to them in their everyday lives, as conveyed through their experiential knowledge, popular wisdom, and media discourse" (Pan & Kosicki, 2001, p. 39). This process is known as framing. Using Goffman's words (1974, p. 10-11), frames can be defined as "principles of organization which govern events … and our subjective involvement in them". Frames "define problems", "diagnose causes", "make moral judgements", and "suggest remedies" (Entman, 1993, p. 52). The use of frames enables individuals "to locate, perceive, identify, and label" occurrences or life experiences

Part of this chapter is based on the co-authored book chapter: Pineda Revilla, B. & Savini, F. Unpacking energy needs. Framing decency in Amsterdam communities. In Savini et al. (2020) From efficiency to reduction. Tackling energy consumption in a cross disciplinary perspective. InPlanning.

(Goffman 1974, p. 21 as cited in Pan & Kosicki, 2001, p. 37). As Goffman (1974, p. 13) emphasizes, the process of framing does not focus on the "organization of society" but enables the "organization of experience", of personal experiences.

Pan and Kosicki (2001, p. 37) put together a review of scholars[12] who have sought to define the key terms of "frames", "framing" or "frameworks", which are most of the time used interchangeably. Most of them refer to Goffman's widely cited work on framing analysis, the approach that I use in this thesis. I am interested in how individuals make sense of their own energy-related experiences and how they frame their energy needs, in order to explore how the interactions at the community level enable them to challenge and reduce those needs. In other words, it is necessary to first understand the different types of frames that community members use when talking about their lifestyles in order to later find out which frames can function as entry points to activate energy discursive consciousness, leading ultimately to the development of more "decent lifestyles" (Bartiaux et al., 2011). Achieving a shared understanding of decency requires a reflective process that challenges the taken-for-granted ways of doing things. This reflective process takes place during community interactions when energy discursive consciousness is activated. How different framings of energy needs contribute to this process is the object of study in this chapter.

In the first section, I will describe how framing has been analysed as an individual practice in fields such as psychology and business, in order to assess how effective message framing is leading to a desirable behaviour (e.g., energy conservation practices). Moving beyond this psychological approach, in the second section, I will explore framing as a collective and a discursive practice, which takes place in interaction with others. More specifically, I will describe how frames operate and affect social change by building the so-called "communities of discourse" (Wuthnow, 1989). I understand a community of discourse as a space where public discourse can be shaped and constructed, therefore, going beyond geographical and spatial considerations (Chapter 5 focuses in detail on the notion of community and its spatiality). In the third section, I will delve into the empirical research material to identify four

[12] See (Cappella & Jamieson, 1997; Entman, 1993; Gamson & Modigliani, 1989; Gitlin, 1980; Iyengar, 1991; Kahneman & Tversky, 1983; Minsky, 1975; Price & Tewksbury, 1997; Snow, Rochford, Worden & Benford, 1986; Tuchman, 1978) (Pan and Kosicki, 2001, p. 37).

frames used by the Amsterdam-based communities when talking about their energy-related practices (moral, efficiency, monetary, and hedonistic). Also, a categorization (primary, secondary, and enabling frames) between the aforementioned frames is presented in this section, to explain how energy discursive consciousness is activated and more decent lifestyles are achieved. In the fourth section, I formulate three types of frame articulations (self-centred DIY, money-oriented solidarity, and engaged hedonism) which respond to different combinations of the aforementioned frames in each community. In the final section, I discuss and reflect on the role of framing to activate community discussions that can challenge energy demand and I put forward a few lessons to inform future community-centred energy policies.

Framing: starting as an individual practice

There are many different types of framing. Sometimes, the same type of information can be presented in a positive or in a negative way, called "valence framing" (Levin, Schneider & Gaeth, 1998). The choice of framing affects how the person reacts to the same information. Levin and colleagues present three types of valence framing: 1) "risky choice framing [in which] the outcomes of a potential choice involving options differing in level of risk are described in different ways" (e.g., lives saved vs lives lost) (Levin et al., 1998, p. 150); 2); "attribute framing, in which some characteristics of an object or event serves as the focus of the framing manipulation" (e.g., presenting the quality of ground beef as "75% lean" vs "25% fat" (Levin et al., 1998, p. 150); and 3) "goal framing, in which the goal of an action is framed" (e.g., focusing on achieving a gain vs avoiding a loss) (Levin et al., 1998, p. 150). In contrast, frames can also use different types of qualitative information, for example, comparing the energy performance of a household in relation to their neighbour's data, without adding any positive or negative connotations to the information provided.

The impact of "framing" has been analysed in diverse fields such as "cognition, psycholinguistics, perception, social psychology, health psychology, clinical psychology, educational psychology and business" (Levin et al., p. 150). Also, framing has been explored in environmental psychology to encourage pro-environmental behaviours (Van de Velde, Verbeke, Popp & Van Huylenbroeck, 2010, p. 38). In the latter case, the aforementioned "goal framing" is predominantly used. When using this frame, the goal of a certain action

is framed in a positive or a negative way. For example, when thinking of disrupting the practice of eating animal-based proteins, a positive framing –for someone interested in reducing their energy consumption – would be to emphasize that a vegetarian diet helps save energy, water, and other resources, such as space, needed to grow the food meant for animal feed. Framing it negatively – for someone interested in health issues – would be to focus on the consequences of eating animal-based products in your own diet (e.g., higher risk of cardiovascular diseases, etc.).

Depending on the individual, one of the two framings could be more effective. Many studies in the field of psychology have investigated the factors that play a role in the effectiveness of framing: socio-demographic factors such as gender, age, education (Qin & Brown, 2007; Viswanath & Emmons, 2006); the a priori attitudes towards a certain issue; the level of current involvement with the issue (Maheswaran & Meyers-Levy, 1990; Rothman, Salovey, Antone, Keough & Drake Martin, 1993); the perceived consumer effectiveness, defined as the belief that one's actions can make a difference; the perceived importance of the issue at hand (Lai & Kuo, 2007; Obermiller, 1995); the perceived knowledge and need for information (Griffin, Dunwoody & Neuwirth, 1999; Verbeke, 2005), etc. (for a complete review see Van de Velde et al., 2010).

The aforementioned studies focus on framing as an individual practice and how message framing affects individual behaviour. In this chapter, however, framing is analysed from a sociological perspective, going beyond the impacts that framing has at the individual level, focusing on how framing, which happens during community interactions, shapes public discourse and affect social norms that regulate our need for energy.

Framing: a discursive practice that shapes public discourse

As previously discussed, reality needs to be represented and frames help people "to select some aspects of a perceived reality and [to] make them more salient" (Entman, 1993, p. 52). People use frames all the time to make sense of their personal experiences. By doing that, they construct reality. Scrase and Ockwell (2010, p. 2227) defend the view that "there is nothing outside of lan-

guage or that cannot be brought back to the use of words". Reality is constructed through discourse, and framing, as a discursive process shaped during social interactions, contributes to the production of discourse (Scrase & Ockwell, 2010). Culture exerts a powerful influence in the creation of frames. Having a deep knowledge of a certain culture enables a better understanding of the frames used by the people who share a similar cultural background. As Entman (1993, p. 53) states, "culture is the stock of commonly invoked frames; in fact, culture might be defined as the empirically demonstrable set of common frames exhibited in the discourse and thinking of most people in a social grouping". Therefore, it can be stated that the articulation of different frames contributes to define the boundaries of the public discourse related to an issue, which, in turn, is profoundly influenced by the socio-cultural context (Lindseth, 2004).

But how do frames operate? How do frames lead to the shaping of existing discourses and to the creation of new ones? How do frames influence social change? The process of framing follows similar techniques as those employed by narratives (Kuypers, 2006). A narrative is a personal take on a story. In other words, the same story can be told in many different ways. Each of these different ways is a narrative. Some authors use the term "story-lines" to refer to narratives (Scrase & Ockwell, 2010). Story-lines use symbolic references which, within a similar cultural context, are easily recognized "at an almost subconscious level" (Scrase & Ockwell, 2010, p. 2228). Sharing a story-line means to share a similar understanding of an issue. This is how frames operate. People who share a common frame, a common narrative, perceive and understand reality in a similar way. That is why frames tend to emerge within communities that share a common interest and whose members have a similar view of the world.

Furthermore, frames "can be [also] seen as a means of community building" (Pan & Kosicki, 2001, p. 41). As these authors point out, this last type of community is not "a sociologically close-knit unit in a confined geographical area but a transitory and discursively bound aggregate, capable of collective action in deliberative politics" (Pan & Kosicki, 2001, p. 41). This is what Wuthnow (1989) called "communities of discourse". People can and in most cases do belong to many different communities, including also "communities of discourse". For example, the same person can be part of a group of friends, colleagues, several digital communities, or a group of parents who bring their

children to play soccer on Sundays – all of which can have quite different environments. These communities of discourse have a transient nature since they are constantly evolving, due to the continuous shaping of discourse. Although transitory in nature, they play a key role because these communities of discourse set the context for collective action (Pan & Kosicki, 2001, p. 42). Wuthnow (1989), as cited in Simpson (1992), defends that cultural change takes place:

> when new modes of discourse create novel cultural products in concrete organizational contexts where actors are able to mobilize and use specific resources drawn from the surrounding environment to institutionalize or guarantee the reproduction of their cultural process. (p. 148)

In this chapter, I explore, how the reframing of energy needs ("new modes of discourse") can create new meanings of energy ("novel cultural products") at the community level ("in concrete organizational contexts"), which can ultimately lead to the reduction of energy demand. This can be considered the first part of the cultivation process towards the development of a more decent lifestyle. Framing and reframing is a crucial step to create the necessary and meaningful interpersonal understanding of energy decency. It is through the building of this understanding that discursive consciousness occurs and that, in turn, agents can mobilize other resources to change their behaviour.

Four alternative frames of energy-related lifestyles

Frames are carriers of meaning in the process of energy discursive consciousness activation at the community level. Knowing what makes a community tick and how its members frame their energy needs increases the chances of finding entry points to spark a community discussion that can challenge those needs. The need for energy is not self-determined; it is the result of the way individuals articulate their multiple daily practices. It thus emerges as a combination of individual needs/perceptions and the process of social interaction that contributes to individuals building their identity. This process allows individuals (and communities) to build a shared understanding of what can be defined as decent lifestyle (Bartiaux et al., 2011). Each culture and each community determines in its own way what a decent lifestyle is, and, at the same time, "a decent standard of living" differs from individual to individual. What for one person might be decent, for another person it might be seen as austere,

and for yet another as lavish. Focusing on decency allows individuals to give meaning to their own actions. Cultivation unfolds as a reflective process that questions taken-for-granted ways of living and, in turn, builds an understanding of what is proper, decent or appropriate to consume: how much energy do I need; how much is enough.

As these understandings of energy consumption are socially constructed through social interaction, it is, therefore, necessary to understand which mechanisms generate these particular understandings of decency to explain what kind of reasoning drives the change of daily practices. To capture these mechanisms, I empirically examined the different discursive frames (verbal and non-verbal signals) shared and exchanged within each of the three communities in Amsterdam. During my ethnographic fieldwork (explained in detail in Chapter 3), I identified four frames that are differently mobilized in each community: moral, monetary, efficient and, hedonistic.

Moral frames belong to the family of narrative and discursive techniques that explicitly de-commensurate and de-rationalize energy practices. They function as community markers in the process of identifying shared understandings of a problem. As such, they are crucial to set the communicative conditions behind processes of interaction around a particular social practice. As shown in the case of the SCoA, moral frames provide a level playing field of communication, a basic normative statement that allows other individuals to open up to communicating and sharing their energy practices. These frames are often overlooked by energy policies, which consider individuals as purely calculative and individual beings, and are hardly nurtured in contemporary efficiency-led policies, which are based on the common idea that individuals are not motivated by ideals of sustainable living but only by practical considerations of comfort. On the contrary, I found that moral frames are mostly activated and strengthened in the collective process of discursive interaction within communities (e.g., Atelier K&K). These frames are identified as a basic legitimate intention to interact.

Monetary frames are a family of frames that specifically relate to the calculative advantage of changing or maintaining particular energy practices in light of commensurable and quantifiable outcomes. While it has become widely recognized that the possibility to save money by using less energy is a driving force in changing energy practices, it is interesting to see how these

frames are articulated with other frames in particular collective situations. General notions of the homo economicus, based on the utilitarian understanding of individual choice, see energy practices as the result of calculative choices. These frames, far from being purely calculative and quantitative, are emerging instead as additional to other frames (see below). They represent an understanding of utility that is socialized in the broader nexus of practices. Saving money appears as the most relevant dimension in many cases, especially in poorer communities (e.g., Atelier K&K); however, monetary frames are, at times, also used negatively to point out the actual disadvantages of changing particular practices (e.g., taking a train is normally more expensive than flying). They can also be used positively, to provide a self-fulfilling effect of the effort done in living more sustainably (e.g., I reduced my energy consumption at home so I saved so much money). Monetary frames are often combined with other utility justifications, such as saving of time, reducing food calories, etc.

Efficiency frames belong to the family of discursive and narrative artefacts that position the changing of a particular energy practice as a necessary step towards the realization of a particular condition of energy lifestyle. In these frames, the notion of decency or sustainability is contingent on using a tool or a technology, with a particular action being framed as useful, necessary or required for achieving energy efficiency. Changing practices becomes possible by using technology devices that allow performing the same daily activities while consuming less energy. For example, by purchasing an A+++ washing machine (the highest energy efficiency rating), a household can continue doing laundry as often as before (e.g., five times per week) and even save energy. The risks of efficiency are linked to rebound effects and the lack of contestation of the needs behind a practice. This frame belongs to the category of pragmatic reasoning that typically underlies goal-oriented rationality in social practices. It is today the most mobilized frame; however, unlike the monetary one, it does not relate to a particular monetary quantification of social practices. Quantification, when considering efficiency frames, can be associated with improvements in terms of time, comfort, eco-labelling, etc.

Hedonistic frames are part of a family of frames in which the notion of decency contributes towards a project of self-fulfilment and personal satisfaction. These frames convey the meaning that saving energy makes individuals feel good or helps them achieve personal satisfaction. In other words, the rea-

sons behind sustainable actions are motivated by the quest for hedonistic pleasure and self-realization. In my study, I discovered a subtype in this hedonistic frame, termed "alternative hedonism" or "voluntary simplicity" by Samuel Alexander (2011). Its core message is that the simple things in life (e.g., spending time with friends and family, experiencing nature, etc.) are the ones that bring the most pleasure. Alternative hedonist frames can be seen as a reaction to the current consumeristic society and can offer an attractive alternative that provides the possibility for more sustainable forms of living.

Next to the identification of these four different types of framings, I established a categorization that distinguishes between primary, secondary and enabling frames, in order to unpack the role that each frame, and the interplay between them, plays in the activation of energy discursive consciousness in each community. This categorization of frames (and the different articulations, explained below) derived inductively from the fieldwork conducted with the three Amsterdam-based communities. While my particular approach to the study of social practices recognizes the importance of discursive consciousness, the particular frames and patterns through which those discourses emerge became an empirical question of the research.

Primary frames are those frames that exert the greatest influence on how individuals and communities shape their role and responsibilities in selecting more or less sustainable choices. These relate to intrinsic motivations and are identified by the position they acquire in the building of interpersonal conversation in group dynamics. Primary frames are often very instrumental at the start of the conversation and tend to fade in the background as the conversation proceeds.

Secondary frames contribute to explaining why individuals and communities act the way they do and are associated with the more contextual aspects. These frames are identified by their role as specifiers, often substantiating motivations and justifications of primary frames. In this sense, they are mobilized to identify external conditions or factors. Both primary and secondary frames shape the collective imagination of both individuals and communities. They are the necessary entry points to set up a fruitful space for a community discussion.

Enabling frames are especially relevant in this research because they can ac-

tivate discursive exchanges that can lead to the contestation of current lifestyle. Enabling frames connect primary and secondary frames, relating them to other aspects of everyday life (e.g., relating energy issues to health, human rights, etc.). Enabling frames can be seen as entry points that can push the right buttons to trigger discursive processes and to contest individual energy needs. These frames respond to the need to identify the necessary steps to be taken in order to reframe a personal experience, having in mind which are the primary and secondary frames, i.e. what moves people to act.

Primary and secondary frames are instrumental for uncovering the motivations and values of community members and, thus, important for engaging with the community and initiating a discussion. Enabling frames, on the other hand, are crucial for igniting discursive processes that can challenge the status quo. The relationship between primary, secondary and enabling frames is dynamic. What starts off as an enabling frame, in time, can become a primary frame for the members of the community. This transformation underscores the dynamic character of value and social norm formation.

The multiple framings of "energy discursive consciousness"

In the study of the communicative process of framing and reframing energy lifestyles by the three Amsterdam based communities, I identified three types of frame articulations. The three types are pure abstractions based on the analysis of the framing processes, yet they provide a clear picture of the variegate nature of the individual reasoning behind energy use.

	Primary frame	Secondary	Enabling	Types of frame articulations
BSH	*Monetary hedonist*	*Moral*	*Efficiency*	*Self-centred DIY*
Atelier K&K	*Monetary*	*Efficiency*	*Moral monetary*	*Money-oriented solidarity*
SCoA	*Moral*	*Monetary*	*Hedonism efficiency*	*Engaged hedonism*

Self-centred DIY

In the case of BSH, monetary and hedonistic frames were central and intertwined, featuring very prominently in the discussions. The self-builders have

made big monetary investments in building their own houses and are interested in calculating when their houses will start to be profitable. During the discussions it became clear that reducing energy use is secondary to increasing the comfort of their living conditions. They rely on technology and efficient devices in order to optimize comfort, convenience and long-term economic benefit. For example, when asked about the ideal temperature at home, one of the members stated that he wants to have a warm house with as little costs as possible, and in order to achieve this goal he is willing to experiment with creative and innovative technological solutions. Another member also seeks to monetize his innovative efforts as pioneer self-builders, aspiring to sell heat to the grid and exploring ways to store rainwater in his own plot as a business model.

All these innovative and experimental approaches were made possible thanks to the support of the municipal plans for this area, focused on enabling circular wastewater treatment on the plot, off-grid energy supply, and new ways to reuse building materials. Hedonistic frames are also central in the discussions, as the testimony of this other member shows:

> Why am I working so hard? It's a way of life. It's not more difficult for me. I don't want clothes that were made by child labour; that were transported from overseas. I don't want it. I don't feel good in it… I want to have… buy something that makes me happy. If I buy dead animals, or if I buy stuff that is not made fairly, I don't feel happy. (Testimony of a self-builder, taken from the documentary *Without an Ecological Footprint*[13]).

When talking about sustainability and lifestyles, the discussion remained focused on the housing domain. Sustainability was not defined as a moral priority in the design of their homes but rather as a result of their practices of adapting housing structures. The moral argument that "we all need to live more sustainably" was secondary to their individual needs (e.g., to have a big and comfortable home). The level of importance given to efficiency-related frames is captured by the following answer of a self-builder, in response to my question about the motivation behind choosing specific energy solutions:

[13] Documentary *Sin huella ecológica* (*Without an Ecological Footprint*, translated from Spanish). Retrieved from: http://lab.rtve.es/huella-ecologica/e.

> I didn't start [designing] my house from the perspective of energy. Energy was not the main theme. The spatial quality was the main theme. Energy is something that needs to be solved within the whole story. You want to choose the best way to solve everything (extract from a face-to-face discussion with a self-builder during an energy story night on 21-11-2017, translated from Dutch)

Efficiency was clearly an enabling frame to engage with the members of this community and to spark "energy discursive consciousness". Reducing the amount of energy needed is not considered as an option but experimenting with energy efficient technologies in their homes in order to reduce the energy that they consume is an attractive entry point for the discussion. Technology allows these individuals to have control over their own homes and in most cases to become energy independent (they are not connected to the municipal grid). In the practice of sharing these frames, individuals tend to detach the instrumental use of particular tools from the original aim to reduce energy use. The conversation moved from talking about sustainable lifestyle to comparing different technologies in terms of comfort (e.g., a particular shower wastewater recycling systems), independently from the actual nature of the practice itself (showering more or less frequently). The research intervention that better supported this enabling frame was the energy story night. The discussions were framed by efficiency, for example, which technologies different members are using to heat their homes. Numeric data, as I will explain in next chapters, was especially relevant for the members to "prove" that the technologies they have implemented in their homes work and to keep on experimenting and learning. In conclusion, monetary and hedonistic frames were seen as essential by the members while moral frames, even if present, were secondary. The main enabling frame to engage and activate discussions was efficiency, although discussions failed to move towards the contestation of current energy intensive lifestyles.

Money-oriented solidarity

In the case of Atelier K&K community members, saving energy means to reduce their energy bill. Some of the members happened to be already carefully looking into their energy bills and were already aware that saving energy means saving a lot of money. Members' interests in environmental issues are quite low or non-existent. Sustainable living is secondary in relation to many

other concerns in their daily lives (e.g., unemployment, taking care of ill relatives, etc.). It is interesting to point out how, when talking about mobility choices (car vs plane) in relatively long-distance trips (from the Netherlands to Turkey), some of the members from the community were making the most environmentally friendly choices (travelling in a full car with the whole family instead of flying) because this was the cheapest option. However, when traveling alone or only with their partners they prioritized convenience and only considered flying.

Efficiency frames were secondary but still mobilized in the conversation as possible ways to reduce energy bills. Most often, members expressed scepticism in investing in energy efficiency as it implied extra expenses. In other words, in order to have access to energy efficient devices, members need to be able to afford them. When talking about other technological energy efficient solutions, such as the installation of solar panels on the roof, subsidies were seen as indispensable (monetary frames). The majority of Atelier K&K members live in social housing which, especially in the IB, needs urgent renovations. However, upgrading the housing stock by social housing developers would imply raising tenants' rents. Yet, despite this scepticism, the members of this community saw clear value in building social ties around the issue of sustainable living. Instead of technologically efficient improvements, the sharing of best practices in daily life – such as reusing warm water from cooking, switching off the lights, reducing home heating by one degree – were deemed more important.[14] A combination of monetary and moral frames enabled individuals to communicate on these issues.

One of the most successful research interventions, in the sense of being able to activate energy discursive consciousness, was the Big Energy Neighbourhood Quiz. During this intervention, this combination of frames (monetary and moral) was employed in order to spark discussions around decency and lifestyles. The main tool used during this intervention was humour and a comedian facilitated the event. The format of the quiz was straightforward, ten questions about energy issues, three options per question, and prizes at the end for the winners. The comedian used the monetary frame many times during his performance, and several quiz questions focused on how much money is

[14] Verbatim quotes are not available for this community because the recording of the research interventions was not possible, in order to ensure a trustworthy atmosphere.

saved if certain measures are undertaken (e.g., lowering the thermostat to 15 degrees when leaving the home can save approximately 130 euros per year; buying LED lamps can save money in the long term, etc.). These monetary frames were related to the moral frames of building a community able to share these tips. Members reportedly attended the quiz because they care about money but also because of the community feeling. This activity helped them to strengthen friendship ties and solidarity networks around the topic of energy. Another three energy quizzes were conducted with subgroups of this community. In those cases, the community founder facilitated the quizzes. Humour was replaced by trust and community feeling between the members of these three groups, who trust each other and especially the organizer. Prizes were also replaced by the community feeling of a friendly competition around the right answer. In sum, monetary frames were crucial to engage with community members, and a combination of monetary and moral frames enabled the discussions around energy lifestyles. Efficiency frames were secondary in this community due to affordability issues.

Engaged hedonism

This type of frame articulation is visible in those communities of individuals in which all community members show a primary use of moral frames in reflecting on their energy consciousness. Members of the SCoA agree that consuming less and reducing energy demand are necessary steps in the process of achieving a more sustainable lifestyle. All members of the SCoA are already very aware of the environmental impacts of their actions and they share a general feeling that something has to be done about current energy practices, in spite of the energy costs. Most members are motivated to live more sustainably but think that it's hard; a smaller group is highly motivated and is already undertaking some measures towards a more sustainable lifestyle. A few individuals are very advanced in their personal transition and are already living sustainably. Energy consumption is used more as an entry point to talk about sustainability in general, which is where members' interests lie. They have different motivations to engage with sustainability: health and especially food (which food is good for them, their families and the planet), motherhood as a turning point in realizing the importance of living more sustainably, reducing single-use plastic, sustainable fashion, learning how to make self-care products, etc. In fact, some members are professionally active in sustainability

business as consultants, shop owners (clothing, beauty products) or via start-ups.

The monetary frame remains secondary, with cost-effective choices seen as a useful extra advantage of their choice to change their lifestyles. Some members seem to care more about the energy they consume than about the money they pay. Others use saving money as a quantifiable indicator of environmentally-friendly living (e.g., turning down the heating reduced their energy bill, a fact they proudly share with others). In other cases, it is a way to calculate the degree of compensation for activities that are environmentally harmful but hard to change (e.g., flying). Money has a liberating effect, i.e. they can compensate for their "bad" practices by paying more. In general, any commensurable costs that may come about by changing their practice do not seem to affect the primary concern of achieving a more ecologically conscious lifestyle.

Alternative hedonistic frames were present in many online and face-to-face discussions. "How to find pleasure in the simple things"; "how to need less, and therefore consume less"; were central questions in many discussions. This frame proved to be useful in enabling a discussion that fits within the community's primary moral frame and inspires members with practical tips to start their own transition towards a "minimalist lifestyle" (to use their own phrasing). The research intervention that best supported this enabling frame was the face-to-face meet-up during which a member who is further along her path towards simple living shared her story with the attendees:

> I guess it's just freedom, freedom of not desiring, or wishing or having certain things perhaps important for other people, wonderful houses, clothes, cars, etc. Once you know what makes you happy and you realize that these things don't make you happy and that what makes you happy is the time you have, the freedom… So, for me it's freedom of not desiring anything and also psychological freedom, that I don't have to worry "oh, I have this big house and my mortgage is so high that I have to work so much". The less you desire, the more time you have for yourself; the more relaxed you are, the less stress you experience, so the happier you are. (extract from a face-to-face discussion during a SCoA meet-up on 28- 07-2018)

Her struggles and small victories sparked a discussion during which members reflected on their own lifestyles. Members were inspired to start exploring this approach by applying small tips (e.g. considering a nearby destination for the next holiday instead of flying to another country or to bring your own glass jars to the shops to avoid using plastic). Aiming to live a simple life, results in needing and consuming less and, by default, living more sustainably. Also, I used the weekly Facebook posts to continue the discussion online.

Using alternative hedonistic frames proved to be relevant in sparking discussions and led to other enabling frames, such as efficiency, when members were not yet ready to shift towards a minimalist lifestyle. Many members referred to technology as an ally that simplifies the task of reducing energy consumption, while others pointed out the risks of this approach due to rebound effects. To sum up, in the SCoA community, moral frames did not need to be stimulated, alternative hedonistic and efficiency frames were important for enabling energy discursive consciousness, while monetary frames remained secondary (yet useful).

The exercise of reframing energy demand within "communities of discourse"

Frames help us answer the question "what is it that's going on here" (Goffman, 1974, p. 25) and help us construct meaning and give sense to reality. They allow us to express communicatively how the reshaping of social norms affects our need for energy. We use different frames to make sense of our lifestyles and the energy-intensive practices that constitute them. These different frames shape our understandings regarding how urgent it is to shift towards more sustainable ways of living. Sometimes, people frame their actions unconsciously because they are influenced by their peers (e.g., neighbours, friends, etc.). They think and do what the people in their immediate surroundings think and do, what they consider "normal". Other times, people consciously use a frame and hide behind it, to avoid facing an uncomfortable truth (e.g., climate change is the result of our unsustainable practices) that would make them change their routines, bringing inconvenience or loss of comfort.

There are as many frames and variations of frames as people. In this chapter, I went beyond the individual level and focused on how communities collec-

tively frame their lifestyles and energy needs. Hence, I presented three examples based on the three communities I worked with. Understanding their primary and secondary frames is important to initiate a community discussion; however, uncovering the enabling frames is crucial for challenging the status quo. An effective intervention is one that is able to balance the articulations of primary, secondary, and enabling frames and that can make community members reflect on their lifestyles and question their energy needs. This might require different strategies in different communities. In the case of the community of self-builders from BSH, personal stories around technology and efficiency, backed up with numeric data, were the most effective approach. In the case of Atelier K&K, it was the quiz format, combining entertainment and community trust, which tapped into monetary and moral frames. Within the SCoA, it was the sharing of personal experiences, both face-to-face and during the online discussions, around efficiency- and hedonism-related frames. A close observation of how the three Amsterdam communities articulate their energy needs helps bring out a few key lessons that can inform future research efforts and the design of community-centred energy policies:

First, there is widespread belief among policy makers that monetary frames are central in the process of informing people's decisions. This is based on rational approaches that consider individuals as utility maximisers, who when provided with the right amount of information will make the most calculated and optimized choice. This belief is at the root of many current energy policies that are using feedback strategies to encourage households to reduce their energy consumption. Not surprisingly, these experiments did not deliver the desired outcomes (Geller et al., 1983; Mckenzie-Mohr, 2000). Despite this shortcoming, monetary frames will continue to play an important role because saving money is an incentive that speaks to everybody.

But most importantly, there is a need to acknowledge that monetary frames are intertwined with other frames. These different frame articulations require close attention and, I argue, this task needs to be done at the community level. For example, in the community of self-builders from BSH, a combination of monetary and hedonistic frames defined their lifestyles. In the case of Atelier K&K, monetary frames were combined with moral frames, leading to community discussions that can challenge members' ways of doing things. Within the SCoA, monetary frames remained secondary, while part of many discussions, they did not dominate the conversation. There are infinite different

types of communities and mapping all their different frame articulations would be impossible. However, acknowledging that monetary frames are shaped during social interactions and that they do not act in isolation but are combined with other frames is an important step, which has to be considered when designing future strategies aimed at reducing not only energy consumption but also energy demand.

Second, and building up on the previous concluding remark, many current energy policies are already designed considering the combination of some specific frames, mainly monetary and efficiency-based frames. The provision of subsidies to install solar panels or to improve house isolation are two examples of such policies. These policies do not aim to reduce energy demand. Instead, they seek to optimize monetary investments in technological devices that aim to reduce energy consumption, while at the same time allowing users to maintain the same type of energy-intensive behaviours. As existing research has shown, these policies are not that successful in reducing the overall energy consumption due to unforeseen rebound effects (Gram-Hanssen, 2014; Morton et al., 2013).

Therefore, in order to achieve energy policies that aim to reduce overall energy consumption by addressing its root cause in energy demand, there is a need to reconsider the frames that inform these energy policies. This requires a shift away from the exclusive and undifferentiated focus on monetary and efficiency approaches that characterize current policymaking. As Scrase and Ockwell (2010, p. 2226) state, a pathway could be "to cease treating energy as just commercial units of fuel and electricity, and instead to focus on the energy 'services' people need (warmth, lighting, mobility and so on)" (Scrase & Ockwell, 2010, p. 2226). This reframing of energy as a service or the energy needed to perform everyday practices, requires opening up the policymaking arena to voices that are normally excluded, such as the voices of the communities I worked with. This process of reframing is everything but straightforward due to the many interests at stake and the business-as-usual mindset that dominates energy issues. Nevertheless, this is a research and policy avenue that is well worth exploring.

Third, exploring how communities frame their need for energy with the goal of informing policy requires a longitudinal study, which needs to pay close attention to the socio-cultural context where the community is embedded in

order to understand how and why members might change the way they think about energy issues. The EAR approach I employed can be seen as a way to investigate and trigger social change by experimenting with different types of interventions. The research approach assumes an understanding of social change that defends that change happens when modifications in public discourse mobilize social action, understanding social action as an aggregate of changes in daily practices. Even if this is a lengthy process, the change that results from it is likely to be more durable than the one achieved through the provision of individual incentives or rewards (own observation). In most cases, individuals tend to revert back to past behaviours once the incentive or the reward is not there or if it is not combined with other strategies (e.g., feedback, prompts, etc.) (Abrahamse, Steg, Vlek & Rothengatter, 2005).

Following a community-centred approach requires us to acknowledge that an individual belongs not only to one community but to many. In other words, it demands to search for the so-called communities of discourse (Wuthnow 1989), whose members share similar frames regarding certain issues, and to explore how these communities of discourse, and the discourses they carry along, interact. Being aware of how energy issues and the reduction of energy demand is approached by different communities of discourse can help uncover more-inclusive frames. The alternative framing of energy demand reduction – preserving human rights and human decency (approaching it not at the global but at the local level) or increasing personal self-esteem and improving health and well-being (by taking care of common natural resources) – could be a fruitful avenue for future research and policy interventions.

CHAPTER 5

HYBRID COMMUNITIES AS SPACES OF CONTESTATION OF ENERGY NEEDS

The term "community" has been widely used with different meanings and purposes (Delanty, 2003). It is often used to "badge, underpin, legitimize, or popularize policy initiatives", such as the neoliberal retreat of government in favour of community-oriented grassroots initiatives that happened after the 2008 financial crisis (Walker, 2011, p. 777). In the last two centuries of sociological debates, a consensus on the precise definition of community has not been reached (Bell & Newby, 1971; Cohen, 1985; Crow & Allan, 1994). What can be agreed upon is that the notion of community usually entails a positive connotation (McCarthy, 2005). It evokes a sense of "warmth, belonging and comfort" (Evans, 2010, p. 33); it's good to be part of a community, to have community spirit (Delanty, 2003).

The most common approach to delimit a community is to consider its geographical boundaries (Peters & Fudge 2008; Shackley, Fleming & Bulkeley, 2002; Smith 2007). These so-called place-based communities have an "identity, shared history, shared infrastructure, and political and administrative power" (Heiskanen, Johnson, Robinson & Vadovics, 2010, p. 7586). The notion of community used to "encapsulate an idea of village life … a place-bounded world, in which people lived in densely interconnected social networks, and share a moral order, a culture of common values, systems of meaning and ways of doing things … a common moral and perceptual world, a common habitus" (Healey, 1997, p. 123). Today, due to the growing diversity

of cities, people no longer share a common habitus but still share spaces and similar concerns; therefore, it might be helpful for them to seek collaboration with others inhabiting the same space. This collaboration emerges from shared concerns and priorities that come out of the "demands of the challenges of accomplishing everyday life" (Healey, 1997, p. 126). Healey calls this a "place-based political community", which fulfils the function of "an 'intermediary level', to tie together individual private lives and the formal public world" (Healey, 1997, p. 125).

A community can be also a group-based community, which is not necessarily encapsulated within a particular physical area (Davoudi et al., 2014). In these group-based communities is key that "'something' is shared and that members have an attachment to this shared interest" (Mosconi et al., 2017, p. 963). These are also called "communities of interest" or "interest groups" and are constituted by people who share a demographic characteristic (e.g., young people, a specific ethnic group), a particular experience (e.g., disabled people) or a unique interest (e.g., stamp collectors) (Pelling & High, 2005; Peters & Jackson, 2008).

The term community can cover at the same time a wide range of understandings. Karvonen (2016) argues that "community is simultaneously: the mesoscale of [low carbon][15] politics, an extension of existing government, identity politics, a knowledge network, and a manifestation of moral responsibility" (as cited in Taylor Aiken, 2018, p. 129). Walker (2011, p. 778) reviewed these various meanings of the term, distinguishing between the following: 1) sometimes, community is understood "as an actor", with agency and capacity to interact with other stakeholders; 2) other times, community is considered "as a scale", above the individual and household level and below the local government; 3) community can be seen "as a place", emphasizing the social interactions in a particular locality; 4) it can function "as a network" of social relationships; 5) it can be seen "as a process", as a way of acting that is characterized by collaboration; and finally 6) community can even be considered "as an identity", a civic-minded way of thinking that people are supposed to follow in their daily encounters.

[15] The square brackets "low carbon" addition serves to clarify that it holds for other types of communities too.

Community is clearly a polymorphic concept that can take different forms and definitions, depending on the particular research question at hand. In the study of energy discursive consciousness and cultivation, however, I understand it as a "space" of interpersonal and meaningful interaction that enables the questioning of energy lifestyles. In a relational way, this space encompasses not only the geographical nature of relations typical of places, but also the strength and nature of these particular relations. As conceived by Massey (2005), space is relational and shaped through social interactions, as are the communities with whom I worked. These social interactions actively construct the communities in time. The space of the community is not a container or something fixed. It is always in flux and constantly shaped by the social interactions of the members (Crang & Thrift 2000; Massey 1992). Therefore, I conceive the spatiality of a community as an intertwined socio-spatial and relational configuration. The two place-based communities analysed (the community of self-builders in BSH and the community gathered around the community centre De Meevaart) interact mainly face-to-face; and the interest-based community (SCoA) interacts mainly in a digital space but also combines the digital with face-to-face interactions.

This chapter analyses how the spatiality of a community shapes the activation of discursive processes that can question current energy intensive lifestyles, i.e. how communities are spatialized in the process of activation of energy discursive consciousness. I argue that the community, as a space, becomes "a negotiating ground" (Castán Broto & Baker, 2018, p. 2), in which energy needs can be discussed and challenged through discursive processes. I start by sketching the current energy policy context in Amsterdam. In the second section, I explain why it is worthwhile to focus on the community level to tackle the raising energy demand in our society. I continue by reflecting on how the emergence of ICTs has shaped the spatiality of urban communities, affecting the notion of community itself (from physical to virtual communities and, then, from virtual to hybrid communities). Examples of different energy communities in terms of their spatiality will be provided as illustrations. In the third section, and building up on the work done by Davoudi and colleagues (2014), I dissect the sociological processes through which energy discursive consciousness is enacted within a community: coercive, mimetic and normative. In the fourth section, I concentrate on the three communities in Amsterdam and reflect on how their diverse spatial characteristics shape the three aforementioned processes and, in turn, how the spatiality of these communi-

ties influences different types of discursive processes that can challenge the members' energy intensive lifestyles in unique ways. I close the chapter with concluding remarks, bringing together the learnings gathered from the three communities.

The "missing community" in Amsterdam's energy policy

Before delving into what different types of spatialities mean for the shaping of the social norms that affect energy needs, it is important to provide some contextual information about current policy efforts regarding the reduction of energy consumption and energy demand in the Netherlands and more specifically in Amsterdam. Current energy policies and projects reveal a clear focus on encouraging energy efficiency measurements (e.g., the installation of smart meters in every home, taxation benefits to owners who obtain an energy performance certificate, etc.) and the use of renewable energies (e.g., gas-free housing, electric mobility, loans to purchase solar panels, etc.). A common thread of these policies is their heavy reliance on public subsidies. These policies are targeting house owners, landlords and housing corporations to encourage them to make the existing housing stock more energy efficient. However, policies that aim to increase consciousness regarding the energy needed or consumed are not present. Only a few small-scale projects (e.g., energy coaches providing households with information how to reduce their energy consumption in the home) are operational in relation to increasing energy use awareness, but only at the household level.

Recently, on 29 June 2019, the so-called Climate Agreement (Klimaatakkord, in Dutch) was signed – a nation-wide, policy strategy in the Netherlands regarding CO_2 emissions, renewable energies and energy efficiency measurements, with the ambition to meet the Paris climate targets.[16] The plans envisioned in the agreement aim, among other things, to increase housing energy efficiency, to reuse wastewater, to support electric mobility, to encourage a plant-based diet, etc. All these measurements will have a direct impact on

[16] "The Paris Agreement central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century well below 2 degrees Celsius above pre- industrial levels and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius" (United Nations Climate Change, 2020). The Paris climate targets are to cut 40% of the CO_2 emissions from 1990 levels, to increase at least 32% the share of renewable energies, and to increase energy efficiency by at least 32,5% by 2030 (European Commission, 2019).

the lifestyle of citizens, who will have to adjust their current behaviours. In other words, this policy holds citizens responsible for their own actions and counts on their cooperation, including personal monetary investments in efficiency technologies, to foster a transition towards a more sustainable future for all. This focus on individual responsibility and the decrease in the last years of public money allocated to tackle environmental issues have been highlighted as the main reasons why the Climate Agreement did not received the expected social acceptance among the Dutch population.[17]

In this agreement, the government emphasizes the importance of encouraging citizen participation following a "neighbourhood approach" (wijkaanpak, in Dutch). However, the neighbourhood remains an undefined stage for enabling citizen participation. Such a local scale as the neighbourhood is being imposed by a national policy whose main strategies to promote participation remains at the national and regional levels without reaching the local scale of the neighbourhood. One of these strategies is the creation of the National Platform for Citizen Participation.[18] This platform was constituted with the goal of transforming the current type of citizen participation, mainly characterized by processes of citizen consultation – i.e. "Tokenism" as Arnstein (1969) defined it in his famous ladder of participation – into a process of "real" partnership between citizens and local municipalities, during which a true delegation of power takes place, empowering the citizen who takes ownership in the city-making process.

These efforts to increase "physical" citizen participation at the neighbourhood level have been supported by the emergence of digital platforms, which are seen by local municipalities and other local actors as promising tools to enable citizen participation processes. One of the most successful examples in Amsterdam is Gebiedonline,[19] a cooperative platform established in 2015 by the software developer creator of the digital platform (and active citizen in his neighbourhood) and several other neighbourhood associations, mainly from Amsterdam but also from other cities in the Netherlands. The aim of this cooperative is to connect and promote the collaboration among people who live in the same neighbourhood. At the moment, Gebiedonline counts 27 sub-plat-

[17] Source: Trouw newspaper article "Steun voor klimaatbeleid brokkelt snel af" (Support for climate policy is crumbling quickly, translated from Dutch) (2019).
[18] Nederlands Platform Burgerparticipatie en Overheidsbeleid (https://www.npbo.nl/)
[19] Gebiedonline website (https://gebiedonline.nl/).

forms; most focus on the neighbourhood scale and a few thematic platforms focus on the city level (e.g., www.02025.nl promotes the energy transition in Amsterdam). Both neighbourhoods where the two case study communities are located have a sub-platform: (IB – www. indischebuurtbalie.nl, and BSH – www.buiksloterham.nl). Due to design functionalities, these platforms can be considered more as an information system for accessing weekly updates on neighbourhood events and local initiatives than as an interactive platform. Both the aforementioned communities do not actively use these digital platforms, relying more on person social interactions instead.

Physical spaces, at the neighbourhood level, and digital spaces, such as these platforms, are a light indication of how the spatiality of citizens' practices is approached in national energy policies. However, there is no reference to the role that communities could play in the energy transition or how the spatiality of a community could influence the shaping of social norms and the contestation of current energy-intensive lifestyles.

From physical to hybrid communities

As explained in the introduction of this thesis, for many decades, both research and policymaking have been focusing on influencing behavioural change in order to reduce energy consumption –mainly at the individual level via regulations and incentives as well as by investing in education and awareness-raising campaigns (Gardner & Stern, 1996). The results are yet to meet the expectations of lowered energy consumption (Heiskanen et al., 2010), even less the reduction of energy demand. In most cases, socio-technical infrastructures act as a lock-in factor, conditioning individual behaviour (Guy, 2006). At the same time, individuals face pressing social dilemmas (Kollock, 1998). For example, individual efforts to reduce energy consumption are perceived as pointless if others do not contribute too and knowing if others are undertaking similar efforts is not so straight forward (Heiskanen et al., 2010). The outcome are feelings of disempowerment and helplessness that tend to block individual action (Thøgersen, 2005).

However, individuals do not take decisions in isolation; the social context greatly influences their choices. Therefore, in the last decade, research has been undertaking a double shift: (1) moving beyond the individual level to begin exploring the potential of the community level to affect social change

(Creamer, 2017; Middlemiss & Parrish, 2010; Mulugetta et al., 2010; Peters & Jackson, 2008); and (2) focusing not only on understanding and enabling behavioural change but on promoting a transition towards sustainable lifestyles, understood as a bundle of different practices that influence each other (driving to do the groceries, flying for work or leisure, buying seasonal or imported foods, etc.) (DEFRA, 2008; Eppel, Sharp & Daviesa, 2013). The goal is to understand not only how individuals change their own behaviour but also to explore "how different groups of people see and experience sustainable behaviors within the context of their lifestyles" (Eppel et al., 2013, p. 32). In this way, more integrated, community-centred approaches can be explored to tackle the current demand for energy.

There are different reasons that make communities a fruitful arena to explore a transition towards more sustainable lifestyles. First, people tend to trust more the information shared by their community peers compared with that coming from campaigns organized by local authorities or politicians (Creamer, 2017; Reeves, Lemon & Cook, 2011). Second, the community appears to be the level where civic responsibility is higher and people feel more empowered to act (Maser, 1996; Uzzell, 2008). Third, community members tend to have similar needs and wishes. Therefore, it is easier to tailor interventions at this level, thereby increasing the chances of positive outcomes (Creamer, 2017; McKenzie-Mohr, 2000). But above all, community interactions can contribute to shaping social norms, which are at the heart of the matter when considering energy demand. As Wilhite and colleagues (2000) state, "the problem of rising energy demand [should not be taken] as a given, but as a product of social and cultural factors on collective rather than individual terms" (as cited in Sovacool, 2014, p. 25).

Social norms evolve historically and create "common understandings of decency and appropriate behavior" (Cowan, 1983, as cited in Heiskanen et al., 2010, p. 7587). However, it is not easy to identify conventional forms of consumption (e.g., showering everyday) because they are perceived as normal behaviours. Therefore, it is even more difficult to challenge these conventions as they confer a certain social status (Axsen, TyreeHageman & Lentz, 2012; Backhaus et al., 2012; Lehmann & Rajan, 2015; Mont, 2007) and a sense of "cleanliness, comfort and convenience" (Shove, 2003) that is not easy to give up. Also, sometimes changing these conventions (e.g., showering less) is perceived by others as "anti-social" (Heiskanen et al., 2010, p. 7587). Therefore,

in order to understand, and eventually stimulate, the change of social norms that prescribe how energy needs are shaped, we need to explain how these norms are formed within communities. This implies paying special attention to how culture is shaped by social norms. This approach has not received enough scholarly attention, despite its crucial role in fostering a transition towards a low carbon society (Mulugetta et al., 2010). This thesis aims to contribute to filling this gap by analysing how community interactions shape the values and social norms that underline energy needs. This chapter, in particular, focuses on the role that the spatiality of the community can play in the activation of energy discursive consciousness.

When looking at the spatiality of communities, the rise of ICTs[20] has revolutionized how people communicate and, in turn, the notion of community itself (Goodspeed, 2017). Before the emergence of ICTs, communities were mostly place-based, characterized by physical presence, small-scale, homogeneity and social bonds built due to proximity and sameness (De Lange & De Waal, 2017). Communities of interest did exist, but in a much-reduced form due to the high costs of distant communication. Today, all communities are mediated by ICTs to a certain extent, differing only in how each community combines face-to-face and digital communication (Tayebi, 2013).

The emergence of ICTs changed drastically the way space is theorized in the body of literature on communities. The notion of "virtual communities" began to be used in the 1990s. At the time, virtual communities were considered mainly as online communities, existing in the cyberspace, and separated from the real world (Fuchs, 2008; Mosconi et al., 2017; Rheingold, 1993). ICTs contributed to disentangle the linkages between community and place. However, despite the belief that technology was going to mean the "death of geography", time has proven that "geography matters" and that physical proximity is still key for many forms of knowledge exchange and innovation (Morgan, 2004). For example, the transfer of tacit knowledge requires physical proximity, observing how someone is performing an activity is crucial to pass on the subtle details of that specific know-how (e.g., cooking a meal). Community and place are still interlinked because people living close by remain affected

[20] ICTs refers to the "technologies that provide access to information through telecommunications" (UNESCO definition). ICTs are a combination of devices, applications, networking components and systems (such as the internet, mobile phones, video conferencing, wireless networks, etc.) that allow people and organizations to interact in the digital world.

by common issues (e.g., pollution, crime, etc.). Tayebi (2013) uses the term "communihood" in place of neighbourhood, acknowledging that today communities are "based on mutual interests (including place interests), which are influenced by physical proximity, but are also mediated through ICTs" (Goodspeed, 2017, p. 11). ICTs enabled is to people to participate in multiple place-based communities at the same time.

From the 2000s onwards, researchers started using notions such as "hybrid communities" and "hybrid spaces", showing the overlap between online and offline community interactions (De Souza E Silva, 2006; Gurstein, 2000; Rainie & Wellman, 2012). The concept of community has been evolving into other notions such as "network communities of place" (Cabitza, Scramaglia, Cornetta & Simone, 2016). These network communities of place are neither purely virtual nor only physical. Members interact in hybrid spaces, a combination of cyberspace and physical spaces. As Mosconi and colleagues (2017, p. 965) state, it is only recently that research is acknowledging the "online and offline spheres as fundamentally interwoven with and co-constitutive of local, place-based communities". In other words, the online world does not exist in parallel to the offline world, they are both embedded in each other and both contribute to a complete understanding of a reality that is increasingly becoming more hybrid (Dourish & Bell, 2011; Jurgenson, 2012; Korn, 2013).

Other notions, such as "networked publics" (Varnelis & Friedberg, 2012) are replacing the concept of community. Building upon Varnelis' (2008) work, De Lang and De Waal (2017) define networked publics as:

> groups of people who convene around a shared 'matter of concern' in entities that may be more fleeting, composed of difference rather than being based on sameness, and organized in distributed networks rather than in 'natural' social bonds of locality, class, ethnicity, cultural identity, and so on. (p. 96)

The logic of a network dominates – we have become "networked subjects" living in a "network society" (Rainie & Wellman, 2012; Wellman, Boase & Chen, 2002). The network defines us and our relations and interactions with others, and thanks to ICTs these networks can be established with people both far and near. Recently, scholars started to talk of the "platform society" (Van Dijck, Poell & De Waal, 2018). The rapid expansion of online platforms (such

as Airbnb, Uber, Deliveroo, and others) is transforming current socio-economic structures and enabling new practices (e.g., renting an apartment or staying at someone's house when travelling, having all kinds of food delivered to your house). These new practices are shaping the way we interact and communicate with each other in new hybrid spaces.

When talking specifically of communication platforms, online social networking sites (SNSs) have played and continue to play a remarkable role in shaping contemporary communication practices and influencing how people interact with each other (Mosconi et al., 2017). SNSs, such as Facebook or Twitter, have revolutionized contemporary communication, since their appearance in the early 2000s. However, far from only connecting those who live far apart, the platforms are regularly used by friends, relatives, and acquaintances who live nearby and who regularly interact in physical spaces (Hampton, Lee & Her, 2011; Hampton & Wellman, 2003; Mosconi et al., 2017). Therefore, these new socio-technical infrastructures often enable local and situated practices, as it is the case of one of the communities analysed, the SCoA, whose members live in or around Amsterdam.

Many different types of hybrid communities that encourage more sustainable lifestyles have proliferated recently. They differ in their degree of hybridity. For example, smart mobs are action groups that organize themselves using SNSs in order to coordinate social actions, in physical spaces, to promote low-carbon lifestyles. "Carrotmob" is an example of a smart mob that coordinates consumers to make their purchases, on a certain day, at stores that have agreed in advance to invest a percentage of their revenue in energy efficiency technologies (Rheingold, 2005). Other initiatives such as "Green Office" in Finland or "Manchester is my Planet" in the Manchester City Region are mainly based on digital communications (e.g., e-bulletins, newsletters, Facebook, etc.) but also make use of face-to-face events (e.g., networking events, festivals, sport events, etc.), to reinforce the community/network feeling of existing members and to attract new ones. Other communities interact mainly in physical spaces, such as "Carbonarium" in Hungary, where members meet in person on a regular basis to debate their own consumption choices. In this small-scale community, members take responsibility for their own actions and pay a membership fee based on their respective calculated CO_2 emissions (Heiskanen et al., 2010).

To sum up, the notion of community is in continuous transformation, and the spatiality of the social interactions at this level contributes to the shaping of the concept. The emergence of ICTs has played a crucial role in how the notion of community is evolving. A binary relationship between the physical and the virtual has given way to hybrid spaces and hybrid communities, in which offline and online worlds are entangled and reinforce each other. In this work, I use the term community despite being aware of the different connotations and nuances explained in this chapter. For example, the SCoA can be considered more of a "networked publics", and the community of self-builders in BSH and the community gathered around the community centre De Meevaart can be identified as two different types of "communihoods" in which online interactions play a secondary role when compared to face-to-face interactions. The next section puts the spatiality of the community aside for a moment to focus on how energy discursive consciousness is enacted at the community level and on the sociological processes that lead to the activation of energy discursive consciousness. This will provide additional building blocks for the following section, where I will bring the two together and elaborate on the spatial dimension of the activation of energy discursive consciousness.

The community as the space of energy discursive consciousness

As explained in Chapter 2, the cultivation process occurs when individuals come together to discuss their energy-related actions. But what kind of relations do these individuals share with each other? What brings these people together? The community is, I contend, the space where these individuals engage in meaningful conversations. In these communities, individuals have the chance to challenge the normal way of doing things (their habitus) and, in turn, challenge their energy needs. Therefore, these social interactions can activate a process of cultivation during which energy needs can be contested and eventually reduced. In this section, I will explain three processes that enable people to activate their energy discursive consciousness: coercive, mimetic and normative. These definitions, originally sketched out by Davoudi and colleagues (2014), explain that the challenging of individual behaviour and the creation of new norms is inherently a social process.

Coercive: setting up boundaries

What members of a community think and say about another member's energy use actions transmits messages of social recognition or reproach that can challenge the commonly held beliefs. In this way, such messages define the boundaries of the accepted energy use for living a decent life. These incentives and sanctions are able to ignite energy discursive consciousness and enable the process of cultivating energy needs. These incentives or sanctions can be informal and/or formal. The informal ones are more difficult to identify, for example, a verbal exchange with neighbours applauding an energy saving behaviour (e.g., biking to work instead of driving) or admonishing a spendthrift action (e.g., wasting food).

Formal sanctions and incentives regarding energy consumption are legislations, regulations, and rules. All in all, "a large part of pro-environmental behavior emanates from the enforceable rules and regulations" (Davoudi et al., 2014, p. 15). An example of formal sanctions and incentives are carbon rations or quotas, which imply "equal rations for all individuals, tradable rations, progression reduction of the annual ration, signaled well in advance, personal transport and household energy use included, and being a mandatory, rather than voluntary arrangement" (Bartiaux et al., 2011, p. 79).

Thinking in these terms might give rise to multiple challenges. Where should one set the threshold for the amount of energy required for a decent lifestyle? How socio-cultural diversity is incorporated in defining such a lifestyle? How should one take different individual circumstances (e.g., disabled people might need higher energy quotas) into consideration? How to avoid the inequalities that stem from the trading of carbon quotas, in which the wealthier might buy them from the less wealthy so as to accrue more energy (Bartiaux et al., 2011)?

It has been shown that while coercive measurements might induce some change in behaviour, they tend to make people feel powerless and, therefore, not responsible for their actions (Uzzell & Räthzel, 2009). Instead, talking about climate compensation options – such as offsetting the CO_2 emitted by a flight by supporting organizations that fight deforestation or invest in renewable energies – might unblock apathetic attitudes and ignite a reflective process that could also lead to flying less. When defining a decent lifestyle, individuals should be able to choose from among different possibilities and

give meaning to their own actions in order to foster long-lasting social change (Bartiaux et al., 2011).

Mimetic: allowing for confrontation

Individuals tend to follow the actions of other members of their community (e.g., friends, relatives, neighbours, acquaintances, etc.) in order to simplify the cognitive effort of making decisions. The issue of trust is key in the mimetic approach. As Davoudi and her colleagues (2014, p. 15) state, "we tend to do what our neighbors do especially if we trust them". People tend to trust others who are similar to them and who share a similar lifestyle. This degree of sameness contributes to building "community identity", which is one of the three facets that define the essence of a community, together with "participation and engagement" and "social support networks" (Carrol, 2012). The challenge is that certain types of lifestyles provide individuals with status. Therefore, if energy intensive lifestyles continue being linked with high social status, it will be difficult to use this mimetic mechanism to activate energy discursive consciousness. Members who enjoy high social status might not be willing to contest and give up their lifestyle (e.g., driving a powerful SUV, flying to a faraway holiday destination) and will not lead others by example. This is why diverse communities are crucial. With members belonging to different groups and having different habiti, such communities allow for confrontation and learning through interaction. It is important to consider how trust is built among individuals who belong to different social groups or have different social status. Such trust could enable social interactions and lead to the activation of energy discursive consciousness.

Normative: making values explicit

Social values and social norms dictate what ought to be done, establishing the basis of "common sense", what is normal in a specific social context. These values and norms are "socially, rather than individually constructed" (Davoudi et al., 2014, p. 15). Despite this, research shows that policymakers still attempt to change values by targeting individuals with information (Wilson & Dowlatabadi, 2007). This information sometimes is presented as informative feedback (e.g., information about one's own consumption) and sometimes as normative feedback (e.g., information about one's own consumption in relation to the neighbours' consumption). Research shows that

normative feedback is more effective than informative feedback, since it is more likely to activate a social norm (Allcott, 2011; Fischer, 2008). The activation of social norms can work both ways. For example, a household that uses a small amount of energy at home might increase its consumption if normative feedback shows that its consumption is below average (Fischer, 2008). When considering normative processes that might activate energy discursive consciousness, the effects of comparison and competition are a relevant factor. For example, these mechanisms have been explored by scholars analysing the effect of gamification in encouraging pro-environmental behaviour (Ampatzidou & Gugerell, 2016; Devisch et al., 2015). Using games "provides the benefit of interpersonal communication, allowing and/or forcing participants to verbalize and therefore more profoundly concern themselves with their own opinions, beliefs and ideas, as well as those from others" (Devisch et al., 2015, p. 162-163).

In most cases, the processes (coercive, mimetic, and normative) cannot be completely separated from each other, since they produce the combined effect of shaping social norms. A person decides to become vegetarian, for example, but why exactly? Can the mechanism behind this decision be traced? Is it because when this person told her colleagues about her decision, most of them were supportive (coercive)? Is it because two of her closest friends recently became vegetarian (mimetic)? Or is it because most restaurants/supermarkets now have many vegetarian options and being vegetarian is slowly becoming easier and more accepted (normative)? The individual decision to become vegetarian results from the combination of all three processes. Understanding how current energy needs are contested requires acknowledging these processes' interwoven nature and the role that the community plays as the space in which energy discursive consciousness is activated. The next section will illustrate how the spatial nature of the three Amsterdam-based communities influences these three processes leading to the contestation of members' energy needs.

Coercion, mimesis and normativity in Amsterdam communities

The self-builders (BSH)

This community has a clear physical profile, interacting mostly in their imme-

diate living environments. Face-to-face interactions happen mostly at the street level. The self-builders identify themselves with the streets that give access to their homes because, in many cases, they have directly contributed to shaping these surroundings. In one street, Monnikskapstraat, the community has followed a participatory planning process to secure the plot in front of their houses as a green space and a playground. In-person interactions happen also at the neighbourhood level. BSH is a neighbourhood in the making, but slowly there are new places, such as local cafés or creative spaces (such as Café Dish aan de Kade or the architecture studio Hollandse Nieuwe in de Papaverweg) owned by some of the self-builders and shared with the community when needed for neighbourhood events. The community of self-builders was the first one to populate the area and, as this chapter is been written, new neighbours are moving into the newly built apartments that surround the self-built streets. This situation creates a feeling of "us and them", as some self-builders have emphasized. Therefore, the street level is relevant, more than the neighbourhood level, when defining the spatial nature of this community.

Face-to-face contacts (knowing your neighbours) are a necessary condition to nurture common interests, in this case, related to the process of building their own homes. Being side by side during the construction process and sharing the technical and legal challenges of building your own house have created a strong bond among many members of this community. These shared interests are key to build the trust required to enable the sharing of frames over their energy consumption during the research interventions. In the case of this community, house issues – especially those related to technology – were chosen by the members as discussion themes during the energy story nights.

The few attempts to use digital interactions had a low level of engagement during the fieldwork phase. As mentioned above, BSH has its own Gebiedonline sub-platform (www.buiksloterham.nl), which serves more as a dashboard to be informed about neighbourhood events and to receive periodic updates related to the area than to spark social interactions. One of the most-active self-builders has been in charge of this platform since its creation and has actively encouraged other neighbours to use it but without much success. Despite this challenge, I used the platform to advertise the research interventions with the neighbours. Also, a Facebook group "Buiksloterham"[21] was cre-

[21] Buiksloterham Facebook group (https://www.facebook.com/buiksloterhambuurt/).

ated by several active community members in November 2017, with the aim to better connect neighbours and to share news and articles relevant for the area. During the first months, the initiators posted regularly in order to create momentum, but there was little interest from other members. At the moment, the group can be considered abandoned and is only used sporadically by the initiators to upload some photos or articles related to the new developments in the area. Also, I used this Facebook group to post the announcements for the energy story nights.

Besides these two attempts, I suggested the community members who showed interest in the research to use an app from Google+ to stay in touch and to share struggles and tips to reduce their energy consumption. The members showed privacy concerns and were quite reluctant to use it. It is worth mentioning that creating a community platform from scratch and in a top-down manner is very challenging. The only interactions facilitated through digital means took place via email and an internal WhatsApp group. I was part of the email exchanges during the fieldwork phase, especially during the months when the meetings concerning the "Neighbourhood Vision" and the "Week of the Neighbourhood" took place.

As a final note, it is also important to mention that the community runs a blog "BSH 05" (www.bsh5.nl), which was created with the aim of sharing knowledge regarding the process of building your own house (construction tips, legal advice, subsidies, etc.) with the other self-builders and interested people, in general. The blog can be considered an archive of the process that these households undertook from 2011 until now, including photos, technical drawings of the houses, personal testimonies, etc. At the moment, new entries are scarce, but from time to time there is a new entry. The information published in this blog might have facilitated in-person interactions leading to the process of trust building.

Taking into account the different levels of hybridity, this community can be considered a physical community with a thin layer of digitalization. Next, and building on the face-to-face interactions during the research, I will analyse how its spatiality affected the three aforementioned processes responsible for the activation of energy discursive consciousness.

Coercive

The self-builders are a creative community; many are architects or designers, always interested in experimenting and learning. The community discussions brought forward the interest, and in some cases the admiration, that members had for each other's houses and the building solutions chosen (they even arranged to visit each other's homes to check out the techniques used). The self-builders can be considered a relatively homogeneous community with high levels of cultural and social capital which, in turn, confer its members with similar lifestyles. This homogeneity resulted in discussions that lacked contestation of current practices regarding the use of energy. Moreover, the discussions served, in most cases, as a reinforcement of the common values and lifestyle choices of the members. For example, technological solutions and energy efficiency measures were praised as the most desirable way to maximize comfort and economic benefits without ever considering their actual energy needs. When confronted with sustainability issues, most explained that during the building process sustainable technologies were more the means and not the ends. The fact that most of the members who participated in the research shared similar views and values did not allow for the contestation of current energy-related practices and their energy needs.

Mimetic

This community shares a powerful common identity; they are pioneers, one of the first communities in Amsterdam that has managed to build their own homes in the city, thanks to the freedom and flexibility provided by the municipal plans during the financial crisis of 2008. Becoming self-builders has shaped their identity and has empowered them, making them feel proud of their houses and work. This positive image associated with these self-built projects does not allow that much space for criticism or questioning these lifestyles. How sustainable is it to live in a 200 m2 house (some are even bigger)? During one of the research interventions, a community member expressed his need for space, his need to have a big house, even if he is aware of the impact that a bigger house has in terms of its energy consumption. For this household, comfort is clearly the priority:

> Do I need a house with so many square meters? This can be a question that I could ask myself. What I'm very conscious about is that I really like to have that much space […] [My wife] and I wanted to have a big house, yes [laughs], downstairs the working space is 160 m2 and the liv-

> ing space of the house is also 160 m2 … That is very big. (extract from a face-to-face discussion on 21-11-2017, translated from Dutch)

The clear interest and focus of this community on housing issues pushed other lifestyle dimensions (e.g., food consumption, free time, or mobility) into the background. More diverse community interactions could have allowed for broader discussions.

Normative

For community members having access to technological innovations and energy efficiency devices is normalized – having control over all house-related infrastructures (through sensors, thermostats, etc.) is not only desirable but it is a must. All community discussions gravitated around technological and energy efficiency issues. How do I optimize comfort without paying more? How do I make my daily routines easier? The members who attended the research interventions shared similar views regarding their lifestyle choices. Despite my attempts to steer the meetings, it was difficult to divert the discussions from technical issues towards questions that could challenge social norms (e.g., "what do we need to feel content" or "what is comfort for you").

To sum up, it was challenging to enable community discussions that can activate energy discursive consciousness because the members were not motivated enough to change their lifestyle. Therefore, in this case the role of the spatiality of the community in triggering a cultivation process could not be explored. As previously explained, the community of self-builders interacts mainly face-to-face. Due to a shared identity and a common history throughout the process of building their own houses, a certain level of trust has been built among the members. Self-builders come together when there are issues that interest them and concern their immediate surroundings (as I witnessed in person during a few meetings, regarding the "Neighbourhood Vision" and the "Week of the Neighbourhood", which were well attended). Therefore, the reasons for the difficulty in activating energy discursive consciousness have to be found somewhere else than in the spatiality of the community.

Although the topic of the energy story nights was left to the member telling the story, these themes might not have been appealing enough to the other members. Reducing energy consumption is not a priority as they are not in-

trinsically motivated to behave sustainably. Also, "life is busy when you are building your own house", as one of the self-builders told me to justify his absence from one of the meetings. Besides, and as already mentioned, the homogeneity of the members who attended the research interventions did not allow for enough confrontation to challenge their current energy-related practices. In this case, having an intrinsic interest in the topic at hand seemed to be more relevant than the spatiality of the community interactions. An intrinsic interest in learning how to reduce energy consumption and needs would have, first, increased community engagement and, second, would have possibly enabled richer discussions with diverse points of view that might have allowed for confronting views that can challenge social norms to emerge.

The De Meevaart community (IB)

The community that gathers around the community centre De Meevaart can be considered also a physical community. The community centre is home to many different local initiatives that share a social mission. Whether it is through cooking workshops, chess tournaments, music evenings or Dutch lesson all these initiatives aim to support and empower the local neighbours, especially those with fewer means. The doors of the community centre are open to anyone who wants to have a coffee or a tea in its main hall – "the living room of the neighbourhood" as the organizers call it. The numerous social interactions in this meeting space have contributed to processes of trust building among the regulars. All the initiatives cohabit under the same roof and organizers and volunteers know each other, even if only by sight. Even if members of this community interact mainly within the walls of the community centre, the neighbourhood where the community centre is located, the Indische Buurt, remains a crucial arena for the activities taking place at De Meevaart. Most members live in the neighbourhood and that sense of proximity confers them with a shared identity, a sense of belonging. Also, living close to each other results in similar concerns regarding their neighbourhood, such as the rapidly changing character of the area with more affluent groups moving in, new restaurants and cafés opening, old shops closing, rents raising, etc.

As previously mentioned, the neighbourhood has also a Gebiedonline subplatform called Indische Buurt Balie.[22] Even if the platform concerns the en-

[22] Gebiedonline – Indische Buurt Balie website (www. indischebuurtbalie.nl).

tire neighbourhood, it is managed by a few De Meevaart organizers. Similar to the case of the BSH platform, the Indische Buurt Balie also functions as a dashboard gathering the many local organizations and events taking places in the IB. However, unlike the BSH platform, this one is actively used by the locals and this translates in, for example, having many different activities advertised on a daily basis. Both sub-communities that showed interest in the research interventions, Atelier K&K and Wetenschap in de Wijk, are part of this digital platform.

Besides this platform, the communities gathered around De Meevaart use different social media channels, especially Facebook groups, to advertise their initiatives. One of them is "Indische Buurt Communities",[23] which aim to connect neighbours by sharing information relevant for the area as well as to help local initiatives promote their activities. Another Facebook group, "Meevaart Community",[24] focuses on activities taking place at the community centre. "Indische Buurt Duurzaam" ("Sustainable Indische Buurt")[25] is a Facebook network of neighbours and entrepreneurs who work towards making the IB a more sustainable place. There are other groups dedicated to specific initiatives, for example, "Story Night Meevaart".[26] On the fourth Friday of the month, everybody is welcome to join the dinner at the De Meevaart canteen (for a modest price) and later to listen to (or tell) a story. "Arto Lokalo Open Mic"[27] offers locals the opportunity to enjoy once a month a night of live entertainment (stand-up comedy, theatre, cabaret, poetry, etc.). These Facebook groups are mainly active thanks to a local organizer, who takes care of posting event announcements, invitations, and recaps with photos and videos after the events. Digital interactions are quite scarce, but these Facebook groups contribute to maintain the community spirit alive and to keep members informed and motivated to join future events.

Similar to the community of self-builders in BSH, the level of spatial hybrid-

[23] Indische Buurt Communities Facebook group (https://www.facebook.com/search-/top/?q=indische%20buurt%20communities&epa=SEARC H_BOX).
[24] Meevaart Community Facebook group (https://www.facebook.com-/groups/1636753846611187/).
[25] Indische Buurt Duurzaam Facebook group (https://www.facebook.com/groups/indischebuurtduurzaam/).
[26] Story Night Meevaart Facebook group (https://www.facebook.com/search/top/?q=story%20night%20meevaart&epa=SEARCH_BOX).
[27] Arto Lokalo Open Mic Facebook group (https://www.facebook.com/groups/artolokalo/).

ity of the De Meevaart community is quite low. It is first and foremost a physical community, which uses digital platforms and different social media tools to announce and advertise community events. Despite the fact that most interactions are in person and that take place indoors at the community centre, the different digital platforms also play a role by contributing to create a 'buzzing' atmosphere in the neighbourhood. These platforms offer visibility to the different initiatives and to the initiators and volunteers behind them, building up a trust network of active citizens considered, in many cases, as "neighbourhood ambassadors". It is not for nothing that the Indische Buurt is known as one of the most active neighbourhoods in the city with a long tradition of citizen participation.

This vibrant environment is embraced as a positive identity not only by the residents but also by the Municipality and other local actors, who actively work on maintaining this bottom-up energy, for example, by supporting community centres such as De Meevaart and its volunteers. This long-lasting support (also financial) has enabled some communities to thrive for many years, as is the case of Atelier K&K and Wetenschap in de Wijk. Having a motivated organizer and a regular schedule of the community events help creating a sense of familiarity that facilitates more spontaneous community interactions. For example, knowing that Atelier K&K members always meet on Wednesdays and Thursdays at 12:30 in room 4 on the second floor, allows the members to drop by if their schedule allows. In other words, these communities do not rely on highly planned events where members need to rsvp but embrace a more flexible event planning approach.

In short, in the IB case, the digital platforms do not contribute per se to sparking online social interactions but help create an atmosphere of trust and respect. Everybody knows what the other local initiatives are doing, which, in turn, leads to more meaningful in-person interactions. Based on the face-to-face interactions during the research interventions with the two aforementioned communities, I will present how the spatiality of these communities influences the coercive, mimetic and normative processes leading to the activation (or not) of energy discursive consciousness. I will use quotes recorded during interventions with the communities to illustrate these processes.

Coercive

The screening of the documentary *Worstelling van de Groenmens* (*Struggles of Green People*) with the community of Wetenschap in de Wijk sparked a fruitful discussion when considering the activation of energy discursive consciousness. I summarize below an extract of the discussion to illustrate how the discursive exchanges among the participants were able to challenge current understandings of responsibility towards sustainability. After seeing the stories of the people interviewed in the documentary, I asked them who, according to them, should be responsible for enabling a more sustainable future. On the one hand, some members were more sceptical and apathetic, emphasizing the miniscule impact that individual actions have compared to those of the big polluters (big corporations):

> I want [to be sustainable] in moral principle but not in action … The number of people on the planet should be reduced and then problem solved! … What I miss in this story is … the big approach … Here I can't do anything, I mean, I could maybe eat less meat… but the big polluters… I have no control over them… So where is the big problem? (extract from a face-to-face discussion on 19-08-2018, translated from Dutch)

On the other hand, other participants thought that responsibility should be distributed. Some members emphasized that the Municipality should take a more active role to enable consumers make more environmentally friendly choices by providing clear information (e.g., labels), by making products that are good for the environment not so expensive, and ultimately by banning those products that pollute the environment. After, the discussion shifted towards consumerism and what is needed for a meaningful happy life. Some pointed out the need to go back to nature in order to get back in contact with our own human nature:

> Overconsumption comes from imbalance […], a lack of happiness… so I think the most important solution is to learn to be happy through immaterial ways. (extract from a face-to-face discussion on 19-08-2018, translated from Dutch)

Many shared this view and emphasized the idea of being aware of today's consumerist society, which continuously presents us with new needs (e.g., new mobile phones, etc.), and the necessity to consume less:

> It is difficult, but the key is to consume less, so not necessarily buying ecological or non-ecological toilet paper, I think to consume less is the biggest contribution. (extract from a face-to-face discussion on 19-08-2018, translated from Dutch)

This sequence of quotes exemplifies how discursive processes taking place face-to-face within a community of people, who know and respect each other, enable the shaping of new views, which in the long term might lead to new boundaries, i.e. to shaping new social norms.

Mimetic

During one of the energy quizzes conducted with the group of informal caregivers from Atelier K&K, a contested issue arose. This sub-community welcomes a very diverse group of ladies, coming from very different countries (Turkey, Bangladesh, Morocco, etc.) with diverse cultural backgrounds. Most are already quite frugal in the way they consume energy, mostly because they are aware that saving energy means saving money as well. However, their different cultural backgrounds play a big role in how they perform their daily practices. During one of the quizzes, a Turkish woman pointed out her need to wash everything (clothes, dishes, etc.) very often, including showering several times a day because this is the way she was raised. Cleanliness is very important for her, no matter how much water or energy she needs to spend. The other community members, including the organizer, showed clear surprise and, with their comments, tried to explain to her that this behaviour is "not normal", that there is no need to wash things so often. A heated discussion followed. This is an example of how confrontational social interactions, which take place in a sphere of trust and mutual respect, shape social norms. It is not a quick or straightforward process. However, this first discussion might lead to other future discussions among these members, who, in time, might adjust their own practices according to new standards of normality shaped at the community level. The added value of these periodic face-to-face interactions is that they function as gentle reminders. Members, most of the time unintentionally, become the witnesses of each other's actions and with their encouraging or disapproving comments shape the transformation of their peers' lifestyles.

Normative

Half of the audience attending the Neighbourhood Big Energy Quiz belonged to the Atelier K&K community. Thanks to the comedian, the atmosphere during the entire event was very relaxed, and the members felt comfortable to express their opinions and interact with each other and with the comedian. Despite belonging to the same community and sharing similar interests, when talking about the average showering time, which in the Netherlands is 8 to 9 minutes (Milieu Centraal website), the members expressed many different views. A member exclaimed, "oh, that is long", and another one, "I can be hours in the shower". Many members expressed their opinions, and this exchange of diverse habits allowed them to compare their practices with other neighbours and with an average Dutch person. The specific spatiality of this interaction, in the main hall of the community centre De Meevaart, a safe environment full of familiar faces, allowed for more spontaneous reactions to emerge.

This comparative exercise helped members realize the difference between their own and their neighbours' energy and water use in the practice of showering. Their comments about private practices, such as showering, that happen behind closed doors, made these behaviours and the social norms that govern them a bit more public. In this way, social norms associated with such intimately personal beliefs (cleanliness, comfort, monetary savings, etc.) can be challenged at the level of the community. The following quote illustrates the learnings experience of one of the members after the discussion during the quiz; it contested the normal way of doing things and initiated the intention to change this practice:

> I would like to say something about the heating. I normally turned it off completely and when I arrive home it takes so much time to warm it up. Today I've learned to turn it down to 15 degrees. (extract from a face-to-face discussion on 17-05-2018, translated from Dutch)

To summarize, the De Meevaart community is an example of a physical community whose members interact mainly face-to-face within the walls of the community centre. The neighbourhood scale remains important since it connects members with similar concerns regarding the area where they live (e.g., the growing rent costs, schools, etc.). However, the smaller scale of the community centre is much more relevant for how they interact with each other. Despite the low degree of spatial hybridity of this community, the neighbour-

hood digital platforms and the different Facebook groups used to communicate and advertise events also play an important role in shaping the "communicative ecology" of this community. They create a sense of familiarity and trust that results in more meaningful in-person interactions.

When looking into the two sub-communities, Atelier K&K and Wetenschap in de Wijk, the importance of having a consistent schedule is worth emphasizing. Having a regular, fixed time when the community can come together, every week or every month, builds trust and respect during the years. As a result, members feel free to express their opinions on diverse topics in front of their fellow community members, as also observed during the research interventions. These discursive exchanges were able, as previously shown, to question current ways of doing things and, in some cases, even to challenge members' energy needs. Despite the different levels of interest in the research topic (higher at Wetenschap in de Wijk and lower at Atelier K&K), it can be said that the spatiality of the community plays a relevant role in the activation of energy discursive consciousness.

The Sustainable Community of Amsterdam

The SCoA is a digital community that chiefly interacts via a Facebook group, with a few active members also meeting face-to-face, during the so-called meet-ups. Therefore, this community can be considered a hybrid one. Members are intrinsically motivated by sustainability issues and most of them live in or around Amsterdam, which facilitates the in-person interactions. Also, most Facebook posts concern matters related to sustainability in the city. This focus contributes to create a feeling of belonging to an urban community with a clear boundary of membership. This is one of the guidelines of engagement encouraged by the SCoA founder to keep the discussions local and to avoid, as much as possible, discussions on big issues which tend to remain at a superficial level. This way, members can always ask for practical advice when they have a question (e.g., where to find a repair café, how to participate in a compost initiative, etc.). The city scale seems to work well to create this feeling of community, at least in the case of a city the size of Amsterdam.

Therefore, even if this community is pinned over the online space of a Facebook group, the face-to-face interactions, facilitated by living in the same city, remain crucial to build trust, mimicry and social cohesion. Trust, mimicry and

social cohesion are also created online. The active role of the founder plays an important role in building this community feeling. She promptly engages in the online discussions by giving her opinion and advice. Also, she encourages other members, who she knows are knowledgeable in the matter at hand, contribute to the discussion (by tagging them). Her hard work has paid off and the community is vibrant and very active, also thanks to a core group of active members who interact, almost on a daily basis, and start up new discussions. All these factors together have resulted in members feeling comfortable to express their opinions, to ask for advice, to share tips and struggles regarding their own personal journeys towards more sustainable lifestyles. In other words, this community has become a safe arena where members openly talk about their daily lives. This openness and active participation were also evident during the research interventions, both the online weekly posts and the meet-ups, which resulted in multiple occasions where members contested each other's lifestyles.

In summary, the SCoA's digital and physical spaces are mutually strengthening the process of energy discursive consciousness activation, with neither the physical nor the virtual dominating. None of the two alone seems to allow the sharing of the complexity of practices related to energy. Physical and virtual spaces are interwoven, resulting in the hybrid spatiality that characterizes this community and its interactions. Next, with the help of quotes extracted from the many digital and several physical community discussions, I will illustrate how this hybrid spatiality has shaped coercive, mimetic and normative processes leading to the activation of energy discursive consciousness.

Coercive

Members recognize each other's efforts and encourage further changes in their lifestyles, both during the frequent online exchanges as well as during the meet-ups. Even a simple "like" or a short comment can be reassuring when received from a member of your community. Many of those recognition gestures can be found during the online conversations as well as during the meet-ups. The tone of the online discussions is usually very constructive, and cases of open reprimand are quite rare. Besides, community guidelines proscribe judgmental and accusatory comments and the founder quickly intervenes to diffuse potentially tense situations:

M1: Did you know that it is possible to buy yoghurt in returnable glass bottles? This [referring to a photo that she posted on the group feed] I found in the organic market in Amstelveen.
M2: Even better - no dairy at all!
M3: Why would you say that?!
M2: Because it is sustainable, clearly!
M3: I believe in balance & moderation and not cutting out!
M2: Which means you support the dairy industry, which factually is no different than the meat industry really.
M3: I do not support any mass production[s] of any kind and not support any extremism either. I shop organic & local and eat meat and dairy in moderation, meaning not every day and not much.
M4: Judgment & preaching is not the way to go. Just be a role model and let's celebrate people's good choices. E.g. improving themselves is a great accomplishment in general 👏👏😊. Have a great day. ☺
M5 (community founder): The goal of this group is to create an encouraging environment and to support each other in our journeys. Not everyone is in the same place of the journey and that is absolutely ok. Accusatory and judgmental language is against community guidelines; it adds no value and only creates counter effect. Let's use this passion instead to support and inspire. Thank you. (extract from an online discussion on 22-01-2019)

Mimetic

People tend to trust others who are similar to them and share a similar lifestyle. This also applies to the members of the online community that I analysed, who, due to their frequent interactions online, developed trust in each other's advice. Their online exchanges turned out to be key (as attested by their own comments) for encouraging themselves in establishing more sustainable lifestyles. The sharing of daily struggles (e.g., avoiding food waste, turning household appliances off or using them less, etc.) and small victories (e.g., learning how to cook a new meat-free recipe, choosing a more sustainable holiday accommodation, etc.) becomes an ongoing dialogue that encourages members to continue pursuing lifestyle changes. The experiences shared by a few members, who are further along in their transition towards more sustainable lifestyles, can be seen as an eye-opener for the other members. Exchanges that encompass a diversity of experiences were crucial in activating

energy discursive consciousness and enabling a cultivation process, as exemplified by the following quotation exemplifies this:

> M1: When I lived in England, I was a student and we didn't have central heating and we wanted to save money, so we just used these tiny electric heaters so we only turned them on when we were there and we were freezing. Now we live here and my partner is Sicilian and he really is used to heat, we have 26 degrees in the house all the time…
> M2: Wow… it's really hot.
> M3: My heating is never above 16-17 degrees and just with very few adjustments, thick socks […], two layers of sweaters, it seems a bit too much but it really saves a lot of energy. It really does. I have a big house with two kids and we always get money back and we pay really little for energy so there is a trig[ger] into that. 16-17 is the maximum we have in the house.
> M4: All the time?!? (extract from a face-to-face discussion during a meet-up on 08-02-2018)

Normative

The discussions held in the SCoA's digital space are one among the many factors that shape members' current values and social norms. These community discussions enable the activation of energy discursive consciousness. Members, by sharing their views on energy-related topics with others, have to verbally reflect on their own practices. Through such small social interactions at different levels and in different contexts, what is considered normal evolves. The following quotation illustrates the ways in which comparisons among community members' practices can shape social norms around the issue of a plant-based vs animal-based diet:

> M1: Interesting how this issue is often framed fairly back and white: Do you eat meat/fish? Are you vegan/vegetarian? I would like to propose some additional/alternative questions: If you are not a vegetarian or vegan (i.e. 96% of the population), how often do you eat meat/fish? How big are your portions? Where do you source your meat/fish, what do you know about the way it is farmed/caught? What alternatives do you use on days that you don't eat meat, or to replace part of your meat consumption? I think the discussion about meat has become way too polarized, it

> often gets stuck in statements such as "meat is bad", "everyone should become vegan" or "I like meat". It shouldn't be about whether to eat animal products or not, but about where the things you eat come from, how they are farmed, and how much and how often you eat them...
> M2: I totally agree with your statement, there are many more options than just either eating meat/fish or not eating it. I think it's a matter of educating people and learning about choices, that's a long way away, but I think that not trying to impose choices on people would be a much more successful attempt to try to reduce our impact when protein eating.
> …
> M3: And here my attempt in reducing my food footprint was to stop eating beef and pork. Beef because I've learned they are the major contributor to deforestation, methane emissions, land and water usage. So now I occasionally eat chicken. But then there are so many horrific stories about chicken too…
> …
> M4: I'm very interested in plant-based food. Like genuinely interested in all the possibilities for taste that lie once we release ourselves from meat, cheese and dairy. Better for animals, planet, health and even bank account! That been said, I will probably never give up a hot cheese sandwich. This month I've been doing a challenge on my own eating only plant-based and feel real cravings! It made me realize how you can become addicted to things and it's informative and confronting … (extract from an online discussion on 26-06-2018)

The unique set up of this community, the combination of digital exchanges with sporadic physical meet-ups, works very well to "keep the conversation going", as many of the members stated. The frequent engagement with like-minded others who are going through similar struggles serves as "a reminder" to continue working on their personal journeys towards a more sustainable lifestyle. Feeling that they are not alone and that they belong to a community of peers undergoing similar challenges seem to be important for them. The interwoven spatiality of the community interactions contributes to deepening the discussions. For example, sometimes during a meet-up, a discussion that started online is picked-up and thanks to the face-to-face interactions a more fruitful exchange takes place. Also, the opposite outcome is possible, as illustrated by the following quote from a digital interaction:

> This was big news for me in the meet-up. I didn't know that standby appliances can consume so much energy, including chargers. I have been unplugging my blender, toaster, chargers, and laptop after our meeting. (extract from an online discussion on 19-02-2018).

These type of community interactions are a good example of moments when the energy discursive consciousness of the members was activated. Despite the relevant role that the spatiality of this community plays, it is worth noticing other factors, such as the active engagement of members, in the activation of energy discursive consciousness. In the case of this community, this active engagement is a result of the intrinsic motivation of many of its members to live more sustainably and the true dedication of the founder and a group of active members to build a strong community. Many Facebook groups lack strong social ties and essentially are just a succession of posts, which does not generate a meaningful discussion. Therefore, despite its spatiality, there are other factors such as having a core group of active members focused on the process of building an engaged community or favourable individual circumstances (e.g., having time to be part of a community) that play a big role in sparking discursive interactions, which can ultimately target the consciousness of its members.

The relevance of space in shaping social norms within communities

Which is the space where individuals build their social norms regarding energy-related practices? At which scale do interactions that are socially normative, and thus generative of social practices, occur? This chapter delved into these questions by focusing on the community level and the role that the spatiality of a community plays in shaping social norms related to the reduction of energy needs. In this final section, I will present the lessons from the analyses of these three communities and their different spatialities. Examining different degrees of hybridity enabled me to also scrutinise their influence on the activation of energy discursive consciousness.

The first lesson learned is that it is necessary to question the way communities are targeted by existing policy frameworks, and specifically at which geographic/institutional scale, in order to understand if those policies do effectively enable behavioural change. Current Dutch policy focuses on the support

of social interactions and citizen participation at the neighbourhood level. Yet, this scale might not be the most relevant one for achieving the desired energy transition results. The analyses of the three cases indicate that, while the neighbourhood level is important, there are other scales, smaller and bigger, that need to be considered when talking about communities – for example, the street level, in the case of the self-builders of BSH, or even smaller, as most interactions at the De Meevaart community take place at the block/building level. Also, larger scales, such as the city level in the SCoA case, have proven fruitful for engaging an active community to work towards sustainability. The prevailing policy assumption that the physical proximity of a neighbourhood suffices for igniting citizen participation and meaningful discussions, needs to be challenged. We need to go beyond the rigid geographical boundaries of the neighbourhood and explore the space and communities where conversations are currently taking place. Once these existing communities are identified, it would be useful to understand how the members communicate and interact, in other words, to understand the specific communicative ecologies (Tacchi et al., 2003). Usually, communities have a certain spatiality, a way of being and communicating, and it is important to build upon it and not to impose top-down communication tools, regardless if they are physical or digital.

This point leads to the second lesson, regarding the development and use of digital platforms, which in the last years have also been actively supported by Dutch policies as a means of increasing local engagement. As the cases analysed indicate, a platform needs to serve the community and not the other way around in order to be successful – it's not an automatic "if you build it, the people will come". This is why the SCoA Facebook group works well and why platforms such as www.buiksloterham.nl continue to lack momentum, even after so many years. A platform is like a restaurant: if it's empty, no one wants to come in. For a platform to be inviting, it needs to show that people actively use it, that it offers something interesting, that is inclusive, user-friendly, etc. Digital platforms can be very useful tools to encourage participation but they need to be owned and operated by the community in order for them to work. Despite the potential usefulness of digital platforms, face-to-face interactions remain key for building trust, which is so important for a community to thrive and for its members to engage in meaningful discussions, as the SCoA exemplifies.

The third lesson concerns the level of spatial hybridity. As the three cases an-

alysed show, most communities today are hybrid and these different spatialities, to a certain extent, play a role in the activation of energy discursive consciousness. In some cases, such as the SCoA, the spatial hybridity of the community is crucial. The right balance of digital and physical interactions has made it a strong and active community. However, it is worth pointing out that without a digital home that makes community discussions easy and accessible for all members (in this case a Facebook group), most probably the interactions in this community would have been less fluid and frequent.

In the case of Atelier K&K and Wetenschap in de Wijk, despite their low degree of hybridity, the spatiality of these communities is also very relevant. Both communities have a fixed schedule and meet regularly face-to-face. This helps build familiarity, trust and respect among the members. All these ingredients are the basis to enable discussions which, when guided towards energy issues, can be able to contest current energy-intensive lifestyles. The case of the self-builders from BSH shows that the spatiality of a community is not a sufficient condition to ensure the activation of energy discursive consciousness. A common interest or motivation that can bring people together is the first requirement. Besides this shared interest, having a charismatic organizer and/or a core of active members, who take care of connecting members and organizing community events, is also crucial for spurring engagement. The spatiality of a community is an important factor when analysing how discursive processes around energy consciousness take place; however, it is not a sufficient factor and other aspects need to be considered, as mentioned above.

As a final note, I would like to emphasize the overlapping nature of the three processes (coercive, mimetic and normative) studied in this chapter. Their effects and contributions towards the process of shaping social norms related to the reduction of energy needs cannot be easily separated. This distinction has been done with the purpose of understanding in detail the process of energy discursive consciousness activation within each community. It is actually the overlapping of these three processes that amplifies the effect of these discursive interactions. If during a community interaction with the people who you trust (mimetic) you receive a positive or a disapproving comment (coercive) regarding something that you consider normal (normative), it is likely that this conversation will shape your future choices.

For example, in a community conversation about heating your home in winter,

you debate with neighbours about the temperature of the thermostat. For some, 17 degrees is the normal temperature; for others only 19-20 degrees is acceptable, while others need more than 23 degrees to feel comfortable at home. Chances are high that this conversation will stick in your mind and that the next time you are about to raise the temperature of the thermostat you will think twice and reconsider your behaviour. It is the overlapping of these three processes during discursive social interactions that contributes to the shaping of social norms, thereby leading towards the development of new understandings of normality.

The spatiality of the community can influence how these three processes take place. For example, in a community that mainly interacts online, such as the SCoA, positive reinforcement (coercive) of members' actions is made easier thanks to factor such as the "like" bottom or the easiness to post a supportive short comment in these platforms. Face-to-face interactions can also enable coercive mechanisms. A disapproving look can only happen in person. Mimetic processes can be strengthened by both digital and by in-person spatialities. The sharing of photos or experiences on social media, which can be linked to a certain lifestyle, or an informal chat between community members can reinforce mimetic mechanisms. For example, a member of my community could choose to sell her car and take the train to work instead. Because I trust her and identify myself with her, I might consider selling my car too and travelling with public transport.

When considering normative processes, physical spatialities can reinforce these mechanisms. For understandings of normality to be challenged, enough levels of trust and long-term conversations need to be present. As Atelier K&K shows, this requires that members know each other for many years. Digital interactions can have a similar effect, if trust, a sense of community, and respect characterize community interactions, as seen in the SCoA case.

CHAPTER 6

FROM ENERGY-RELATED DATA AND INFORMATION TO MEANINGFUL KNOWLEDGE

It's very simple. My energy provider has this platform where you can see how much energy my household consumes. That is what changed my energy behaviour in the first place, because years ago I was with a different provider and it had a different platform and I could clearly see what my energy behaviour was, but I had to measure myself my energy consumption every month. I did that and my stats showed how much I was saving in the process. Now, I don't warm up water in the kitchen with the boiler anymore. I use an electric boiler. I look always at my performance in that platform and then I saw it… so I told myself "I'm going to stop heating up water with the boiler". And now, I'm going to ask you a question: How many euros do you think that made me save in a year? Anyone? "50?" [another participant replies]. Nooo! 450 euros!! I become so enthusiastic, almost emotional, every time I tell this story… [laughing]. I'm so excited with the 450 euros, and now I get even 100 euros extra and last year another 50 euros on top of that… but now I'm very fanatic… because I thought, I enjoy 19 degrees at home because my neighbours have their heating at 22 degrees… so I don't need to turn on my boiler at all! (extracted from a face-to-face discussion with a community member during one of the energy story nights at De Meevaart on 16-11-2017, translated from Dutch)

I will repeatedly come back to this testimony during this chapter to illustrate the differences and overlaps between three key concepts in the field of infor-

mation science: data, information, and knowledge. But what is exactly data, and information, and knowledge? The discipline is yet to arrive at a clear consensus about the definition of these important building blocks or their interrelatedness. "Many scholars claim that data, information, and knowledge are part of a sequential order. Data are the raw material for information, and information is the raw material for knowledge" (Zins, 2007, p. 479). Another point of agreement is that in order for something to be considered knowledge "the mind of the knowing person" is needed; therefore, knowledge exits only in the mind of the person who knows something (Zins, 2007, p, 479).

As the field of information science keeps on evolving, the discipline needs to keep on updating itself and revising these main concepts. New technological advancements are challenging what can be considered data, information, and knowledge. The emergence of ICTs is making all sorts of new data available, such as personal preferences derived from social media usage or internet navigation. The rise of big data and its increasing openness is challenging how we understand and know things in cities (Arribas-Bel, 2014; Gordo, 2017).

One of these shifting practices is how we consume energy. New technologies, such as smart meters, and the growing availability of all kind of sensors (e.g., smart thermostats) are enabling the gathering of enormous volumes of data about our energy-related behaviours at home. Also, technological advancements are monitoring other energy-intensive behaviours such as our mobility patterns (e.g., using GPS trackers) and our food consumption choices, for example, when we post photos of food on Instagram or when we check in at different locations (e.g., a vegan café vs an Argentinian steakhouse) with applications such as Foursquare. Even our leisure activities can be traced when following Facebook posts or Twitter hashtags with information about our holidays or the activities we enjoy doing in our spare time.

With the increasing availability of energy-related data in cities the question that arises is if it can be used to affect societal change and how. Following a rational choice approach, if individuals have access to sufficient data and information, they will make informed choices. Therefore, as more data and information is provided, the expectation is that energy-efficient behaviours will emerge. However, one of the main outcomes of intervention studies conducted from a psychological perspective is that "energy facts alone rarely result in behavior changes" (Southwell & Murphy, 2014, p. 59) and that

"information tends to result in higher knowledge levels, but not necessarily in behavioral changes or energy savings" (Abrahamse et al., 2005, p. 273). As Stern (1992, p. 1227) states, "with information, what matters is not only how much is made available, but how it is conveyed." Therefore, how does all this available data become useful – or taking it a step further, become meaningful – and contribute to reduce the way we consume and need energy in cities?

This chapter will address the role that energy-related data and information play in the activation of discursive processes that can question current energy intensive lifestyles (i.e. how does data become meaningful in processes of cultivation). Existing studies on the impact of data on choices – mostly produced by psychologists – have focused on influencing behavioural change at the individual level. While they aimed at reducing individual consumption by providing households with data in different ways, they did not achieve the expected results. Therefore, it is necessary to move beyond the individual level of analysis to explain how data impacts choices and to bring in the level of the community. This is a necessary step to examine whether and how the use of energy-related data and information in social interactions is able to challenge current energy intensive lifestyles.

How data, information, and knowledge are defined has practical and philosophical implications for how effective these discursive processes are in challenging our need for energy. To demonstrate this mechanism, I proceed by first discussing existing definitions of data, information, and knowledge. In the second section, I present the broad approach to data and information that I adopted, from big to small and from hard to soft data/information. In the same section, I introduce the different communication tools (such as narratives and arts) that informed the intervention formats of my fieldwork. In the third section, I will present a review of intervention studies that have focused on providing data/information to households to promote energy conserving behaviours and the need to shift from a top-down to a bottom-up approach to data and information management. In the fourth section, I reflect on the effectiveness of different types of data in activating energy discursive consciousness, building on my fieldwork done with the three Amsterdam-based communities. In the final section, I conclude with a few lessons learned regarding how energy-related data/information, when shared and co-produced at the community level, is transformed into meaningful collective knowledge that can shape the social norms that regulate our energy needs.

Defining data, information, and knowledge

Research in information science has extensively pursued a concrete and consistent definition of the notions of data, information, and knowledge. Zins' (2007) work showcases this complexity of efforts; she gathered 130 definitions of data, information, and knowledge by using a qualitative research methodology called Critical Delphi. This methodology allows different experts in the field to express their views on a subject and after several rounds of questions and feedback, the author and the panel come up with a written text that becomes the published material, in this case, definitions. Zins offers a categorization of these 130 definitions that is key in justifying the chosen definitions of data, information, and knowledge. This categorization is based on the idea that data, information, and knowledge can exist in two different realms, subjective and objective. The subjective realm is grounded in the individual's internal world whereas the objective realm exists in the individual's external world. Using the author's examples, a thought belongs to the subjective realm and the information that appears in a book belongs to the objective realm (Zins, 2007, p. 486). Instead of "objective realm", the author uses a term that I also prefer, "collective realm", as it avoids the confusion with the association between "objective" and "truthful" (this distinction will be discussed later in this chapter).

Considering that data, information, and knowledge can belong to the subjective and/or to the collective realms, different categories of definitions are established in Zin's study. Most scholars who participated in the study considered that data and information are external phenomena and, hence, belong to the collective realm, while knowledge was seen as an internal phenomenon (subjective realm) that requires the interpretation of the knowing person. An example of a set of definitions that fits into this category is the one by Carol Tenopir:

> **Data** are facts that are the result of observation or measurement (Landry et al., 1970). **Information** is meaningful data. Or data arranged or interpreted in a way to provide meaning. **Knowledge** is internalized or understood information that can be used to make decisions. (Zins, 2007, p. 486, emphasis in original)

Another group of scholars considers that data are external phenomena but that

information and knowledge belong to the subjective realm since they depend on the person who confers them with meaning. Maria Teresa Biagetti provides a set of definitions in this group:

> **Datum** is everything or every unit that could increase the human knowledge or could allow to enlarge our field of scientific, theoretical or practical knowledge, and that can be recorded, on whichever support, or orally handed. Data can arouse information and knowledge in our mind. **Information** is the change determined in the cognitive heritage of an individual. Information always develops inside of a cognitive system, or a knowing subject. Signs that constitute the words by which a document or a book has made are not information. Information starts when signs are in connection with an interpreter (Morris, 1938). **Knowledge** is structured and organized information that has developed inside of a cognitive system or is part of the cognitive heritage of an individual (based on C. S. Peirce; Burks, 1958; Hartshorne & Weiss, 1931). (Zins, 2007, p. 480, emphasis in original)

A third group in the panel of participant researchers finds that data belongs to the collective realm and that both information and knowledge can be considered external and internal phenomena. A fourth category of researchers considers that data and information can be both external and internal phenomena and that only knowledge is internal and belongs to the subjective realm. Finally, a fifth group in the panel believes that the three notions of data, information, and knowledge can be both internal and external phenomena (for other examples of sets of definitions in these last categories please see Zins' work [2007]).

This fifth category is the one where Zins, the author of this review, includes herself. It is also the category where my own understanding is placed. As I will show in later sections in this chapter, I use a broad spectrum of energy-related data and information to explore their role in the activation of energy discursive consciousness – from hard data such as statistics, which belong to the collective realm, to soft data such as personal stories, which are internal phenomena and exist in the subjective realm of the individual.

Zins' study enabled an initial categorization of these three concepts in my research; however, a more detailed definition is still needed to clarify the bound-

aries between data, information, and knowledge. With this goal in mind, the work done by Dinneen and Brauner (2015), almost a decade later compared to Zins' study, has been very instrumental. The authors focus on defining information and not so much the other two concepts, although when defining information, the interrelations with the other two concepts become clear. After providing an extensive review of definitions of information (Dinneen & Brauner, 2015, p. 380), covering the work done by information science scholars since the 1970s, the authors bank on Floridi's (2010, p. 19) definition of information as "well-formed and meaningful data". Floridi establishes three requirements for "x" to be information: "1) 'x' consists of one or more data, 2) the data are well formed, and 3) the data are meaningful" (Dinneen & Brauner, 2015, p. 384). "One datum can … be understood as a single value or set of values … they provide constrains and affordances, allowing and disallowing various information, such as conclusions, to be gleaned from or made with them" (Dinneen & Brauner, 2015, p. 384).

The latter definition is the most appropriate for my study of energy discursive consciousness because it is open enough to allow data to be both in the subjective and in the collective realms. Going back to the initial quote in this chapter, "450" and "euros" can be considered two pieces of data. Out of context, 450 and euros do not provide the reader with much information. However, when placed together, "450 euros" is one step closer to become information because these two data items are "well-formed – that is present[ed] together in a way that adheres to the rules that govern a system or language in which they feature" (Dinneen & Brauner, 2015, p. 384), in this case the European monetary system. Data are "meaningful" when "they offer semantic representation according to the system from which they are derived" (Dinneen & Brauner, 2015, p. 385). In the example at hand, 450 euros is loaded with meaning if the receiver of the information is acquainted with the currency system and knows the equivalence between 1 euro and the currency that the person is familiar with. In other words, for someone living in a deserted island, completely isolated from any monetary system, 450 euros would not be information because it would not be meaningful.

This definition provided by Floridi is called "general definition of information" (GDI) and it contrasts with another definition coined by the same author (Floridi, 2005, 2011), the 'standard definition of information' (SDI), in which an additional criterion is added to the three aforementioned ones. This fourth

criterion states that information needs to be true to qualify as information. In the research at hand, I do not delve into issues of truthfulness. Similar to Dinneen's and Brauner's (2015) views, I consider that fiction, such as imaginary energy-related future scenarios, or conversations on a Facebook group, can be considered as information that can trigger discursive processes, regardless whether it is true or not. In this PhD, I apply the general definition of information, as presented by Floridi (2010, p. 19) in which information is "well-formed" and "meaningful data". Bates (2006) similarly defines information as "some pattern of organization of matter and energy that has been given meaning by a living being" (Bates, 2006, p. 1042). However, this understanding restricts it to the information that exists in the subjective realm, i.e. the information that is internal to the individual.

Building upon Bates' work, I define knowledge as "information given meaning and integrated with other contents of understanding" (Bates, 2006, p. 1042). This definition is broad enough and allows for different types of knowledges (internal and external) to exist both in the subjective and the collective realms. Continuing with the example taken from the initial quote, 450 euros becomes knowledge when this amount equals the savings of a year after having considerably reduced the use of gas at home. As this point, this knowledge can be considered internal since it derives from a personal experience but can become external when this information is shared with others. It can even become public knowledge if it is widely disseminated and becomes known by the general public. Once we adopt such a definition, the empirical challenge is to explain how energy-related data/information turns into external knowledge, belonging not only to the individual but also to the collective realm. It means to discover how energy-related data/information becomes meaningful to one individual and then to many individuals, contributing to shape the social norms that affect our energy needs in society. In the next section, I reflect on different types of data/information and how they can be used during community discursive exchanges to produce collective knowledge.

From big to small data and the power of narratives and the arts as communication tools

We live in a data-driven society where data are rapidly gaining ground in the policymaking arena as the basis for justifying decisions and new policies (Grosser, 2014; Kennedy & Hill, 2018). The data involved in this process are

today mostly defined and understood by policy makers as big data, which Gordo (2017) defines as:

> the accumulation of incalculable bits of structured and unstructured data points that are tracked, recorded, and stored by an interconnected and interactive network of digital computer devices in real time; making up a dynamic and massive collection of databases that capture the operation of systems and everyday personal activity that can be linked and mined through advanced computational data analytics, disaggregation and aggregation processing techniques, and re-identification processes. (p. 16)

The increasing accessibility of technologies (e.g., sensors) that can gather and collect big amounts of data has allowed the quantification of among others, energy-related daily practices, such as our preferences when setting up the thermostat at home or the number of kilometres we cycle instead of drive per week. In some cases, this numeric quantification was not possible even a decade ago. Scholars often refer to the notion of "datafication" to critique the role of data in organizing social phenomena: "to datafy a phenomenon is to put it in a quantified format so that it can be tabulated and analysed" (Mayer-Schönberger & Cukier, 2013, p. 78).

This emphasis on numeric data has resulted in a "renewed dominance of rationality, objectivity and a belief that 'numbers speak for themselves'" (Anderson, 2008, as cited in Kennedy & Hill, 2018, p. 15-16; Beer, 2016). Numbers "are impersonal, so they seem objective" (Kennedy & Hill, 2018, p. 3). Besides, big data allows us to analyse a phenomenon from a distance. "Numbers minimize the need for 'intimate knowledge and personal trust'" (Porter 1995, p. ix, as cited in Kennedy & Hill, 2018, p. 3). As a consequence, we risk losing details about the phenomenon at hand that can only be grasped at close distance (Crawford, 2013; Porter 1995). Also, big data are produced without individuals conferring any meaning to the data (and, in many instances, even without explicit consent) (Couldry & Powell, 2014). It is the processing of all this big data together that can provide information, understood as "well-formed and meaningful data", as defined in this thesis (Floridi, 2010, p. 19). Conferring meaning to data through processing clearly differs from conferring meaning to data semantically, i.e. through expression and interpretation (Couldry & Powell, 2014, p. 3).

As human beings, we make sense of the world around us semantically through words. Scrase and Ockwell (2010, p. 2227) state that "there is nothing outside of language or that cannot be brought back to the use of words"; therefore, a relatively close distance to reality is required in order to make sense of it semantically. This does not imply that big data, and its possible interpretations, cannot help individuals to confer meaning to their own action; however, the extent to which they do depends on their meaning, which is constructed semantically. The effect of data lies not exclusively (and I would argue not primarily) in the intrinsic content of the data/information but on the social context and modalities in which this information is conveyed. Furthermore, it is not only about the data/information that is conveyed but also about the context and the way in which this information is conveyed. Community interactions in particular provide the context where energy-related data/information acquire this type of discursive meaning and where data and information can turn into the collective knowledge that ultimately influences social norms and energy needs. As Baym (2013, n.p.) states, for this to happen, "[n]ow more than ever, we need qualitative sensibilities and methods to help us see what numbers cannot" (see methodology review in Chapter 3).

In my research, I diversified the spectrum of energy-related data/information. I included big and small data; for the energy-related data and information, I looked not only at the hard numbers (e.g., coming from statistics, reports, etc.) but also the personal experiences shared through communication. I also considered data/information in the form of a documentary, an artistic installation, and other tools. The research interventions were designed using different ways to "digest" the different types of data/information at the community level. For example, narratives can be very useful for enabling energy-related data to become more accessible and visible, in other words, more meaningful to the community members. Narratives are "powerful tools of communication. Meaning is created through language and it is in its narrative form that people most readily engage with and remember the meanings created through language" (Hillier, Kelly & Klinger, 2016, as cited in Shaw & Corner, 2017, p. 273). A narrative can be defined as a "story told through related events" (Shaw & Corner, 2017, p. 273). The same story can be told in different ways and these variations are different narratives. By telling a story, people "make sense of events, … confirm their understandings and their feelings about them, and explore alternative choices, leading to feared or desired futures" (Smith et

al., 2017, p. 286). Stories are, thus, an effective medium to contest current lifestyles and activate energy discursive consciousness.

Several research projects seeking to unpack cultural change in relation to energy issues have experimented with the use of stories and served as sources of inspiration in the design of the research interventions. One of them is the Stories of Change project,[28] which also explores the community level as an arena for societal change (Smith et al., 2017). Stories and different narratives are used both to discover what is truly important for the communities in the study and to engage and connect them with energy-related issues. They are used to make energy visible and to "encourage[e] people to talk about apparently 'unseen', forgotten or neglected dimensions of our lives with energy" (Smith et al., 2017, p. 287). I apply this type of storytelling, one that allows individuals to create their own oral history. As stated by Goodchild, Ambrose & Maye-Banbury (2017, p. 138), "the first person narrative form is intended to allow the [individual] to frame his or her unique and personal account of past events free from any prescription imposed by the researcher".

Another research project that utilized narratives and stories is Shape Energy. Its goal is to shape the energy agenda of the coming decade (2020–2030) by bringing together different stakeholders, from policymakers, community groups, NGOs to academics and consultants. In this case, stories contributed to processes of "learning and unlearning" and encouraged empathy, inclusion, and participation in conflict solving (Mourik, Robison & Breukers, 2017).

Narratives can be complemented and reinforced by other methods. For example, media such as photos and videos can be used to visualized stories and to strengthen the narrative (Reader, 2012). Also, far from being a static method, narratives can be shared while in motion (e.g., walking, in the train, etc.). Sometimes, this change of setting enables the narrative to flow more easily and allows for richer details (Kusenbach, 2012). All these assets were also applied in the research interventions conducted with the Amsterdam-based communities.

[28] Stories of Change "is shaped around the cross-party commitments to decarbonization that sit at the heart of the UK Government's Climate Change Act of 2008, and has been further energized by the UN Paris Agreement of 2015... [The project] is being led by Prof. Joe Smith of The Open University's Geography Department" (https://storiesofchange.ac.uk/about#who-we-are).

Besides the use of narratives, other ways to make energy-related data/information more accessible and comprehensible are "creative and interpretative expressions through theatre, literature, music, visual arts and crafts", what Costantoura (2000) defines as "arts". Arts play a big role in how individuals understand and shape society and can affect changes in the collective consciousness (Belfiore & Bennett, 2006). This social impact of the arts has been explored in arts-science discourses that aim to find creative responses to the climate crisis (Gabrys & Yusoff, 2012). As Curtis (2011, p. 190) states, the arts are a valuable tool to raise awareness due to their ability to "synthesize, simplify and convey complex ecological or scientific ideas mak[ing] the information both more interesting and easier to remember". In particular, performing arts have the ability to "communicate environmental information … taking it from the realm of 'problem' to the realm of general conversation or even entertainment" (Curtis, 2011, p. 190; Jacobson, 1992; Cless, 1996). When dealing with energy-related data/information this shift in framing from problem to entertainment can be very useful to avoid guilt or apathetic attitudes, which in general tend to block behavioural change. Involving the "target group in the design of the message has a positive effect on the effect of the message" (Smith et al., 2017, as cited in Breukers et al., 2009, p. 79). Also, using "humorous and modern language" can be an effective way to convey information (Breukers et al., 2009, p. 79).

Within the domain of the visual arts, "eco-visualizations" combine artistic and scientific information and produce novel representations of data (Holmes, 2007). An example of an eco-visualization can be to make understandable what it means to save CO_2. For example, we can save 40 kilograms of CO_2 per year if the washing machine is set at 30 degrees instead of a higher temperature (Natuur&Milieu, 2020).[29] For the layperson, this sounds quite abstract. However, if 40 kg of CO_2 are visualized as the kilograms of CO_2 emitted by driving an average car for 1.55 hours non-stop or by flying a Boeing 747 for 4.55 seconds),[30] then it becomes more tangible and comprehensible. Visualizations are increasingly gaining in importance. These representations of data are the main way most people access data (Kennedy & Hill, 2018), to the point that the limits between data visualizations and the data itself are becoming

[29] Natuur&Milieu has published the e-book "Slimwoner in 22 stapen" (Living smarter in 22 steps, translated from Dutch). Retrieved from: https://www.slimwoner.nl/informatie/tips/simpele-tips/.

[30] Retrieved from the website www.yousustain.com.

more and more blurred (Aiello, 2007). Some scholars talk of a "visualization of culture" or a "culture of visualization" to define these contemporary trends (Beer & Burrows, 2013, p. 62).

A documentary is an example of media in the visual arts, which can have different types of impacts, as discussed by Karlin and Johnson (2011, p. 5): 1) it can evoke emotions in the audience; 2) it can raise public awareness; 3) it can encourage action beyond mere awareness; 4) it can contribute to a social movement; and 5) it can lead to "long-term and systemic social change". Although difficult to quantify and measure and despite the fact that all the aforementioned impacts are welcome, the last impact, affecting social change, is the "ultimate goal" (Barret & Leddy, 2008, p. 10).

In addition, gamification has also gained importance in the last decade in encouraging sustainable lifestyles at the community level (Lee et al., 2013). Mechanisms such as comparison and competition among peers, rewards, and others have been explored as ways to increase awareness regarding environmental issues (Ampatzidou & Gugerell, 2016). Using games "provides the benefit of interpersonal communication, allowing and/or forcing participants to verbalize and therefore more profoundly concern themselves with their own opinions, beliefs and ideas, as well as those from others" (Devisch et al., 2015, p. 162-163). This way, gamification can be a useful tool for activating discursive processes that can challenge our need for energy.

In this chapter, I explore the use of narratives to frame stories and the use of different artistic expressions, and explain how they enable the transformation of energy-related data and information into collective knowledge, a knowledge that exists beyond the individual in the collective imagination of a community. Narratives and arts are powerful tools for supporting communication because they are able to spark emotions. Emotions play a powerful role in translating data/information into meaningful knowledge. As Kennedy and Hill (2018, p. 14) discuss, "data visualizations … have the potential to evoke empathy, pity, sorrow, shame and other emotions"; therefore, even if we live in a datafied society, "it is not only numbers but also the feeling of numbers that is important" (Kennedy & Hill, 2018, p. 1). This important role of data is not adequately considered, and there is also a lack of approaches that look at how people deal with and make sense of big data (Michael & Lupton, 2016). These bottom-up approaches that focus on "what actual social actors, and groups of

actors, are doing [with data] in a variety of places and settings" requires further attention (Couldry & Powell, 2014, p. 2).

Even if narratives and artistic expressions can spark emotions at the individual level and transform data/information into subjective knowledge, it is during community interactions that these emotions can enable collective knowledge, which is crucial for shaping social norms. How emotions arise during social interactions is analysed in detail by Randall Collins (2004). He refers to them as "emotional energy", defining it as "feelings of confidence, strength, enthusiasm, and desire for action" (Collins, 2004, p. 42), which "arise … in interactions in local, face-to-face situations, or as precipitates of chains of situations (Collins, 2004, p. 6). Wennink and Spaargaren (2016) also consider that emotional energy deserves to be further investigated as a source of innovation and social change. Emotional energy is at the core of "emotional agency", which links emotions with action and, thus, with social change. Despite this potential research avenue, the motivation behind this chapter is more modest. I aim to assess how different types of energy-related data/information enable discursive processes within a community (defined as the ability that people have to put into words their own energy-related practices, see Chapter 2), which I considered to be a prior step to the activation of emotional energy.

From top-down to community-based approaches to energy-related data/information

Above, I questioned the particular form that information, data, and knowledge can take, placing the literature review of my research on energy discursive consciousness. Here, I also develop a critique of the different approaches through which this data/information can be mobilized. Studies from psychology have already addressed the question regarding the effective modalities of using and sharing data in order to influence energy use behaviour, from the perspective of the household and the individual level (Abrahamse et al., 2005). They use energy-related data/information in what I consider a top-down manner, namely as a strategy to encourage the decrease of energy consumption, as antecedent and/or consequent strategies. Antecedent strategies are those that use energy-related data/information to influence behaviour before the action takes place (e.g., mass media campaigns, workshops and tailored information, etc.) (Abrahamse et al., 2005, p. 276). As these authors reveal, the effectiveness of these strategies depends on the degree of speci-

ficity of the energy-related data/information. For example, tailoring data/information via an energy coach who provides energy-saving measures during a home energy audit proved to be more effective (Winett, Love & Kidd, 1982) than mass media campaigns, which normally increase awareness or knowledge but without a direct effect on behaviour (Staats, Wit & Midden, 1996). Also, combining the provision of energy-related data/information with other interventions, such as offering incentives (e.g., monetary incentives, a prize, etc.) brought positive results (Van Houwelingen & Van Raaij, 1989).

Consequent strategies are those that rely on the idea that the positive or negative consequences of an action will affect future behavioural choices. Rewards are an example of these strategies. One of the most popular consequent interventions, which uses energy-related data/information, is to provide households with feedback regarding their energy consumption (Fischer, 2008; Buchanan et al., 2015; Darby, 2006; Stromback, Dromacque, Yassin, & VaasaETT, 2011). There are different types of feedbacks and multiple studies have analysed their effects on behaviour: daily feedback (Bittle, Valesano & Thaler, 1979); weekly and monthly feedback (Völlink & Meertens, 1999); comparative feedback (Midden, Meter, Weenig & Zieverink, 1983). Frequent feedback appears to be one of the most effective strategies (Seligman & Darley, 1977).

Also, other studies that experimented with continuous feedback had also positive results (McClelland & Cook, 1979); however, it is not just black or white and some unintended consequences, the so-called "boomerang effects" (Clee & Wicklund, 1980), can happen too. For example, providing normative comparative feedback to households whose initial energy consumption levels were lower than the neighbourhood average can result in an increase of their overall consumption (Allcott, 2011). There is also the so-called "Hawthorne effect": individuals behave differently because they know they are subjects of a study (Darby, 2006). Other researchers have experimented with the content of the feedback, targeting different types of frames (e.g., monetary, environmental, etc.), without reaching conclusive results (Brandon & Lewis, 1999).

To sum up, every study of this kind has its own distinctive characteristics (e.g., different samples, duration, focus, etc.), and therefore drawing definitive conclusions is not straightforward. Also, their monodisciplinary approach and their focus on changing behaviour at the individual level (Abrahamse et al.,

2005) lead most of the time to overlooking other structural factors, such as demographic characteristics or physical infrastructures, which undeniably determine behavioural choices. These studies are also blind to the impact of cultural beliefs and the social context. In this work, I argue that there is a need to adopt a more multidisciplinary approach that can uncover how our need for energy is influenced by cultural beliefs and the social context. This approach has implications for the type of energy-related data/information that needs to be considered in these intervention studies.

In most of the aforementioned studies, data, and information are considered as something external to the individual and, in most cases, are imposed in a top-down manner on the household. There is a need to affect change beyond the individual level and this necessitates the consideration of energy-related data and information that captures the complexities of both the social context as well as the individual level. Existing research is already looking into this direction and is using social norms as a way of influencing behaviour (Allcott, 2011; Nolan, Schultz, Cialdini, Goldstein & Griskevicius, 2008; Schultz, Nolan, Cialdini, Goldstein & Griskevicius, 2007; Cialdini et al., 1991; Aarts & Dijksterhuis, 2003). Others are investigating how social interactions among neighbours, friends and relatives, during which tips and recommendations to conserve energy are exchanged, affect energy-related behavioural choices (Southwell & Murphy, 2014). These studies have paved the way to promote "programs that target neighborhoods, communities, or social networks as collective entities rather than simply focusing on isolated individuals" (Southwell & Murphy, 2014, p. 64).

In my research, I conferred particular attention to the role of the social context in framing energy needs, delimiting it to the community level. In contrast with the aforementioned studies, its aim is not to affect behavioural change but to understand how discursive processes taking place at the community level challenge current lifestyles and shape social norms regarding energy needs. In particular, this chapter focuses on the role that energy-related data/information can play in activating these discursive exchanges among community members.

3 cases of community-based approaches to energy-related data/information

In this section, I present the work done with the three Amsterdam-based communities from the perspective of the different types of energy-related data/information used during the research interventions. Different types of data/information and different interventions formats were used with each community, considering the different ways in which they frame their need for energy and the diverse spatiality of each community. This experimentation aims to show which intervention formats were more effective in transforming data and information into collective knowledge, thanks to the spur of community discussions that can contest current lifestyles.

Datafication as legitimation: the self-builders (BSH)

As outlined in Chapter 4, this community is clearly interested in learning how to improve the performance of the technologies that they have installed in their self-built houses for two main reasons: (1) to save energy, and therefore money, recovering their initial investment faster; and (2) to maximize their comfort at home. This is why the members of this community confer special importance to numeric data, which can give them an estimate of "how well they are doing", "if their experimentations are working" and, "when does the house start to be profitable" (member quotes collected during research activities). In addition, one self-builder emphasized the importance of "bringing numbers to the surface … because everybody [the self-builders] is doing something different" and a comparison could allow them to learn and improve their future decisions along the building process. These testimonies exemplify the emphasis on energy efficiency and the datafication turn that has been happening in the last decades due to the emergence of new technologies (e.g., sensors).

The intervention format used with this community was the use of narratives. The members who attended the energy story nights were interested in this format because numeric data can be supported with personal experiences. Using their words, this format grants "numbers a face". According to them, what gives legitimacy to knowledge is numeric data. One of the main reasons why members participated in the energy story nights is because they link academic research with data (understood by them as big data, as facts) and they thought they could get access to this type of information during the research interventions. They state that they "need to know the numbers to contrast with their own behaviour", and then they might start considering a change in behaviour.

Due to the resources available in the research project, I was not able to provide them with this type of hard data.[31] The energy story nights aimed to provide them with the opportunity to share their personal experiences and their own technical knowledge, which is substantial. This format aimed to bring to the surface their personal oral histories about their everyday lives. However, for the self-builders this exchange of experiential knowledge was not sufficient to initiate a meaningful discussion leading to the contestation of their energy needs. Furthermore, the impossibility to measure numerically their home performance discouraged most members from attending the research interventions. Finally, the purpose of using stories was to engage and connect community members with energy-related issues and to make them reflect on their lifestyle choices. In reality, energy issues related to the dwellings were the most relevant for this community. This emphasis overlooked other lifestyle dimensions, which are also very energy intensive, such as mobility choices, free-time activities or food consumption habits.

To sum up, in this community, energy-related numeric data that is specifically associated with energy efficiency technologies in dwellings, seems to be the necessary starting point to engage community members and to initiate a community discussion that could activate energy discursive consciousness. Due to the lack of access to this type of big data, it is not possible to conclude whether the contestation of current energy intensive lifestyles would have taken place during the community discussions.

Easy, fun and empathic: the power of narratives and the arts in De Meevaart (IB)

Different types of energy-related data/information and diverse intervention formats were utilized in this community, due to the dissimilar ways community members frame their energy consumption and their need for energy. As already explained in previous chapters (see Chapter 3 and 4), the two De Meevaart communities that participated in the research, Atelier K&K and Wetenschap in de Wijk (Science in the Neighbourhood), had almost opposite levels of awareness regarding environmental issues. The use of narratives, supported with numeric data, proved to be an effective way to spark community discussions.

[31] As a clarification note, providing community members with hard data was not included in the research aims.

During the energy story nights, participants explained how relevant was for them to have access to numeric data to gain awareness of their own energy consumption. This is the case of the member whose quote opened this chapter, referring to the data collected by the energy provider using the smart meter installed at the home. Most energy providers offer an energy manager, which is a digital tool that helps visualize this type of data. An energy manager can be used after installing an app on the mobile phone or by using a web-based platform. All these new technological advancements are making energy visible by visualizing consumption. Until now, energy issues were hidden behind an energy bill, which as the community members explained "is not readable" and thus also not transparent. It is similar to doing "groceries in a hypothetical store totally without price markings [and being] billed via a monthly statement like US$527 for 2362 food units in April" (example taken from Kempton & Montgomery, 1982, as cited in Kempton and Layne, 1994, p. 857).

As Wilk and Wilhite (1985) state, this relates to the problems that consumers experience when analysing data regarding their energy consumption. By talking about their frustrations when reading their energy bills, members realized that they are not alone and that others also experience similar issues. The energy managers, by breaking up the total amount of energy consumed, are transforming numeric data into valuable information, which, in turn, can inform future behavioural changes. However, this is just the first step, as existing research has shown that providing only information, in the form of feedback, is not a sufficient condition to affect behaviour (Buchanan et al., 2015). Besides, access to these new technologies, such as smart meters or energy managers, is not yet so widespread, restricting data access to those who are not technologically literate, as it is the case with most Atelier K&K members.

Numeric data and related information coming from websites such as Milieu Centraal (https://www.milieucentraal.nl/) or Natuur & Milieu (https://www.natuurenmilieu.nl/), were used to design intervention formats such as the Big Neighbourhood Energy Quiz and the other energy quizzes. Sometimes information was framed in terms of the monetary savings related to an energy thrifty behaviour, sometimes in terms of the CO_2 emissions that can be avoided if we travel by train instead of by plane or the amount of kWh that different household appliances consume per year. I used this energy-related numeric data and information to prepare a list of ten questions with three op-

tions each. During the Big Neighbourhood Energy Quiz, the very entertaining performance of a local comedian was used to convey the aforementioned information.

Figure 31: Flyer announcing the Big Neighbourhood Energy Quiz to the community (Source: author)

This easy, fun and not judgmental format proved to be effective in engaging community members with a low level of awareness of environmental issues and for their own energy consumption. The appeal of the small symbolic prizes to be won helped keep the audience's attention until the end of the intervention. However, this format enabled more individual reflection than community discussion. Due to the length of the intervention, there was no time at the end for a group discussion. The spontaneous comments during the quiz revealed the reactions of the audience: "Oh, that is long!", exclaimed one attendee upon hearing that the average shower time in the Netherlands is between 8 and 9 minutes. Since there was not enough time for a proper

community interaction during which members could verbally reflect on their own energy-related practices, it is not possible to assess the effectiveness of this format to activate energy discursive consciousness.

In contrast, during the three energy quizzes conducted in successive months with the three sub-communities from Atelier K&K, the same ten questions were used in a different format. This is useful to assess how the same energy-related numeric data and information enable different types of community interactions depending on the chosen intervention format. This time, humour was replaced by sense of belonging and trust in the community organizer (who moderated the energy quizzes) and trust in the other community members. Without the comedic entertainment, members had enough time to share personal narratives after each quiz question. Every question sparked a community discussion around a different energy-related topic (e.g., heating, showering, modes of transportation when going on holidays, food choices, etc.). The quiz format structured the discussion in small sub-discussions. The energy-related numeric data and information helped to support the answers. During some of these sub-discussions, it can be stated that energy needs were challenged and, therefore, energy discursive consciousness was activated.

For example, when discussing the topic of cleanliness, a Turkish lady expressed her need to wash clothes and shower very frequently, attributing it to her cultural background and the way she was raised. In response, other members initiated a discussion questioning cleanliness issues and hence, energy needs. Therefore, these experiences with the community Atelier K&K show that it is a wise choice to use formats that reinforce the group dynamics, for a meaningful discussion to take place. The use of a quiz can be an example of such a format. The playful dynamics and the feeling of competing to see who gets the right answer allow members to freely express themselves, in turn, enabling discursive processes that might challenge current practices.

Visual media combined with personal narratives were used as communication tools to convey energy-related data, for example, the screening of the documentary *Worsteling van de Groenmens* (*Struggles of Green people*) with the community Wetenschap in de Wijk. In this case, the type of energy-related data and information were the testimonies of the people featured in the documentary, which can be considered small or soft data. The documentary is a collection of their stories, how each of them is transitioning towards a more

sustainable lifestyle. Some of them used numeric data in their narratives, while others did not. After the screening, a discussion took place. Several members identified personally with the testimonies, and others compare their own struggles with the ones mentioned in the documentary (e.g., lowering down our comfort standards, cutting single plastic use or becoming vegetarian). Others completely disagreed with the message and shared a sceptical attitude towards the impact of individual actions. It is important to underline that most of the members who attended the intervention are highly educated and already aware of the environmental impact of their actions. This factor, together with the choice of a documentary format, contributed to a rich community discussion during which topics such as the need to reduce consumption and to question our needs arose:

> Most of the times you don't need things, but we're consciously and unconsciously bombarded that we need that mobile phone or that brand of clothes… and that is the capitalist way to make profit, of course. So, you need to be very conscious about it, that you don't need so many things. (extract from a face-to-face discussion on 19-08-2018, translated from Dutch)

Even if it did not directly focus on energy needs, it can be stated that this intervention format, combined with the use of narratives, was effective in activating a discussion during which current lifestyles were contested.

Another intervention that made use of visual media and narratives was the screening of the "verbatim theatre" documentary *Every Single Decision*. As explained in the methodology chapter (see Chapter 3), this artistic film was made explicitly for this research and consists of creating a fictional narrative built using the exact words of the community members I worked with during my fieldwork. Therefore, the energy-related data/information conveyed are personal testimonies and stories, and the intervention format is a combination of visual media and a fictional narrative. The screening of this artistic film took place in the main hall of the community centre De Meevaart and was an open event. As a result, most attendees did not know each other. Almost all of them were already aware of environmental issues. After the screening, I moderated a group discussion. The reactions of the audience to the film were quite diverse. In general, the participants who did not closely relate to the testi-

Figure 32: Print screen from the documentary Worsteling van de Groenmens (at minute 8:01) https://www.vpro.nl/programmas/tegenlicht/kijk/afleveringen/2017-2018/Worsteling-van-de-Groenmens.html

monies shown in the film focused more on the format, while those who empathized more with the testimonies focused more on the content.

Many participants related to the testimonies presented in the film and compared their own struggles to reduce energy consumption with those presented on the screen:

> I recognize a lot of things that we keep on talking about and a lot of the frustrations, contradictions… Is it really me or is it the big corporations? "I'm actually quite negative, but I have to be positive because I have two children?" [this is a quote from the film]... Should I have children?... This whole line of contradictions that keep us busy at least when we're interested in that topic. I probably recognize a lot of conversations that also we already had. (extract from a face-to-face discussion on 23-06-2018)

On the other hand, others found the film confusing and even confrontational:

> I didn't get that impression in my mind, it's more like you have to be positive, you have to be positive, you have to be positive… I heard it over and over again… I am who I am, do I have to be like that? … It's

> making me a little bit angry, I want to leave[32] because I see the message over and over … if I had the choice I would leave … I want to have an easy way of looking, now it's getting more frustrating in my mind… it's getting me very energetic but in the wrong way. I want to feel comfortable when I look at the screen. (extract from a face-to-face discussion on 23-06-2018)

This last testimony shows that art can also cause discomfort, which can be a trigger to activate a discussion. Art can also evoke memories and help us reflect on our needs. One of the participants remembered "one of the best moments of his life" when he lived in a cave for a few weeks during a summer holiday. This shows how happiness and consuming less are connected in many personal stories. However, he acknowledged the difficulty to live that way in our society without becoming "a cave man":

> I could give up pretty much … well I did consume, I would buy some food every couple of days… but that's it … Wood for the fire and that's it … At some point you get in the flow of that as well and a week later you realize how unnecessary many things are… I have to say including the shower. It might sound shocking … Getting there by hitchhiking, coming back by hitchhiking… it's probably as low on the energy as you can go. My phone, the battery ran out two days later and I didn't charge it. (extract from a face-to-face discussion on 24-06-2018)

Even if this format was not used with an existing community, it resulted in some fruitful group discussions during which participants reflected on their current lifestyles and exchanged views on how much they really need in order to live a "good life", as the testimony of this participant shows:

> It, kind of, created in me the impression of all those busy, busy, busy lives… for me even half way through, my own thinking was it's not about energy, it's not about the machines we are using… but it's about why are we using them, why… how they support a particular way of life… do we really need all of that. … I'm using my laptop all day through, never actually thinking about the impact, the energy that consumes. So that's one thing and when seeing these people saying the same

[32] It is important to emphasize that all participants had the liberty to participate as much as they saw fit and naturally to leave at any time during all research interventions.

thing, I use my laptop all the time, I use my laptop all the time… that is so… ahh…when you see somebody saying that again and again and again, you start thinking which type of life I'm living. (extract from a face-to-face discussion on 24-06-2018)

Figure 33: Print screen from the verbatim theatre documentary *Every Single Decision* (at minute 9:06). Authors: Kaylee Good and Christopher Harris (in collaboration with the author). https://vimeo.com/320708073

Crowdsourcing and co-creating knowledge: the Sustainable Community of Amsterdam

The high degree of spatial hybridity of this community and the members' high level of awareness regarding environmental issues allowed me to experiment with many different types of energy-related data/information. These were coupled with different intervention formats, both in person and digital, such as energy story nights, documentary screenings and weekly Facebook posts with diverse research inputs. Similar as with the other two communities, narratives were a powerful tool to communicate different types of data and information, from personal experiences to numeric data, which most of the times were combined and reinforced each other. During online discussion, visual media, such as photos, videos and infographics were used by the members to strengthen or illustrate their point. Next, I explain in detail how these different

types of data/information and interventions succeeded (or failed) to spark community discussions that can challenge current lifestyles.

Members valued highly the possibility to connect with like-minded people and to reflect together by sharing personal experiences, during both the face-to-face meet-ups as well as digitally in the Facebook threads. These inspiring story exchanges helped members to reflect and to describe in words their own lifestyles. Also, as the members' comments show, they were motivated to apply these learnings in their daily lives:

> This is my first meet-up, me coming and joining a group. I'm not involved in any group but trying to find changes within my life. It's amazing sitting here… I've became very cynical this past year because people around me are just not… I only hear negative things about how people are ruining the earth, I'm fighting a losing battle… and now here I am sitting with you people, so I'm very excited. I don't know where this is going to lead me to but I think by sharing and being with the right kind of people, it makes a difference, thank you. (extract from a face-to-face discussion on 18-07-2018)

In the case of this community, the easy access to the community discussions on the Facebook platform, which are one-click away on a mobile phone or a computer, enabled an "ongoing conversation" (as one member shared), a frequency impossible to match when thinking of face-to-face interactions. The combination of digital interactions with in-person interactions seems to be very instrumental for building the trust and the sense of belonging necessary for meaningful and open discussions:

> I am noticing that my biggest learnings and transformations are coming from these types of in-person conversations … Ultimately it is kind of surrounding yourself with like-minded people and keeping the conversation going so every day, I'm like "wow, this thing, this thing"… as it repeats itself it stays with me and then when I am around the house I start changing things … [it] is very inspiring and to me, personally, it helps me progress, to keep at it because it's very hard sometimes. (extract from a face-to-face discussion on 18-07-2018)

During the online and offline discussions some members appeared to be more

knowledgeable than others in some topics. Some of these active members have a genuine interest in a certain sustainability topic and have read extensively about it. Other members, due to their professions, related to sustainability, have also developed an expert knowledge. Hence, their comments add a more informed layer to the discussions, including sometimes references to statistics, reports, trustworthy sources, and other information highly valued by the community. This appreciation is shown in the comments during the offline and the online discussions (also with the Facebook "likes"). As McGuire (1985) stated, the effectiveness of the provision of information depends on the source of the information and its trustworthiness. Several active members had a reputation as experts and, therefore, enjoyed the trust and respect of the other members:

> What I like about the community is that there are people who focus on different areas and they are experts in different areas. If I hear that one thing that I learned only once, climate change, balance diet, etc.… with my busy life I would tend to forget it, but because it's happening on an ongoing basis in a kind of digestible way from different members I really see that it works for me. (extract from a face-to-face discussion on 18-07-2018)

Personal stories coming from members who are somehow further in their own transitions towards a more sustainable lifestyle are especially appreciated by the community. These "outlier" stories serve as eye-openers and help pave the way for other members who are not that advanced. Many describe their transition from old to new habits as an "experiment". These interactions during which "personal experiments" are exchanged triggered fruitful discussions. Having different opinions and practices at the same table contributes to a discussion in which the normal way of doing things is contested:

> I always used to have my heating at 20 degrees when at home and 18 degrees at night or when I was out. This was simply what I was used to, so 20 degrees felt comfortable and 18 degrees felt cold. Then around 3 years ago, as an experiment I changed the temperature to 19 degrees when I'm in, 15 degrees at night and when I'm away, and 12 degrees when I'm away for a few days. I actually got used to the slightly lower room temperature fairly quickly (I started off wearing thick socks and a

> sweater, but within a week or two didn't need those anymore). (extract from an online discussion on 07-03-2018)

Numeric data, if known by the members, are used in many of the community interactions to support personal stories. For many members, numeric data serve as a trigger to identify which aspects of their lifestyles they should change first. For example, what does it mean to stop eating meat compared to lowering the thermostat to 19 degrees for a full year? Is it comparable? Having access to numeric data can help us make a more informed decision. Despite this observed advantage, many members shared their frustration regarding the overwhelming amount of data that is available on the internet and their helplessness about the reliability of the sources. In this sense, the community discussions played an important role in filtering the massive volumes of available information and in co-creating new information, more meaningful for the community members, throughout their numerous discussions:

> For me it's very personal, I need to be trained first and I can only be trained by seeing the numbers and then I'm not ready yet… I feel it's another level for me personally (laughs), an aspiration. So, for me I would find it really helpful, right now I don't have the sense… I'm not ready to disconnect everything or being really minimalist but I'm ready to remove the biggest offenders. (extract from a face-to-face discussion on 18-07-2018)

Some of these numeric data come from having access to certain technologies, such as a smart meter or an energy manager, as already explained. Another numerical trigger is the amount of money that you can save by reducing your energy consumption, as this member points out:

> I could really monitor and see… I saved quite… maybe indirectly I saved quite a lot of money, I was always getting quite a lot of money back, so I thought I was doing quite well. I was consuming economically, that helped me to be aware of that, that there is a direct link, if I consume less, boom! it reflects on your bill. It's direct and your impact is less, automatically … Where I live now, we don't have this smart meter and I miss it. I start to log in in my account and I don't see anything [he laughs] I have no idea how I'm doing. (extract from a face-to-face discussion on 08-02-2018)

I introduced some of these numeric data in the weekly Facebook posts. The sources of this type of numeric data and derivative information are mainly Dutch websites such as Milieu Centraal and Natuur & Milieu, which enjoy popular recognition in the Dutch context. For example, one of the posts starts with the following statement: "A trip by airplane pollutes the environment 7 to 11 times more than the same trip by train". Most of these posts sparked an immediate discussion; members started questioning the accuracy of these numbers and how simplifications of data, even if done to convey a straightforward message, hide important nuances and confuse the consumer. During the weekly Facebook posts, I experimented with different ways to convey information and numeric data. Sometimes, I used a quiz format offering three options to a question*:* "What do you think is the most sustainable 2-week holiday option for a Dutch family of four that wants to go to France? A) car + tent; B) train + hotel or C) plane + hotel". The numeric data, in this case the kilograms of emitted CO_2 in each of the three choices, are crucial to justify the correct answer.

The idea of encouraging competition among members to see who gets the right answer also stimulates the discussion and keeps the thread open until the correct answer is revealed. Other times, I suggested using a CO_2 footprint calculator[33] to help them discover which consumption category (food, housing, transportation, goods or services) has a bigger impact in their lifestyles. In this case, numeric data play a big role too.

Many visualizations were used during the community discussions, especially online, sometimes to start a discussion, sometimes to strengthen a narrative or a personal experience. Visualizations were effective in activating energy discursive consciousness because they were able to evoke emotions. Some of these visualizations helped to convey information without having to rely only on written text, which is key in a society that praises immediacy. For example, the following infographic ("9 TIPS for living with less plastic"), structured the discussion and served as a visual reminder that encouraged action:

> Which one do you struggle with the most? I haven't done #8 yet. So that's the next step. In regard to #5, for the most part I've been pretty good. Sometimes I am not fast enough to say no, [be]cause they are so fast to

[33] Footprint calculator "What is your ecological footprint?". Retrieved from: (https://www.footprintcalculator.org/).

include them [referring to plastic straws], but I am getting better ☺. (extract from an online discussion on 18-02-2018)

Figure 34: Infographic shared during a community discussion on 18-02-2018. (Source: "Refuse Reuse Reduce" website: https://www.lessplastic.org.uk/9-tips-living-less-plastic)

Other visualizations are representations of big data, which some members use these during discussions to support their argumentation. For example, the following is a graph used by a member during a conversation about climate change and its manifestations to show how summer temperatures keep on rising in Amsterdam. This member, who is considered as one of the experts, introduced the graphic by adding: "This guy is always putting together statistics on climate/weather trends, interesting to follow [on Twitter]" (extract from an online discussion on 17-08-2018).

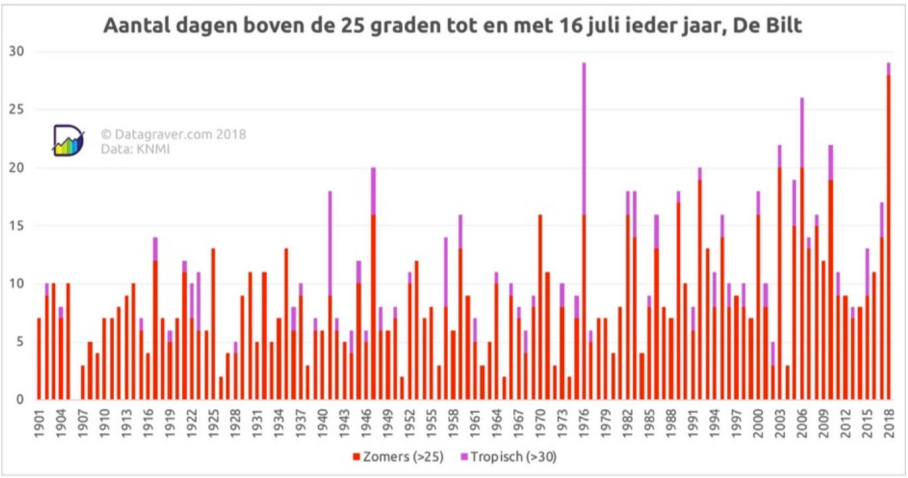


Figure 35: Number of days with temperatures above 25 degrees, up to and including 16 July, every year from 1901 to 2018. Infographic shared during a community discussion on 17-08-2018 (Source: Datagraver Twitter account:
https://twitter.com/datagraver/status/1018786157096730624?s=21)

Local, sensitive and co-created: how data and information turn into knowledge

In an increasingly datafied society, in which huge amounts of data are produced every day, a key question that arises is how we make the most out of all this data, in order to reduce not only the energy consumed but also the energy that we need, ultimately affecting social change. As argued in this chapter, it is necessary to adopt a broader approach to energy-related data and information, to acknowledge that data and information operate at both subjective and collective levels. In so doing, the role of the social context becomes much more important to explain if and how these data and information turn into collective knowledge. So far, existing research and current energy policies have focused on providing households with numeric big data with the aim to affect behavioural change (Fischer, 2008; Buchanan et al., 2015; Darby, 2006; Stromback et al., 2011). This type of data and information provision, even when combined with other types of strategies, such as incentives or rewards, is yet to deliver the desired results. In this chapter, I analysed a broad spectrum of energy-related data and information, from hard to soft, and different ways of conveying the data/information during research interventions. The field-

work conducted with the three Amsterdam-based communities illustrates three main lessons learned during the process.

The first lesson concerns the importance of targeting energy-related data and information to the local context that matters to the community. The use of local data and information to trigger meaningful community discussions is evident in the three communities. In the case of the self-builders from Buiksloterham, the members are clearly interested in having access to data and information regarding the efficient technologies that they have at home in order to learn and maximize their comfort and return on investment. In the case of Atelier K&K, many members joked during the energy quizzes because the numeric data used to prepare the ten quiz questions was based on the average Dutch citizen's behaviour (e.g., the average time that the average Dutch person spends in the shower). They do not consider themselves average Dutch citizens, mainly because most of them are not originally Dutch and do not have a strong connection with the Dutch culture and the "Dutch lifestyle". Therefore, relying on this data and information based on averages did not help to build trust in the sources, although it did spark a discussion. In the case of the Sustainable Community of Amsterdam, the members are encouraged, as the community guidelines underline, to share and refer to information and events happening in the city, rather than globally. On several occasions, both during online and offline discussions, the community founder pointed out the risk to engage in too big or too superficial discussions that do not lead to action if the conversation stays at the global and, therefore, more abstract level.

The second lesson learned regards finding the most effective way to convey a certain type of data/information. The same energy-related data and information can be transmitted in different ways, with diverse outcomes, when considering the activation of energy discursive consciousness. The key is to have a deep knowledge of how community members frame energy issues in advance, in order to choose the most appropriate intervention format. When working at the community level, the use of narratives can be considered an effective communication tool as the interventions with the three communities show. In some cases, these narratives were fed with personal stories (soft or small data), based on members' personal experiences. Narratives allowed them to tell their own story and to better understand and reflect on their own lifestyle choices. This is the case of the meet-ups with the SCoA, for example, where experiences about minimalist lifestyles (how to live with less) were ex-

changed. In other cases, the narratives were fed with numeric data (hard or big data), praised as a way to support personal stories, individual choices or to bring to the surface a hidden aspect of consuming energy, such as in the case of the opening quote in this chapter.

All in all, narratives that combined personal stories and numbers proved to be very effective in starting conversations that led to challenging the normal way of doing things. This can be an example of a "qualitative sensibility and method … to help us see what numbers cannot" (Baym, 2013, n.p.). This combination of narratives and numbers happened during many of the online weekly discussions with the SCoA, which I initiated, and for which I used numeric data. Especially in the case of this community, due to its digital nature, numeric data could be supported with visualizations and other media (photos, videos, bar charts, etc.).

I also experimented with other communication tools, which were based on artistic expressions. Some, as the Big Neighbourhood Energy Quiz, used principles taken from theatre and performance (stand-up comedy and humour), while others, such as the screening of the artistic film *Every Single Decision*, were more visual and media-based. These more arts-related formats worked better in engaging with communities with a lower level of awareness or interest in environmental issues, such as Atelier K&K. Sometimes, they were effective due to their emphasis in providing entertainment (quizzes) and other times because of the unique confronting effect that artistic installations can generate so well. Looking at the more-aware communities, while these artistic expressions were well received as discussion triggers, they were already quite aware of environmental issues and ready to engage with the topic on other levels. For them, facts and numeric data were crucial for a meaningful discussion.

The value of these artistic formats needs yet to be further explored in future research and used in combination with other more established communication tools, such as narratives. For example, the combination of the Big Neighbourhood Energy Quiz and the three energy quizzes worked rather well. The first intervention served to engage the Atelier K&K community with energy issues through humour, and the three energy quizzes deepened the discussion in the three smaller sub-communities, through the use of narratives. It is important to take into consideration that, with more aware communities, interventions

based on arts might be perceived as "useless", in the sense that these interventions might not bring the answers people are looking for in their pursuit of a more sustainable lifestyle. This happened during some of the discussions sparked by the artistic film *Every Single Decision*.

The third and final lesson refers to the importance of not imposing energy-related data/information in a top-down manner but allowing the community to find and share energy-related data and information that speaks to them and that is trustworthy for them, or even to produce or co-create their own data and information (Couldry & Powell, 2014). This co-creation, I argue, takes places during community discussions and is what makes energy-related data and information to become meaningful, not only to one individual but to a collective, in this case, the community the person belongs to. This way, the community can become a space where the status quo regarding energy issues and current lifestyles can be challenged and where social norms that govern energy needs can be shaped.

The SCoA online discussions exemplify this argument. The active and frequent discussions are fed with all sorts of data and information coming from multiple sources. It is the trust that the community has in each other's contributions – especially from members seen as "experts" – that legitimizes the value of this information and triggers discussions, which can shape future actions. Also, the fact that the community founder knows many of the members (in person or their individual expertise) plays a crucial role in this process. She keeps on encouraging the contribution of these expert members by monitoring each thread and tagging the members she knows can contribute with meaningful and trustworthy data to the discussion. Therefore, there is a need for some kind of 'filtering' of the huge amount of data and information available out there so that the information that is filtered can reach the community and spark a meaningful discussion. For this, the role of moderators, intermediaries, or even "interpreters", is crucial and deserves further scholarly attention (Breukers et al., 2009) when looking at bottom-up approaches to data and information analysis and the role that they can play in producing collective knowledge.

CHAPTER 7

CONCLUSIONS

As global energy consumption continues to rise, despite the heavy investments in new technologies and efficient devices, scholars are feeling a pressing urgency to experiment with and develop alternative paths towards sustainable forms of living. What if the future challenge of society is not only to reduce energy consumption, but to significantly decrease energy demand? What would that imply?

This thesis built on the extensive body of work of practice theory researchers who, in the last decades, have been studying energy demand and exploring the opportunities that this approach can bring. Focusing on decreasing energy demand opens up a debate about the need for energy, in the first place. People do not need (and therefore consume) energy for the sake of it but because the practices that conform their lifestyles require energy. This in-between step makes energy intangible, invisible, and hence, a resource that is too often taken for granted. For example, when considering the practice of eating a hamburger, most people do not perceive the vast energy needed to bring that hamburger to their plate. Also, only recently has the practice of flying has linked with its huge environmental impacts, questioning the principle of the "right to fly", although only in environmentally aware circles.

In light of these challenges, this PhD explored how current energy needs, linked to energy intensive urban lifestyles, are challenged and, eventually, re-

duced. Energy needs are not only shaped at the level of the individual – the social context where individuals interact also plays a crucial role. A combination of both individual and collective factors shapes what is considered a normal, luxurious, meagre, or a decent lifestyle. This research brought to the fore a particular type of social context, the community, and the discursive processes that take place in the building of communities through interaction. In so doing, it understood how these discursive processes challenge current energy needs. The main research question was formulated as follows:

> *How do social interactions within a community enable the activation of discursive processes that can question current energy-intensive lifestyles?*

This thesis has built a conceptualization to unpack the processes during which energy needs are challenged, the so-called *cultivation*. The conceptualization of the cultivation of energy needs is based on the discursive ability that people have to reflect on their own energy-related practices and lifestyles, what I defined as "energy discursive consciousness". When exercised within the discursive interactions of a community, this ability to reflect allows people to question and potentially reduce their need for energy. The community level, understood as a relational space where social norms are shaped through social interactions, presents itself as a fruitful arena to influence changes in public discourse. This shaping of public discourse has the potential to mobilize social action, through the aggregation of individual changes in daily practices. This is the theory of change, explored along this thesis to study energy demand reduction. The application of ethnographic and experimental action research methodology enabled me to trace how cultivation takes place within three Amsterdam-based communities by exploring the role that different frame articulations, community spatialities and energy-related data and information play in its activation.

In this concluding chapter, I will firstly summarize the findings collected from the three empirical chapters 4, 5 and 6. These chapters have dissected the role that framing, space and, data play in the cultivation of energy needs. In the second and third sections, I will distil the main theoretical and methodological contributions of my work. In the fourth and fifth sections, I will indicate some possible avenues for future research and present current research limitations from which some considerations for future research endeavours will follow.

Finally, I will conclude presenting the main policy contributions and sketching potential avenues for future community-centred energy policies.

Making sense of cultivation: frames, space, and data

Reframing energy needs through the lens of "decency"

Making sense of current energy needs is a process that happens at both collective and individual levels, which mutually reinforce each other. The fieldwork with the three Amsterdam-based communities (discussed in Chapter 3) showed that each community – and even each individual member – has a unique way of framing their energy needs. The ethnographic approach allowed me to identify four different types of frames that were mobilized when reflecting on energy needs and their change: moral, monetary, efficiency-related, and hedonistic. Each community combined these four frames differently, constituting different types of frame articulations. Yet, community members articulated these frames in different ways as primary, secondary or enabling. Primary and secondary frames are crucial for engaging members and triggering community discussions. They contained the essence of the values and beliefs that bring community members together in relation to a topic, in this case, the reduction of energy demand. Once the discussion was enacted, touching upon enabling frames allowed me to challenge current understandings of normality in a way that was meaningful for the community.

The three communities I worked with present three very distinct frame articulations. The community of self-builders from BSH is characterized by a "self-centred DIY" frame, in which monetary and hedonistic frames can be considered primary, while moral frames remain secondary. Efficiency is the main enabler to spark community discussions that lead to the contestation of energy needs. I call Atelier K&K's frame articulation "money-oriented solidarity" because of the importance conferred to monetary and moral frames by its members. A combination of both was key to activate energy discursive consciousness and the process of cultivation. Within this community, efficiency was seen as secondary due to issues of affordability. The primary frame of the SCoA members is clearly the moral one. They are driven by an intrinsic motivation to contribute to creating a more sustainable society for all, with first and foremost, alternative hedonism, but also to a lesser extent efficiency, acting as enabling frames in their discussions. Therefore, I coined the term

"engaged hedonism" for this articulation. Monetary frames, while employed by some members, remained secondary.

Frame articulations are constantly being shaped by social interactions in this relational space called community. Imposing certain frames on a community or assuming that some frames will enable a discussion is not an effective strategy. Instead, one needs to invest time in getting to know the community, in order to understand what motivates its members, what brings them together and makes them thrive, and not only in relation to energy issues. Energy issues are deeply embedded in daily life choices and a narrow understanding of energy will not lead to discussions that can challenge current lifestyles. In this sense, decency was key in approaching energy issues from a different angle. Decency entails the consideration of moral standards of what is appropriate, not only at the individual but also at the societal level. Decency triggers a reflective process during which individuals assign meaning to their own actions. The communities analysed showed that monetary frames, or saving energy and therefore saving money, are not always the main driver for people to change their current lifestyles. Monetary frames come intertwined with other frames and it is these articulations of joint frames, rather than frames in isolation, that have to be studied and targeted, in order to have some kind of impact. In this thesis, I understand impact as the shaping of public discourse that happens within communities, urban communities in this case. I argue that these changes in discourse are able to influence the perception of how much energy is needed to live a decent life. These new understandings, in turn, may contribute to shaping energy-related practices (e.g., eating meat, flying, driving, etc.), leading to the development of more decent lifestyles.

Changes in discourse cannot be assigned to a single community interaction. In an ever-increasing networked society, individuals belong to many communities at the same time, to many different types of relational spaces where multiple interactions continuously shape how individuals and collectives frame their own reality. Sometimes, an individual belongs to several communities that share a similar discourse, the so-called "communities of discourse" (Wuthnow, 1989). Other times, an individual is part of several communities with vastly different discourses. This thesis analysed the discursive processes that take place within one community to explore how they affect the challenging of energy demand. However, I also acknowledge the importance of looking closely at the role that belonging to several communities, whether part of

the same or of different communities of discourse, plays in the process of cultivation of energy needs.

The spatiality of energy-related social norms

The community's spatiality in this thesis is conceived as an intertwined socio-spatial and relational configuration. The social and the spatial have equal weight in the spatiality equation. Both are linked through the relational dynamics of the social interactions within a community; therefore, a simple geographical definition of a community does not suffice. A community, as this thesis shows, is not necessarily linked to a neighbourhood, the focus of current Dutch energy policies (wijk aanpak, in Dutch). A community can flourish on many scales; they need to be carefully considered and the linkages between scales examined. For example, the community of self-builders of BSH gravitates around the scale of the street; for Atelier K&K and Wetenschap in de Wijk the scale of the city block – or even the scale of the building, where the community centre De Meevaart is located – is key. Nevertheless, for the latter two communities, the neighbourhood plays a crucial role as a context scale, providing a common background that brings community members together. It is at the neighbourhood scale where reality unfolds (e.g., inequality, segregation, etc.). The case of the SCoA illustrates that the scale of the city as a whole can also be relevant to build up and maintain a community. Living in the same city serves as a common denominator when considering issues of air or water quality, public transport availability, food and energy provision or sustainability-related policies, all conditioning daily lifestyle choices.

Physical proximity matters when analysing what makes a community thrive, both because of the relevance of local issues for bringing people together but also because of the possibility of meeting face-to-face. Despite the increasing use of digital technologies and social media networks, individuals still long for in-person interactions. Personal real-life contact, as showed by the three Amsterdam-based communities, is key for building trust, familiarity, and the sense of belonging that are crucial to later enable meaningful discussions. However, it would also not be wise to ignore the possibilities that new digital tools can offer to increase the richness of a community's spatiality. All three communities had varying degrees of hybridity, understood as the combination of physical and digital interactions. Both the community of self-builders from BSH and Atelier K&K are communities identified by their physical context –

their neighbourhood where they live, work, and interact – but they also use digital communication tools, such as email, a blog, newsletters, and others. The SCoA showed the highest degree of hybridity; its spatiality is mainly digital (the Facebook group) but some of the most active members also have regular face-to-face meetings.

The spatiality of a community, the socio-spatial context where members relate and interact, is key for informing its "communicative ecology" (Tacchi, 2004). An analysis of the socio-spatial context of a community enables a better understanding of "the complex systems of communication, media and information flows in a community" (Tacchi, 2015, p. 223). As the findings show, it is crucial to spend enough time investigating how the community members interact in order to understand their preferred means of communication and which ones feel foreign to them. This acquired knowledge of a community's communicative ecology contributes to inform the spatial properties of future research and policy interventions aiming at sparking energy discursive consciousness and the cultivation of energy needs.

Based on the evidence from this research, imposing new ways of communication in a top-down manner (such as a platform in the case of www.buiksloterham.nl or Google+), just because of their availability, does not bring the desired outcome of lively engagement and interaction. A platform is only a tool. For a platform to work as a medium of communication it needs to serve the community's purpose. It needs to be perceived as a safe space were members can freely communicate. An example of such an enabling platform is the SCoA's Facebook group. In this case, the social media platform has become more than a tool; it has become the home of a growing community.

So, why does a platform work in some cases and not in others? Unfortunately, there is no fixed recipe. This research shows that a certain spatiality is not a sufficient condition for energy discursive consciousness to be activated. It is one more ingredient that plays a partial role in the process; however, other factors need to be in place for a digital platform to flourish. One of the main factors, as evidenced in the SCoA case, is the active presence of an organizer(s) and/or a group of active members that regularly initiate and moderate discussions. Also, having a common interest, an intrinsic motivation, has proven important for stimulating engagement and bringing members together, a necessary precondition for any meaningful community discussion.

By carefully listening to the community's communicative ecologies, during the fieldwork phase, new and bottom-up modes of communication were supported and enabled by the research. This was the case of the SCoA's meet-ups. The SCoA founder had been trying for some time to organize face-to-face events so that members could meet outside the digital walls of the Facebook platform. The research interventions helped enrich the communicative ecology of this community, by strengthening the ties between the members who attended the in-person activities and, in turn, providing a more trustworthy ground for both online and offline community discussions. Also, the research interventions provided the members of Atelier K&K with the opportunity to come together, contributing to their sense of belonging to the community, while at the same time enabling a learning grounds for energy-related issues.

The community: where numbers meet stories

The community is the space where the transition from energy-related data and information to collective knowledge takes place. This transition is incremental. Many times, it is the individual who first encounters a certain type of energy-related data and information and, after making sense of it individually, brings it to the community. At that level, the particular piece of data and information is discussed. If meaningful to the collective, it can be brought into other socio-spatial contexts, potentially shaping public discourse. This thesis has focused on the discursive process that takes place within a community, sparked thanks to energy-related data and information. Due to its experimental action-research approach, different types of energy-related data and information as well as the different ways to convey them were explored during the research interventions.

The findings show that a wide range of data and information needs to be considered. Not only numeric data, but also personal stories and experiences have the potential to spark energy discursive consciousness. Even more, a combination of both, hard and soft data turned out to be key in triggering community discussions that lead to the cultivation of energy needs. When energy-related data and information are local and relate to the community's interests, the chances are higher that they will spark a process of cultivation. Trust in the sources and the filtering of the huge volumes of available data and information are necessary for a community to make sense of these data and information. As the case of the SCoA illustrates, a bottom-up approach that allows commu-

nity members to co-produce their own data and information through community discussions, can have a positive effect in triggering energy discursive consciousness. In this community, the contribution of the expert members in this process is especially effective; they interpret key information through the lens of their own knowledge, bringing it closer to other members. These expert members have gained their reputation due to the endorsement of the community founder and via their multiple informed interventions in the community discussions.

As crucial as the type of energy-related data and information are, how they are conveyed is equally important. I had the chance to experiment with the power of narratives and artistic expressions (humour, performance, and visual and media-based formats) in conveying the message of reducing energy needs. Some formats worked better in passing on certain types of data and information. For example, the use of narratives allowed the sharing of personal stories, complemented in some cases with numeric data. Some formats worked better among certain types of communities. For example, art-related formats that used humour and performance, such as the Big Energy Neighbourhood Quiz, helped embed the message in less environmentally aware communities, such as Atelier K&K. More aware communities, such as the self-builders from BSH or the SCoA, valued formats that helped transmit numeric data, seeing numbers as a way to legitimize knowledge. With some communities, such as Atelier K&K, a combination of formats worked well. First, humour, performance, and game competition dynamics served to initiate a conversation (with the Big Energy Neighbourhood Quiz), which was then taken to another level, the discussion of specific lifestyle practices, by adding the use of narratives (with the energy quizzes). All in all, the narratives and the sharing of personal stories were successful in sparking community discussions that could contest current lifestyles in all three communities.

Beyond frames, spatialities, and data

The distinction between the three aforementioned core issues – frames, spatiality, and data/information – was a necessary analytical step to examine the complexity of interactions. Each of the three dimensions is closely connected to the others, and all need to be considered as a whole to unpack the notion of cultivation of energy needs. To advance interventions, strategies and policies that are able to spark discursive processes and question current energy inten-

sive lifestyles, it is necessary to: (1) understand the articulations of frames; (2) the communicative ecologies proper of the community at hand; and (3) the type of data/information (and formats through which the data are conveyed) that best speak to that particular community.

The notion of "decency" proved effective in sparking energy discursive consciousness and, in turn, the process of cultivation. Community discussions that gravitated around decency allowed a move beyond issues related to energy efficiency, asking important questions that challenge energy demand: "how much is enough" or "how much (energy and the services that energy provides) do I need to live decently?" Some of the framings of energy needs, such as moral and alternative hedonistic frames, were more compatible with the consideration of decency and its implications than other frames, such as the monetary and efficiency-related frames. The term decency was intentionally not mentioned during research interventions to avoid the normative misunderstandings that the word evokes. However, decency was at the crux of the matter and helped bring the discussion to the topic of current energy needs.

The three analysed dimensions are not the only ones that may play a role in understanding how the notion of cultivation unfolds. The communities and individuals where these discussions take place are affected by other factors that also influence their lives and daily choices. For example, temporality, a crucial factor, was only indirectly explored in this thesis. Individual temporality, i.e. the different life stages of an individual, affects community engagement and openness to consider changing lifestyles. When community members have small children or ill relatives to take care of, they might have less time to engage in community work, whereas if most members are retired there might be more time for longer discussions. Community temporality, understood as the community's stage of development at the moment of analysis, is also a key factor. Each specific context presents the researcher with unique challenges and opportunities, whether working with a consolidated community (Atelier K&K), a rapidly growing community (the SCoA), or an established community that is looking to reinvent itself and cope with fast-pace changes in their neighbourhood (the self-builders of BSH).

There are many external factors that this thesis has not directly analysed and that may shape the cultivation of energy needs, such as those related to "policy/power/politics" or "economics/business/markets", among others (Geels,

2011, p. 25). Current lifestyles are in many instances locked in a path dependence that is difficult to disrupt. These external circumstances, may condition – or even suppress – the activation of energy discursive consciousness and of the cultivation of energy needs. For example, the availability of certain infrastructures can enable or constrain daily practices. In Amsterdam, the extensive cycling infrastructure makes it possible for people to choose to cycle instead of drive. However, in a car-dominant context, a process of cultivation of this specific type of energy need might not even be considered since the built environment does not encourage other less energy-intensive practices. Another example is the current shift in Dutch energy policies, aiming at a gas-free housing stock after many decades of lucrative reliance on natural gas. This policy shift can be perceived as an enabler towards the activation of cultivation.

Other external factors, such as the extreme atmospheric events occurring more frequently in recent years (e.g., heavy rains, floods, heat strokes, etc.), might help create a collective breeding grounds for the questioning of current practices. Yet, its success depends on how such events are presented in the media (including social media networks). The modalities of communication of those events shape key common understandings: "Is it an urgent, an acceptable, a NIMBY (not-in-my-backyard) or even a neglectable issue?" All these collective 'discussions', which happen at different levels, contribute to shaping public discourse and influence the interactions taking place within communities.

Addressing the shortages of practice theory research

The theoretical contribution of this work is twofold, namely with regard to active agency as well as to addressing large scale phenomena, such as in this case, the energy transition. Their neglect of the role of individual agency in shaping practices has been one of the main criticisms of current approaches of practice theory. These approaches have been accused of relegating human agency to a secondary position and focusing only on practices and how they link constituting bundles and complexes (Spaargaren et al., 2016). Individuals are considered as mere "carriers" or "hosts" of a practice (Reckwitz, 2002a, p. 256), as practices are the ones "recruiting" practitioners (Shove et al., 2012). Recently, practice theory scholars have been increasingly giving more attention to the role of agency, acknowledging that they had "given limited attention to these topics in the past" (Hui et al., 2017, p. 2).

This thesis contributes to the exploration of the active dimension of agency, building on the work of Giddens (1984) and Bourdieu (1977), by examining the role that consciousness plays in questioning energy needs. An active take on agency acknowledges that practices are performed "by knowledgeable and capable human agents" who "exert agency, have a lifestyle, and possess transformative capacities" (Spaargaren et al., 2016, p. 9 and 11, respectively). The "reflective monitoring of action", or the ability of being aware of one's own surroundings and giving meaning to them, enables the shift from "practical" to "discursive consciousness" (Giddens, 1984). In other words, it allows us to stop and reflect on the routinized practices of our lifestyles and to question them, in a discursive way. Discursive consciousness, defined as "what actors are able to say, or give verbal expression to, about social conditions including especially the conditions of their own action; awareness which has a discursive form" (Giddens, 1984, p. 374), paves the way for one of the main concepts in this thesis – "energy discursive consciousness".

I define energy discursive consciousness as the ability that actors have to verbally reflect on their own energy-related actions. Energy discursive consciousness enables a process that questions current energy needs, allowing for the habitus to be challenged and, possibly, changed, leading to the development of more decent lifestyles. This process of cultivation of energy needs, enacted within a community, is the main phenomenon analysed in this thesis. As previously presented, the analysis of several core dimensions of this process of cultivation (frames, space, and data) has allowed me to reveal the notion of active agency embedded in the social interactions within the socio-spatial context of the community. This understanding of agency, from a relational perspective and embedded in place, can inform debates in disciplines such as planning, which recently are advocating a continuous and active process of institutionalization (understood as the making of rules, values, social norms, etc.) through social interactions (Salet, 2018).

Another main criticism of practice theory is levelled at its inability to analyse long-term macro-phenomena and how systemic change unfolds. For example, practices such as bathing (Shove, 2003), cooling (Shove, 2016) or leisure-related such as Nordic walking (Shove & Pantzar, 2005), are some of the most widespread studies within practice theory literature (Spaargaren et al., 2016). This critique comes mainly from transition theory scholars who argue that "because the practice concepts are more descriptive than explanatory, it re-

mains somewhat unclear how they can be used to analyse transition dynamics in a way that goes beyond the empirical mapping of individual cases" (Geels, 2011, p. 38). In recent years, there has been a reply to these objections and practice theorists have started to study large-scale phenomena at national and international levels (Schatzki, 2016; Hui et al., 2017; Nicolini, 2012). Aiming at "largeness" implies looking at how bundles and complexes of practices evolve in time and space. "Next to the hanging together via shared rules, values, emotions, material objects, competences or teleo-affective structures, practices can also be connected via groups of human agents with similar lifestyles (Giddens, 1991) or a corresponding habitus (Bourdieu, 1977, 1979)" (Spaargaren et al., 2016, p. 19-20). The role that human agency plays in bringing together and shaping practices cannot be overlooked in this exploration of the study of large phenomena. This is how both aforementioned criticisms of practice theory, namely the neglect of agency and its limitation to the analysis of small-scale phenomena, can be overcome when combined.

This thesis contributes to exploring how practice theory is suited to understand large-scale phenomena, such as the energy transition, by studying how the process of cultivation of energy needs takes place at the community level. Although this cultivation process can be perceived as local and restricted to what happens within one community, its aim is to understand how public discourse starts to be shaped, in interaction with others, in a community. This first spark, I argue, can lead to small changes in daily practices and, if aggregated, to a shift in common understandings of normality leading towards less energy-intensive lifestyles, bundles, and complexes of practices that can spread in time and space. Alternating between "zooming in" (focusing on small-scale, local phenomena) and "zooming out" (large-scale phenomena) (Nicolini, 2012) offers a complete and rich understanding of the reality under study. This was my aim in this thesis: to zoom in into the relational discursive dynamics of the community, while keeping in mind a zoomed out perspective, to understand how these community discursive processes lead to big shifts under the undergoing energy transition.

Building on existing and developing new methodologies

The two methodologies applied in this research, Ethnographic Action Research (EAR) and Netnographic Action Research (NAR), were used to first

understand the communities (ethnography) and then later to experiment with different research interventions in order to enable community interactions (action research). By using ethnographic methods (fieldnotes, participatory observation, group interviews, etc.) I could explore how communities framed their need for energy, how community members communicated (physically and digitally), and which type of energy-related data and information engaged the members' interests. This knowledge was crucial for designing the research interventions. During this phase, innovative action-research methods, such as energy quizzes and energy story nights (see Chapter 3 for a complete overview), helped me explore the power of narratives and artistic expressions to convey different types of data and allowed me to trigger discursive processes around energy issues.

Below, I present several methodological contributions derived from this work. The first contribution is related to the debate on methodologies within practice theory research. The second contribution focuses on the combination of an existing methodology (netnography) with action research to develop a new one (NAR). The third contribution is process related, and the last one concerns the role of the researcher while applying and developing these methodologies.

In the last decade, there has been a rising scholarly debate regarding the relationship between methodology and practice theory (see the blog developed for this purpose by the DEMAND Center[34]). One of the most debated propositions is the following: "Practice theories make specific methodological demands of those who work with them" (Shove, 2017). In this proposition, ontological and epistemological considerations are mixed, and as Shove has clarified in her blog entry, they need to be first analysed in separation. "Theories matter for how problems are defined and how lines of enquiry are formulated" (Shove, 2017) but they do not condition the type of methods that needs to be used, which as she argues, depend on the specific research question. Therefore, "there are not distinctive practice theory methodologies. There are questions inspired and underpinned by practice theories" (Shove, 2017). Building on this methodological debate, and agreeing with the aforementioned statements, this research has revealed the value of ethnographic (and netnographic) action research for the devising of a methodology of empirical

[34] For more information, please consult the DEMAND Center's Practice Theory Methodologies Blog: https://practicetheorymethodologies.wordpress.com/propositions-for-discussion/.

investigation that could speak to the challenges of practice theory research in the study of agency and institutional change.

By combining two existing methodological approaches, netnography (Kozinets, 1998, 2002, 2010, 2015) and actions research, I have developed what I call Netnographic Action Research (NAR). NAR merges action research methods with ethnographic research methods to study communities that have emerged through digital networks. The SCoA case provides an example of how to conduct a NAR and aims to inform researchers who would like to explore this methodology further (see Chapter 3). Also, I have expanded the use of EAR, which was initially developed to explore the implications of ICTs in very different socio-spatial settings (Tacchi et al., 2003), to urban communities and the study of energy demand reduction.

Another methodological contribution is the detailed chronological description of the trial-and-error process of getting to know each community and tailoring the research interventions (see Chapter 3). The use of ethnographic insights, the mentality of learning-by-doing and constantly reflecting on what worked or what did not work helped me to fine-tune the design of the research interventions. When co-designing with community members was possible (e.g., with the SCoA), this process of tailoring went smoother; however, it was much more challenging to pursue with the other two communities, which for different reasons were less motivated to participate in the research interventions. In Chapter 3, I presented the challenges that I encountered while applying these methodologies to inform future researcher efforts. Using and developing these methodologies with communities that are not intrinsically interested in the research goals and the research topic departs from how EAR has been used so far in existing research (Tacchi et al., 2003).

When conducting an EAR or/and a NAR it is key to reflect on the role of the researcher, who is at the same time an observer and an active participant. Looking back at this process, four main methodological steps appear to be crucial to ensure the accuracy and feasibility of the research. First, the importance of monitoring the whole fieldwork process, from the first contact with the community to the moment of sharing research findings. In the case of this thesis, it was done by taking fieldwork notes on a regular basis. During the active phase of the fieldwork (when direct engagement with the communities took place), these notes were taken even daily, allowing me to reflect on the

different dynamics between the actors involved and to evaluate the process (what worked well and what could be done differently). Second, the organization and co-designing of the research-related activities and interventions with community members increased the members' attendance and engagement during the discussions. Third, the facilitation of community interventions needs to be done by the most adequate person, depending on the type of intervention and number of attendees. The facilitator can be the community organizer, a member, a comedian (if humour is part of the intervention format), an energy expert (if specific information needs to be conveyed), etc.

If the group of members is relatively small (up to 10 members) also the researched can fulfil this role. In this case, it can even be positive that the researcher is the facilitator, to keep in mind the research goals and lead the discussion towards them. If the group is bigger, the researcher may not be able to capture the full dynamics during the intervention (gestures, laughs, looks, etc.) while facilitating. Having a research assistant track non-verbal communication can be a way to deal with this challenge. Finally, it is crucial to maintain full transparency with the community regarding the research aims and to prioritize the community's interests without losing grip of the research goals. This might seem like a huge investment of time and resources, but it is an important part of this type of methodologies. Gaining the trust of the community and understanding members helps tailor interventions.

Future research

The findings in this thesis set important building blocks for future social research, which I present next. The first three focus on how future research could address one of the core dimensions of cultivation analysed in this thesis (frames, space and, data), while the last one sketches how a possible combination of the three would look like.

On frames

This research has focused on three specific communities. The more communities are analysed by researchers, in a similar fashion as in this thesis, the more frames and frame articulations are likely to be found. Acknowledging that the current framings of energy needs differ widely from one social group/community to another and that they are constantly being shaped by social interactions

is the first step to tackling energy demand reduction. This research has explored the energy-related practices that conform current lifestyles and that generate those energy needs by focusing on four different lifestyle dimensions: dwelling, mobility, food consumption, and leisure. As showed by existing research and further revealed in this volume (Stern, 1992; Yohanis, 2012), housing is the setting that is mostly closely linked to energy consumption; however, more emphasis needs to be placed on the interrelationship between the different lifestyle dimensions. How does the practice of driving relate to choosing a home? How are food choices linked to preferences for certain leisure activities? Furthermore, other lifestyle dimensions, such as working (which was not covered in this thesis), need to be further investigated. Adding other dimensions to the notion of lifestyle will enrich how energy needs are framed by communities and social groups.

On spatiality

The community proved to be an effective arena for sparking the cultivation of energy needs. Urban communities were the main focus in this thesis. Yet, this specific community interaction appears to be characteristic of densely populated urban environments, active neighbourhoods with diverse populations, and areas of cities undergoing socio-spatial change. The specific profile of cultivation could change if these characteristics are not present. For example, in rural communities, in more suburban communities, or in neighbourhoods that are mostly used for non-residential activities.

Different socio-spatial contexts beyond the community level need to be further explored in order to determine their role in the activation of discursive processes around energy-intensive lifestyles. For example, other contexts closely related to the space where people live, such as tenants' or owners' associations, might offer innovative insights. In these settings, people are already coming together to discuss and protect a common interest, their homes and immediate living environments. These groups could be first approached from a lifestyle perspective focused on the dwelling and with an energy efficiency focus (e.g., solar panel installation, energy coach advisory services, etc.). Within certain groups, this approach could be, later on, expanded and linked to other lifestyle dimensions, and its focus re-oriented from energy efficiency towards the reduction of energy demand.

Other socio-spatial settings that may bring new insights are those related to family and friend circles. In these social groups, often a certain level of familiarity and trust has been built during the years, providing the ideal conditions for discussions to take place. Future research could analyse (ethnography) and stir (action research) some of the existing discursive processes taking place, guiding them towards energy-related issues. Other social contexts worth exploring are companies, universities, and institutions. Many people spend a large part of their day in a work-related environment and peer opinions can exert substantial influence on one's own lifestyle. Tracking discursive exchanges happening among colleagues, when oriented toward energy-related issues, may offer insightful research avenues towards the unpacking of the process of cultivation of energy needs. This diversity of socio-spatial contexts deserves further academic attention and a comparison might bring useful insights.

Future research needs to explore further the influence that belonging to different types of communities has in the process of cultivating energy needs. Today, an individual can, and most probably does, participate in multiple communities at the same time. The discursive exchanges taking place in these different contexts might enhance each other, or on the contrary, might cancel some of the learnings. When an individual belongs to communities that share a similar discourse, most likely, the learnings will be magnified. However, if an individual belongs to different "communities of discourse", these discussions might be contradictory and lead to feelings of powerlessness and, as a consequence, to inaction. This diversity of interactions needs to be acknowledged and further investigated.

In an increasingly digitalized society, platforms and in particular social networking sites, require further scholarly attention. Not as mere tools that enhance social interactions but as spaces of meaningful social interactions. How can a platform be managed and maintained so that it becomes a space that hosts meaningful interactions? Platforms, when serving the purpose of a community or a social group (and not the other way around), can facilitate discursive exchanges, thereby potentially shaping common understandings of normality. Future research could explore the role that certain platforms could play in the energy transition by shaping current values and social norms. Beyond the study of platforms, different levels of hybrid spatialities need to be

explored. As derived from the thesis findings, in-person interactions remain crucial.

On types of energy-related data/information and how to convey them

As explained in Chapter 6, research interventions made use of the power of narratives and different artistic expressions (humour, performance, visual media formats, etc.) to spark discussions around energy demand reduction. These are just a few among the many possibilities. Depending of the community's frame articulation, future research can explore other formats: gamification, which introduces competitive but playful dynamics; theatre performances, which can deal with and challenge sensitive and private topics related to cleanliness or comfort; dynamic infographics, showing the energy impact of certain lifestyles over time; forecasting of future scenarios, showing people their "future world" as shaped by their current lifestyle choices (e.g., the effects of a highly polluted environment and climate change on their own and the lives of their children and grandchildren).

The aforementioned formats, as well as the ones used in the thesis (in particular, the use of stories and personal experiences), aim to mobilize emotions – the powerful movers of human action. Therefore, the role that emotions play in triggering social action cannot be underestimated and needs to be explored in depth by research interested in unpacking societal change (Weenink & Spaargaren, 2016). This requires analysing the role that emotions play in the process of cultivation. As explained in Chapter 6, a combination of soft data (personal stories) and hard data (numbers from statistics and reports) seems to be a worthwhile research avenue to analyse further when considering emotional mobilization. Also, making energy visible by visualizing energy consumption and energy needs in a way that sparks emotions (using visual media, photography, videos, music, sculpture, art installations, etc.) may be a powerful trigger for activating energy discursive consciousness and the process of cultivation of energy needs. Researchers could benefit from establishing collaborations with visual artists, as it was done in this research with the verbatim theatre film, but also with data analysts and data visualization experts.

Combining frames, spatialities, and data

In this thesis, frames, spatialities, and data were analysed independently, as core dimensions of the cultivation of energy needs. Future research needs to further explore how the articulation of a specific frame (primary, secondary and enabling) is linked to certain types of energy-related data and information and to certain spatial characteristics of a community so that energy discursive consciousness can be activated. The findings offer some preliminary insights for future study efforts. First, when monetary and efficiency-related frames were the enabling frames (in this case for members of Atelier K&K or the self-builders of BSH, respectively), numeric data played an important role in the design of the interventions. Second, when moral and alternative hedonistic frames were prioritized (such as in the case of the SCoA), the use of narratives and face-to-face interactions were key for sparking meaningful discussions. Third, no matter which frame was the enabling frame, digital interactions were not sufficient for activating energy discursive consciousness – also face-to-face interactions were necessary. Research aiming to continue developing the notion of cultivation of energy needs may consider experimenting with different combinations of frame articulations, spatialities, and data in order to design future research interventions.

Research limitations and considerations for future research

The main limitations in this research are methodological. Conducting EAR and NAR requires a lot of time; it's a labour-intensive process that demands of the researcher to be situated in a physical location. Building the necessary frequency of community interaction to maintain trust and commitment among community members is a very time-intensive effort. In the 16 months of empirical research I searched, found, engaged, learned the communities' interests, gained their trust, (co-) designed, organized and experimented with a limited number of research interventions. More time would have allowed me to explore further other types of research interventions or to refine the ones conducted. The levels of community engagement differed considerably from one community to the next due to the diverse peculiarities of each (covered in Chapter 3). The irregularity of attendance of the same individuals to the different interventions challenged the monitoring of discourses within a community. Hence, changes in the community discursive interactions were analysed within each research intervention as well as in one case also throughout time (by analysing the multiple discussions in the SCoA's Facebook group). The

lack of regular engagement with the research interventions made it impossible to explore the transition from the process of cultivation of energy needs into the process of naturalization of those needs.

Another methodological limitation that frustrated the chance to gather data for analysing the process of cultivation of energy needs was the use of certain research intervention formats. For example, the Big Neighbourhood Energy Quiz helped me engage with a less-environmentally aware community but, due to the setting and the quiz structure, failed to enable a deeper community discussion. The comedian engaged and mobilized the audience, but this setting only allowed for informal comments and chit-chat that could not be recorded. The length of this format did not allow for a discussion after the quiz ended. Therefore, the extent to which certain research interventions used in this research enabled the activation of a process of cultivation of energy needs remains unclear. However, it is worth pointing out that a trial and error approach is needed to discover what works well in a specific context. The risk of not gathering the right data to answer the research question can happen in any experimental process. An open mind to experiment with different types of data, from quantitative to qualitative, and to collaborate with different disciplines (artists, data analysts, etc.) needs to be embraced to allow for surprising outcomes.

Derived from the aforementioned limitations, future research needs to explore several methodological considerations. First, more effort needs to be placed on learning how to monitor, in time, the changes in discourse at the community level. For this to happen, future research intervention formats need to facilitate the collection of data that allow the tracking of these changes. Ideally, this process would be done both within each intervention and throughout interventions, in a longitudinal study. In this way, what community members think about a certain energy-related issue, could be more rigorously assessed before and after the intervention, while also tracking the evolution of the discourse throughout the entire set of interventions. The length of such a longitudinal study is not easy to determine. Learning from the experience of this thesis, 16 months seem short, considering all the required tasks: community engagement, trust building, identification of frame articulations/communicative ecologies, co-design, implementation and analysis of the research interventions.

Asking community members to keep individual diaries to track the impact of the community research interventions in their daily practices could fill in the gaps between research interventions and complement the gathered data. Having community members come together to share their individual diaries and write (or record in other ways) a collective reflection, would be of great added value. Furthermore, such a longitudinal study could shed more light on the process of naturalization of energy needs. How does the cultivation of energy needs lead to action, i.e. to the naturalization of those needs? What are the enablers and constrains in this transition from cultivation to naturalization?

Second, community engagement needs to be guaranteed, and future research efforts should find additional ways to attract community members and keep them interested in coming back to participate in the interventions. This engagement is easier with intrinsically motivated communities but more efforts need to be focused on engaging with communities that are not very interested or are not aware of environmental issues. The lesson from this research is to invest time and resources in creating a research team that involves committed non-academic partners (local NGOs, local municipality officials, community organizers, etc.) to facilitate community engagement. A research intervention can only achieve its aims if community members decide to join.

Third, future research could experiment with the concepts and methodologies explored in this thesis (EAR and NAR) and apply them to topics and issues not related to energy. As this research has shown, especially in the case of the SCoA, energy was just an entry point to discuss broader sustainability issues. This sustainability frame could be explored further. The notion of discursive consciousness can be applied to many different domains and so can EAR and NAR. For example, it could be worthwhile to analyse a notion such as "racism discursive consciousness" to investigate how discursive processes around racism function in specific communities and social groups. In this case, a process of cultivation could also take place, during which assumptions related to one's own race or that of others would be challenged. If these preconceived ideas are transformed and internalized, a process of naturalization could also take place. How would an EAR look in this case?

Fourth, it is worth exploring how a methodology such as EAR or NAR could be applied in the case of research that aims to pursue similar goals around energy-related issues but intends to build a community from scratch. In this case,

the first phase of exploration, identification of place dynamics, and advertising of research activities would most likely take longer. Other innovative methods, in addition to regular fieldnotes, would be needed to track and evaluate such a process, from beginning to implementation, and further into the phase of informing energy policies.

Policy contributions and policy-oriented research avenues: paving the way for community-centred energy policies

The thesis' findings lay the foundation for a critique of current energy policies, which are excessively individually oriented, aspatial, hard/big data driven, and focus excessively on the social acceptance of technological innovations with the goal of reducing energy consumption. In contrast, this thesis aims to inform policies interested in how different types of research interventions, both social and technological, can trigger a process of questioning and reducing energy demand at the community level. The "community" still remains a complex notion that is difficult to unpack (see Chapter 5). Hence, it is difficult to envision policies that specifically target communities. As Peters and colleagues (2010, p. 7596) state, "the eclectic nature of 'community' in tandem with the existence of a number of wider constraints on community action, has meant that policy-makers have yet to identify an ideal governing framework capable of both resonating with the community 'lifeworld' and capturing socially cohesive drives towards more sustainable living." The work done with the three Amsterdam-based communities provides some guidance for future community-centred energy policies aiming to tackle the challenge of reducing energy demand.

First, in order to invest in community-centred policies, it is wise to collaborate with already existing and active communities. Starting a community from scratch is possible but it entails additional, substantial challenges, mainly related to citizen engagement. Working with existing communities requires investing time and resources in understanding the interests and motivations of the community, which influence how its members frame their energy needs. As demonstrated by this work, understanding the different types of frame articulations is key to co-design research interventions that can challenge current lifestyles. Monetary frames are not always primary or enabling and come

intertwined, in different fashions, with other framings. This complexity asks of future policies to consider individuals not just as rational beings but as members of communities and social groups, whose dynamics shape these energy frames. Also, working with existing communities requires a close study of the different ways in which members communicate among themselves. A deep understanding of the community's communicative ecologies also facilitates the design of research interventions geared at challenging the status quo.

Second, when looking at the scale of action of these community-centred policies, it is worthwhile to think beyond geography. In other words, physical boundaries are not necessarily the main determinant how energy policies are envisioned. As the findings show, communities can flourish at different scales; that of the neighbourhood remains key, but others such as the street (the self-builders from BSH), the building (Atelier K&K and Wetenschap in de Wijk) or even the city (the SCoA) also provide important avenues for mobilization and intervention. Also, the interrelations between scales need to be carefully considered. People, and the communities they belong to navigate between scales, and energy policies need to follow this approach as well. Platforms and social networking sites can serve as bridges between these different scales.

Third, the energy policies aimed at community-oriented approaches to reducing energy demand need to be process oriented. Understanding and valuing all steps in this long process – from the first encounter of the research team with the community to the exchange of experiences between community and policy levels – are crucial to extract policy learnings from the analysis and evaluation of the research interventions, which, in turn, will help consolidate this type of policies. Communities are constantly evolving and in order for them to thrive (and to continue enabling meaningful discussions) they need to be actively maintained. In the case of long-lasting communities, such as Atelier K&K, and to a lesser extent also the SCoA, this maintenance work is done by dedicated organizers and/or active members. Community-centred policies need to acknowledge this, in most cases, voluntary work and support it. This support can take various forms, for example via direct financial payments (e.g., the founder and main organizer of Atelier K&K is employed by the Municipality for 28 hours a week), but also through in-kind mechanisms (e.g., the community centre De Meevaart, home to multiple communities, is partly subsidized by the Municipality).

Finally, this thesis paves the way for future research that aims to question contemporary policy approaches to the energy transition and willing to explore community-centred policies. Inspired by the work done with the three communities, a few potential research avenues were elaborated.

First, future research needs to explore the space where the community and the policy levels meet. Similar to the community's spatiality (described in detail in Chapter 5), this community-policy space needs to be relational and enable dialogue, exchanges of experiences and collaboration. Community-centred policies need to invest in nurturing spaces where both communities and policy makers (and other stakeholders) can feel welcome to meet and discuss freely. These could be hybrid spaces, such as a digital platform combined with regular face-to-face meetings. It is very important to actively moderate and maintain these places, in order to maximize their potential utility. Public space could also play a crucial role in enabling these community-policy spaces. Due to its open and inclusive nature, public space could facilitate encounters between diverse groups of people, who, otherwise, would not have come together.

Second, future research interested in community-centred energy policies could explore different policy tools that could support these policies, such as the creation of "energy teams" to support, organize, facilitate, and evaluate community interventions. Such a team could be formed by local stakeholders: community members, a civil servant from the local municipality, a social scientist, a social worker, and others. The task of this energy team would be to enable the dialogue between the community and the policy levels regarding energy-related needs and policies. This concept is being implemented in Amsterdam with the "area broker" (gebiedsmakelaar, in Dutch), whose role is to act as a bridge between the needs and interests of the local communities and the efforts of the local municipalities. Future research could explore if investing in a team, instead of just relying on one person, could make this connecting role more resilient and effective.

Finally, researchers could explore further how the notion of decency resonates in energy policy making arenas that would focus on the community. As showed by this research, decency can enable a move away from individualistic, and at times short-sighted, approaches to reality. When used as a discussion trigger, it opens up discursive processes that can challenge the normal

way of doing things. Introducing this concept in community-centred policies might enable the comparison of the environmental impact of different lifestyles and the reflection on their different implications. What is a decent life for certain communities and social groups? Why does decency differ from community to community, even among members of the same community? Which communities need less energy and why? Could it be possible to live with less? How can this transition be enabled? These are the questions at the core of the debate around decency, which I argue needs to have a central place in future energy policies.

Betting on decency

In a time when scientists are questioning the limits of economic growth, a redistribution of wealth presents itself as a promising avenue to follow, bringing with it a necessary reflection on decency. It is time to decouple the idea of societal progress and economic growth, especially when economic growth happens at the expense of the depletion and destruction of natural resources. The current idea of progress is leading us towards an unsustainable and unliveable future. Since the future arrives slowly every day, we are already experiencing and suffering from the clear signs of this approaching, undesirable scenario (e.g., heat waves, draughts, flooding, destruction of complete ecosystems, forced immigration, etc.). But, what needs to happen for us to react? Are we going to press on with unsustainable consumption until large parts of the planet are void of life? This works serves as a reminder of the power of individuals to change the course of history, especially when embedded in a community or a social group. An aggregation of small changes in daily practices can lead to a change in discourse, which, in turn, can conceptualize more sustainable understandings of normality.

Instead of associating progress with economic growth, progress should be linked to an increase in quality of life for all, today and also for future generations. Achieving quality of life should not be necessarily understood as having more stuff or consuming more energy. It is time to stop and reflect on what is a decent life and what are the real needs for a decent lifestyle. The discussion that decency can spark is one that is not only necessary but also urgent, if aiming at a paradigm shift. Altogether, the empirical, theoretical, methodological and policy contributions presented in this book aspire to contribute to

a paradigm shift – away from a reliance on energy efficiency towards a search for decency and decent lifestyles.

This emphasis on decency does not purport to diminish the importance that energy efficiency can play in tackling today's huge environmental challenges. However, it is prudent to point out the risks that a heavy reliance on technology as the solution to all our problems can bring. The results of this PhD research demonstrate that broadening the research approach to include normative issues is a worthwhile endeavour. I undertook this challenge and I invite others to pursue exploring how this shift from efficiency to decency can happen within urban communities, through discursive interactions that challenge current energy needs. Social change is a long process and does not happen overnight. Yet, decisions are taken every day, and each decision is an opportunity to select a different path. The communities we belong to are essential sources of support, inspiration, and guidance for us to embark on a path towards a sustainable future.

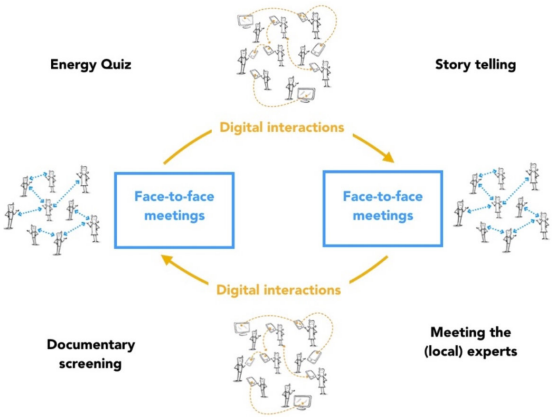
APPENDICES

Appendix 1: Research interventions and research activities

1) Research interventions in Buiksloterham (BSH)

21 September 2017: **Kick-off meeting** in BSH with 9 participants, out of which 3 were self-builders, 1 consultant and 5 researchers. Method of data collection: focus group and fieldnotes.

During the kick-off meetings the plan of research activities/interventions was presented (see below). Due to the delays in the CODALoop online platform, the focus was placed first on face-to-face meetings and later on the digital interactions. The first interventions are energy story nights in which a neighbour is invited to tell a (personal) story related to his/her energy lifestyle to the group. The guest neighbour is given the freedom to choose the topic of the story. Community member cards are designed as an incentive to increase community engagement (see below).



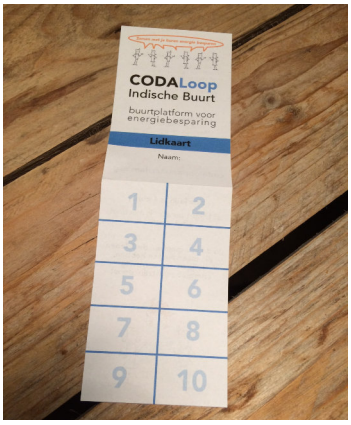


Figure 36 and 37: Plan of research interventions. First face-to-face, later digital (Source: author) and membership card (Source: author)

17 October 2017: First **energy story night** in Buiksloterham with 4 participants, 2 self-builders, 1 consultant and 1 researcher. Topic: house heating. Method of data collection: group interview and fieldnotes.

21 November 2017: Second **energy story night** in BSH. This event was part of the programme the "Week of the neighbourhood", aiming to attract more participants. In total, 5 participants: 2 neighbours, 1 civil servant and 2 researchers. Topic: building choices to save energy in the home. Method of data collection: group interview and fieldnotes (also from the research assistant).

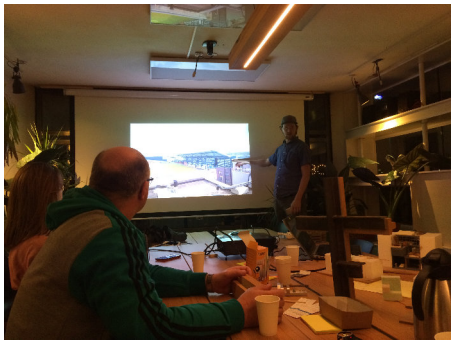


Figure 38 and 39: Second energy story night in Buiksloterham (Source: Milan Ismangil and author)

2) Research interventions in the Indische Buurt (IB)

28 September 2017: **Kick-off meeting** in the IB with 7 participants: 2 neighbours and 5 researchers. The same goals and procedures as in the BSH kick-off meeting were followed. Method of data collection: focus group and fieldnotes.

19 October 2017: **First energy story night** at De Meevaart with 6 participants: 3 neighbours and 3 researchers. The local neighbour chose the following topic: is it more sustainable to cook at home or to eat out? Method of data collection: focus group and fieldnotes.

Figure 40: Flyer to advertise the first energy story night in Buiksloterham (Source: author)
Figure 41: Flyer for the first energy story night at the De Meevaart (Source: author)

16 November 2017: Second energy story night at De Meevaart with 5 participants: only one was a neighbour, invited by the researcher to tell a story. Topic: how data provides new insights on our energy consumption. Method of data collection: in-depth interview and fieldnotes (also from the research assistant).

Figure 42: Second energy story night at De Meevaart (Source: Milan Ismangil)

5 April 2018: The neighbourhood big energy quiz with comedian Stamatious Doulis took place in the main hall of the community centre De Meevaart. Approximately 20-25 people attended, 15 neighbours and 8 researchers. The event took place in an open hall and some people joined and left during the event. Most of the neighbours who attended, a group of ten, belong to the local initiative Atelier K&K and are women mostly in their 60s to 70s (community described in detail in Chapter 3). Gathered data: fieldnotes and transcript of the recorded discussions.

Figure 43 and 44: The neighbourhood big energy quiz at De Meevaart (Source: Luis Monteiro)

25 April 2018: **First energy quiz** with one of the groups of the initiative Atelier K&K, the group called "De Gouden Handen" (The Gold Hands) for informal caregivers and ex-informal caregivers. The energy quiz was facilitated by

the initiative leader and attended by 9 ladies. Method of data collection: fieldnotes after the focus group.

17 May 2018: **Second energy quiz** with another group from the initiative Atelier K&K. This time with a group of Turkish ladies called "De Proeverij' (The Tasting). The Energy Quiz was facilitated by the initiative leader and attended by 20 ladies. Method of data collection: fieldnotes after the focus group.

29 May 2018: Third energy quiz with a third group from the initiative Atelier K&K, "Kunst uit de Kast" (Art from the Closet) a group of people with different psychological or social disabilities. The Energy Quiz was facilitated by the initiative leader and attended by 8 people. Method of data collection: fieldnotes after the focus group.

19 June 2018: Screening of the documentary *Worsteling van de Groenmens* (*Struggles of Green People*) with the local community Wetenschap in de Wijk (Science in the Neighborhood). The screening took place at De Meevaart; 15 people attended, of which 3 were researchers. Method of data collection: focus group and fieldnotes.

Figure 45 and 46: Screening of the documentary *Worsteling van de Groenmens* (Struggles of Green people) at De Meevaart (Source: Luis Monteiro)

23-24 June 2018: Four screenings of the artistic film *Every Single Decision* during the weekend of the city festival WeMakeTheCity. The film was made expressly as a research intervention by a couple of theatre and dramaturgic master's students at the University of Amsterdam and supervised by the main

researcher. The film uses a documentary theatre technique called "verbatim theatre" that enables the creation of a narrative out of the precise words spoken by the people who participated in the research interventions and 25 more participants whose testimonies were gathered through an online survey. Method of data collection: focus group after screening and fieldnotes.

Figure 47: Screening of the artistic film *Every Single Decision* at De Meevaart (Source: author)

3) Research interventions with the Sustainable Community of Amsterdam (SCoA)

2 February 2018: First meet-up "Saving energy in the home" with 11 participants: 10 SCoA members and 1 researcher in a café in the Red-Light District (Juice by Nature). Method of data collection: focus group and fieldnotes.

Figure 48 and 49: First meet-up with the SCoA (Source: Helena Olsen)

From 2 February 2018 to 15 August 2018: 24 weekly Facebook posts in the SCoA Facebook group using an illustration and a short text. Sometimes the text is a tip how to save energy, other times a quiz question with multiple-choice options. Different topics were covered, taking into account different lifestyle aspects (housing, food consumption and mobility/leisure). Method of data collection: online discussions and fieldnotes.

2018-02-05

Figures 50-71: Weekly Facebook posts (Source: Helena Olsen, author, and Dina DeHart).

Everyone does laundry, right? but at which temperature?

Did you know that…

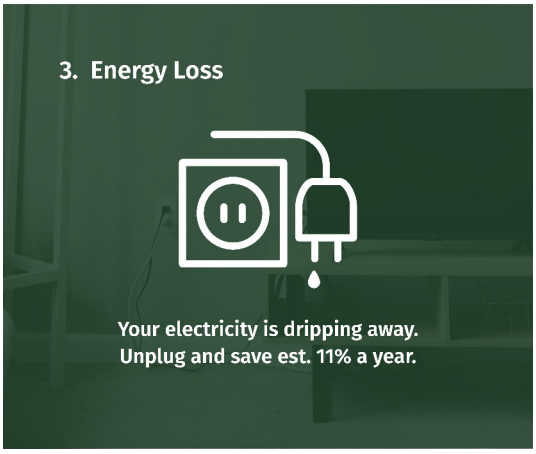
"In 2006, a leading consumer products manufacturer claimed that clothes would still be clean when washed at 30 degrees, as their product technology allowed effective low-temperature washing" (report by the Department for Environment, Food and Rural Affairs, p. 20).

Do you wash your clothes at 30 degrees? Yes? No? Why? It'd be nice to hear from you!

2018-02-12

This week's post concerns your bulbs! LED lights seem to be more expensive up front but their long service life (they last 20 times more) and their low power consumption make them a cheaper alternative after only one year! Have you already changed to LED lamps? Do you see/feel any difference? Tell us about your experience!

2018-02-19



This week's post is about the energy vampires we all have at home... Our electric devices are sometimes referred as "energy vampires" because they keep on sucking up power even when they are turned off.

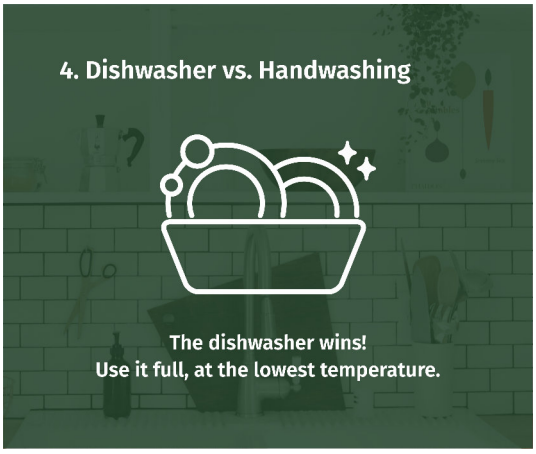
This "vampire energy" accounts for approx. 11% of the total annual electricity consumption per household. So, this means that after a year, it is like paying an extra month for our electricity!

TIP 1: Unplug appliances when you don't use them: toaster, coffee maker, chargers, game boxes, stereo, TV, printers, computer, power transformers. Even without the little red light, if they are plugged, they are consuming energy.

TIP 2: Use a power strip extension cord (also known as "stand-by killer") to

switch off many devices at the same time. Were you aware of this? Do you have other tips & tricks to create this habit that we'll help us reduce our energy consumption?

2018-02-26



This week, let's talk about one of your favourite daily chores... washing dishes. Is it hand washing more effective, in terms of the energy needed, or the dishwasher? According to Natuur & Milieu, using the dishwasher is more sustainable. Use it full, choose the lowest temperature, check when your electricity is cheaper and run it then!

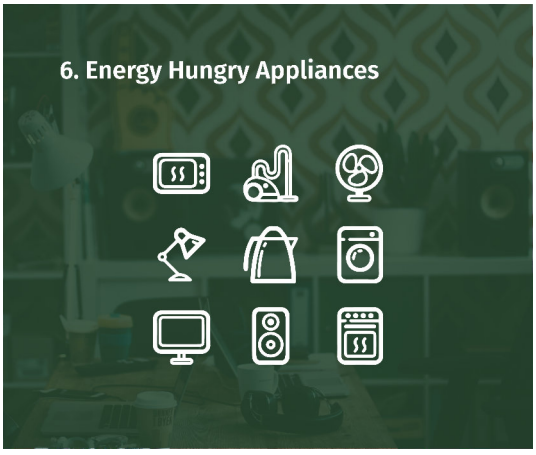
*Take into consideration that washing by hand could be more efficient if you can keep the water use low, equal to an efficient dishwasher. This means to wash an entire load of dishes in approx. 16 litres of water (the amount of water that you use when showering for 1.5 minutes).

Do you have any other energy-saving tips when it comes to washing dishes? Do you do things differently from your parents/grandparents?

2018-03-07

This week's post might bring some controversy since heating our homes is a very subjective matter. Milieu Centraal advices us to lower our thermostat one degree. This small adjustment can help us save quite some energy and 70 euros per year. Also, Milieu Centraal states that 19 degrees is a good enough temperature to have at home. Do you agree? We're curious to know what you think: What is for you a warm house? What are other factors that play a role for you when heating your home?

2018-03-14



Let's do this week's post differently. Instead of telling you directly which household appliances consume the most energy, we'd like to ask you two questions:

1. Which are the two household appliances you think that consume the most energy?

2. If you could only have two household appliances, which ones would you choose and why?

At the end of the week, we'll reveal the most energy hungry appliances so that you can check if you were right.

2018-03-21

This week's post is giving us an easy but quite effective tip. Even if we're officially in spring it's still cold out there so we should continue thinking of our heating habits. Did you know that just by closing all the doors in your home and by heating only the rooms that you use you can save up to 190 euros per year? It's a small habit and it can bring you and the planet far!

Do you already do this? Yes/no/sometimes? Do you have any tips to get into new habits like this one?

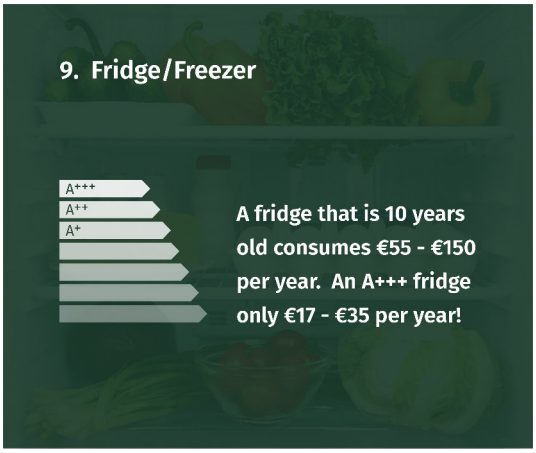
2018-03-28

Footprint calculator (no image was provided, only the link to the footprint calculator): https://www.footprintcalculator.org

Curious about how many planets do we need if everybody lives like you? This ecological footprint tool helps us answering this question.

Which consumption category has the biggest impact in your lifestyle? Food, housing, transportation, goods or services? Let's have a discussion and give each other ideas on how to improve our choices!

2018-04-04



In this week's post, let's talk about our fridges and get some tips, courtesy of Natuur & Milieu, to reduce our energy consumption!

TIP 1: If your fridge is 10 years or older, consider replacing it for an A+++ fridge-freezer combo.

TIP 2: Place it 10 cm separated from the wall so that it can ventilate.

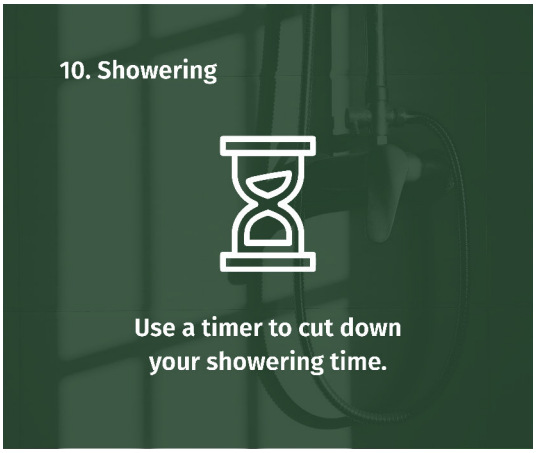
TIP 3: The temperature of the freezer should be -18 degrees.

TIP 4: Defrost the freezer regularly to avoid unnecessary energy consumption and costs.

TIP 5: If you go on a long holiday, just turn the fridge/freezer completely off.

How old is your fridge/freezer? Are you considering replacing it? Do you ever turn it off? If you have other tips, please share with the community!

2018-04-11



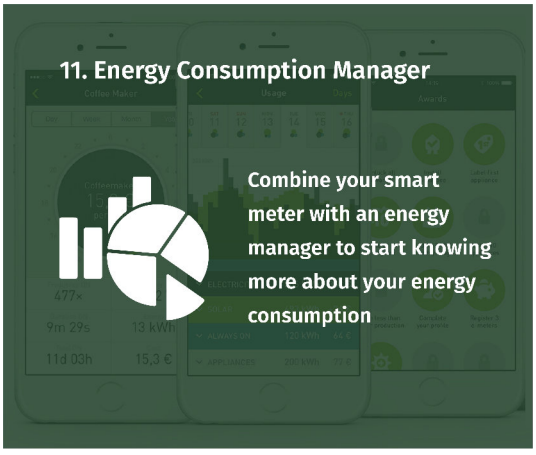
This week let's talk about showering. Did you know that this is the activity that consumes the most water at home? The average showering time in the Netherlands is 8 minutes. Is this surprising for you? Are you above or below this average?

Here are a few tips how to consume less water (and the energy needed to warm it up!):

TIP 1: Use a water-saving shower head (helps saving 20% of the water).

TIP 2: Use a sand clock to check how long you shower.

2018-04-18



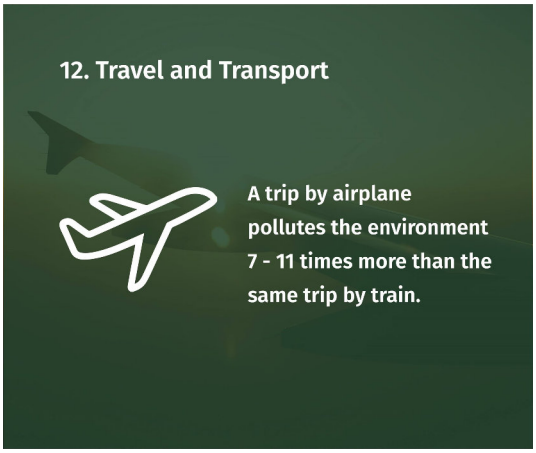
Knowing how much energy we consume does not necessarily mean that we will change our behaviour but it can be the first step! If you have a smart meter you can combine it with a home energy management system to know your energy consumption per day, per hour and per device.

In this link we can compare different home energy management systems and find the one that fits our needs: https://energiemanagers.eigenhuis.nl

Are you already using a home energy management system? What is your ex-

perience with it? Have you changed any of your habits since then? Let's share some tips and inspire each other!

2018-04-26



This week's post might be useful if you're thinking of your next holiday destination. Did you know that a trip by plane pollutes the environment 7 to 11 times more than the same trip by train? The difference is the biggest in short trips (less than 700 km).

Does anyone have tips on how to find good train connections between countries? Also, how to find good deals on train tickets (which normally are more expensive than plane tickets?). Thanks!

2018-05-03

Thinking of going on holidays by car? It's not easy to compare the environmental impacts with other modes of transportation since many factors are involved in how much fuel is consumed. If you decide to go for the car, a few tips from Milieu Centraal to keep in mind:

TIP 1: Choose a destination that is not very far away.

TIP 2: Travel with several passengers in the car.

TIP 3: Ride as much as possible on highways and at a constant speed.

TIP 4: A new car pollutes much less than an old one. If possible, choose an electric car.

TIP 5: Preferably don't bring a roof box, a bicycle rack or a caravan. Think of renting those when you arrive to your destination, if needed.

Do you already follow these tips? Do you have others? Let's share our experiences!

2018-05-08

In this week's post we will talk about our holiday accommodation. Not only the mode of transportation we choose to arrive to our destination counts, also the type of holiday accommodation can lead to very different levels of energy and water consumption and also of waste production.

What are your top 3 priorities when we choose a holiday accommodation? Where is the environment in that list of priorities?

2018-05-17

The last two weeks we've been talking about the impact that the mode of transportation and the type of accommodation we choose for our holidays have on the amount of energy we consumed. Also, it's important to consider the impact that our holiday activities have. For example, some activities, such as swimming in open waters, snorkelling, trekking and cycling have almost no environmental impacts, while others such as playing golf, going on a safari and other motorized activities (motocross, jet ski, quad bike, etc.) are quite polluting.

Do you think of this when choosing what to do during your holidays? What are your favourite "low impact" holiday activities? Let's share ideas and keep our holiday activities this year on the sustainable side!

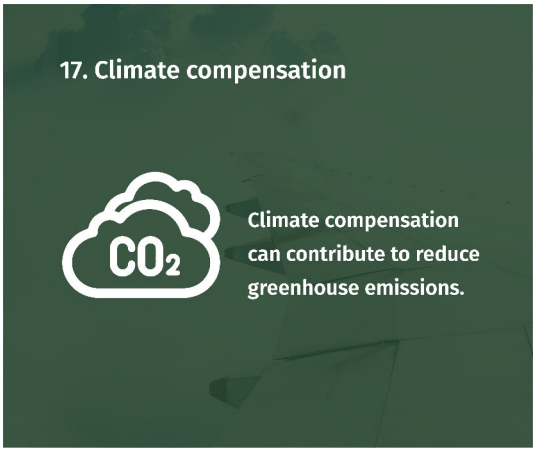
2018-05-24

This week's post concerns our holiday destinations. Basically, the farther we go, the higher the environmental consequences of our choices. It can be interesting to stop for a bit and think about how we choose a holiday destination. What are we looking for exactly? What are our top 3 priorities?

Also, can we find similar experiences closer to home? Have you considered

spending some holidays in your own city/country? As always, any tips or advice to inspire each other is very much welcome!

2018-05-29



Ideally, in order to fight climate change, we should cut back on our CO_2 emissions but our current lifestyles (especially flying frequently) make this difficult. Still, there is something we can do! Have you considered climate compensation? Basically, it means to pay an extra amount of money to support organizations that are:

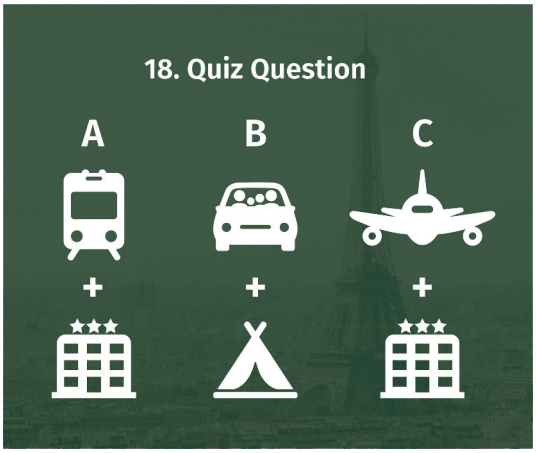
- planting trees to help clean the air (https://www.treesforall.nl).

- investing in sustainable energies (https://greenseat.nl; https://www.hier-.nu/hier-checkt-groen-gas).

But the question is then, “how much is this going to cost us?” According to Milieu Centraal, an average Dutch household uses 1,500 m3 of gas and 3,300 kWh of electricity per year. To compensate the gas usage, you would pay 25-40 euros and to compensate for the electricity 20-25 euros. Also, to give you an idea, to compensate for a return flight to South Europe, Turkey or North Africa, for 2 people, the costs would be a 20-40 euros.

Have you done it already? Are you planning to do it? It’d be nice to hear your opinions to learn more about climate compensation!

2018-06-06



In order to combine what we've been discussing these last weeks (holiday destination, mode of transport and accommodation), I'd like to post a question to all of you:

What do you think is the most sustainable 2-week holiday option for a Dutch family of 4 members that wants to go to France? Why?

A. Car + tent

B. Train + hotel

C. Plane + hotel

2018-06-19

As of this week, we are starting a new series of posts about the environmental impacts of our food habits and how to shift towards more sustainable lifestyles. Let's start with food waste. If food is not wasted, we're also saving the energy and resources necessary to produce, transport, refrigerate, process and pack our food. It sounds logical but still approximately 40 kg of food per person per year are wasted in the Netherlands (140 euros per person per year could be saved).

Let's share some tips! Would you like to start saving food or are you already

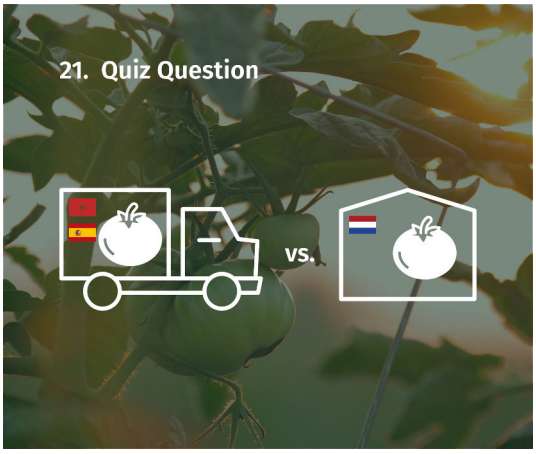
trying to prevent food waste? How are you shopping for food, cooking, preserving?

2018-06-26

Let's talk this week about the environmental impact involved in the production of protein foods. For a healthy life we need proteins. These can come from meat, fish and plants (tofu, soya, legume, etc.). As you most probably know, plant-based proteins are the ones that have the lowest environmental impact because less energy, water, land, and resources are involved in their production.

How do you make these choices? Do you eat meat? Or just fish? Are you vegetarian or vegan? Are you transitioning towards a more plant-based diet? Do you have any tips for those in a similar situation? Let's share our thoughts and inspire each other!

2018-07-04



This week let's talk about food miles. Are local food chains more sustainable than global ones? What is normally your choice when purchasing your food?

We can start up the discussion with this question: Which tomatoes have a lower environmental impact and why?

A. Tomatoes coming from Spanish or Moroccan farmland and that arrive to the Netherlands by boat or lorry.

B. Tomatoes produced in Dutch greenhouses, which use energy saving measurements such as geothermal energy.

2018-07-24

This week's post aims to spark a discussion about organic vs. non-organic foods. What is better for the environment, to consume organic or non-organic products? There is no clear answer. Milieu Centraal states that it depends on the product and that there are many factors to take into account:

• Organic foods are better for the environment because no fertilizers or pesticides are needed, which preserve the quality and diversity of the soils.

• Organic foods require more ground to be grown or used (in the case of rearing animals).

• Organic foods don't have per se any restriction on the amount of energy (greenhouses) or water needed, neither on waste management. It depends on the farmer.

Do you consume organic or non-organic products, or a mix of both? What are the factors that guide your choice (health, environment, etc.)? Let's share our thoughts on this to shed some light on this contested topic.

2018-08-02

Thanks to this week's post we'll learn how to make more environmentally informed choices when buying our veggies and fruits. If you want to know which vegetables and fruits have lower environmental impacts every month of the year, you can use this calendar (it includes also some handy preservation tips per product!). It's in Dutch but it's quite straight forward. Basically, the A products score the best in terms of environmental impacts and the E products score the worst.

Are you already aware of the environmental impacts of the foods you purchase? How important is that for you? Let's discuss and learn from our personal experiences!

https://groentefruit.milieucentraal.nl

11 April 2018: **Second meet-up, documentary screening *Normal is Over*** with the director of the documentary. In total, 18 people attended: 16 members of the SCoA and 2 researchers. The screening took place in the same café as the first meet-up (Juice by Nature). Method of data collection: focus group and fieldnotes.

Figures 72 and 73: Second meet-up with SCoA, documentary screening *Normal is Over* (Source: Luis Monteiro)

30 May 2018: **Third meet-up "Minimizing waste, a step towards a minimalist lifestyle".**

The focus was around minimalist lifestyles and simple, everyday ways to help reduce members' footprint – with special attention on single-use plastic waste. In total, 12 participants attended, and one was invited to tell her story on how to transition towards a more minimalist lifestyle. The meet-up took place in DIY Soap, a shop that sell environmentally friendly products and organizes workshops to learn how to make soaps and other products yourself. Method of data collection: focus group and fieldnotes.

Figure 74: Third meet-up with SCoA "Minimizing waste, a step towards a minimalist lifestyl" (Source: Helena Olsen)

Research Activities

These are the activities and efforts undertook between May 2017 and August 2018 to make the research interventions possible. They are ordered chronologically and offer an overview of the activities visually illustrated in Figure 1:

May–June 2017: Building CODALoop Amsterdam website (www.codaloopamsterdam.org).

June 2017: Announce CODALoop on different platforms: Smart City Amsterdam, Nudge, 02025.nl, Indische Buurtbalie, Buiksloterham.nl., etc.

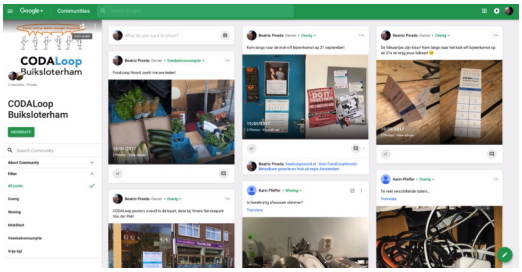
May–December 2017: Scoping, mapping the neighbourhoods: who are the communities that might be possibly interested in sustainability and in learning about energy, etc.

May 2017 to August 2018: Meeting key figures and different stakeholders (municipality, local entrepreneurs, housing corporations, artists, etc.).

June–July 2017: Search for affordable/free locations for the research interventions.

August 2017: Preparing the kick-off meetings. The goal of the kick-off meetings is to announce the research project activities/interventions. The kick-off meetings were advertised via social media, physical flyers and posters distributed in the neighbourhood, personal e-mails, mailing lists, etc.

June–December 2017: Due to the delays in the international CODALoop platform, looking for plan Bs to enable social interactions in digital space. The first attempt, Google + was not well accepted due to issues related to data privacy. The second attempt was Gebiedonline (https://gebiedonline.nl), an existing digital platform made by and for neighbours in different areas in Amsterdam. In Gebiedonline the data belongs to the neighbours, and therefore privacy was not an issue. However, Gebiedonline lacks an interactive tool to enable conversations between users. With the aim to develop this tool, I organized three meetings with the software developer and some BSH residents to see the possibilities of this tool to be developed and incorporated in Gebiedonline. This lengthy process did not fall within the scope of the PhD timeline.



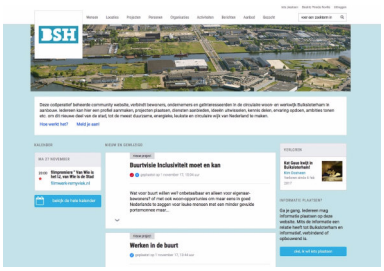


Figure 75: Mock-up of how a Google+ online platform could work

Figure 76: Print screen of the existing Gebiedonline platform for Buiksloterham (www.buiksloterham.nl)

May 2017 to July 2018: Engaging with the local communities: attending local meetings in De Meevaart and two meetings about the neighbourhood vision in BSH (BSH Buurtvisie), described below:

• 5 October 2017: First meeting BSH Buurtvisie around the question: "Which topics should be in a vision for BSH?" Different interests: work in the neighbourhood, culture & community, air, water, public space/green, meeting places, inclusivity, energy neighbourhood cooperative, social facilities, living sustainably, building sustainably. I raised the topic of "living sustainably" and only one neighbour showed interest. The topic "energy neighbourhood cooperative" was focused on creating a local grid (and therefore with a clear focus on technological solutions).

Figures 77 and 78: Buurtvisie meeting (Source: author)

• 26 October 2017: Second meeting BSH Buurtvisie, to put ideas into action. One of the main outcomes of this meeting was the organization of the "Week of the neighbourhood". I helped with the organization of this event. During the "Week of the neighbourhood" the second energy story night took place in order to increase the visibility of the intervention and increase the number of attendees.

October 2017: Seeing the lack of engagement during the kick-off meetings as well as during the Energy Story nights in both neighbourhoods, I explored other communities to consider them as extra case studies. With this purpose in mind, I attended several meetings at the café run by De Kaaskantine, a group of activists living off-grid and experimenting with new technologies to transition towards a more sustainable society. From September to December 2017, they organized 3 meet-ups to talk about different topics related to sustainability. One of the goals of these meetings was to check the level of community engagement to continue organizing these types of meet-ups, always oriented towards enabling action. At the end of December, this community had to change its location and build new facilities in a different area in Amsterdam. These external circumstances led to postponing the upcoming meet-ups until June 2018. Therefore, unfortunately, I had to exclude this case because it would not have being possible to conclude the data collection process within the scheduled PhD timeline.

December 2017: Due to the lack of engagement of community members in BSH and the IB, I adjusted the research strategy and focused on:

• Not imposing interventions but focus on listening to the community's needs and requests related to the topic of sustainability and energy (interest in saving money in the IB, interest in the technological aspects of technology in BSH) in order to understand which type of activities and formats could spark more interest (using humour, thinking of incentives, etc.).

• Tapping into existing activities and initiatives instead of trying to build a community from scratch around a topic, such as sustainability, that is not a priority in certain neighbourhoods (e.g., the IB).

• Finding local support, key local figures that could help connect with existing communities in the IB. René J., an active community organizer in De Meevaart, offered me his support in organizing future events.

• Looking for other spaces in the two neighbourhoods to see if the change in location could affect the community engagement. In the IB, another community centre was found, Nieuwland, and I attended several meetings and workshops to check the potential of the space/community. This idea was discarded due to the difference in character between the two community centres and my future efforts focused on the De Meevaart community. Finding other spaces in BSH was complicated (OBA – public library – spaces were not available) and other more commercial locations were asking for high rent fees.

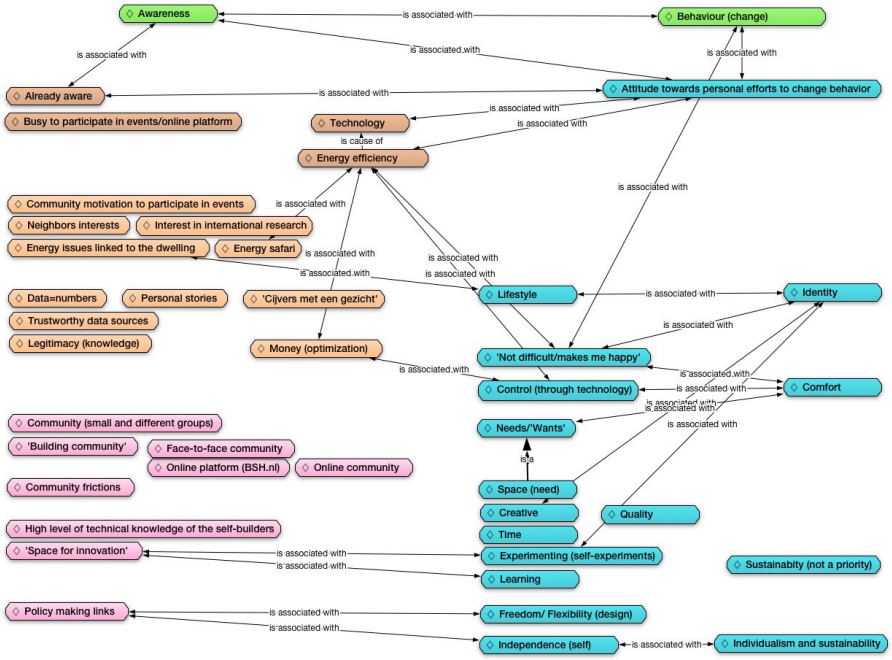
Due to the lack of results on the efforts to use Google + and to make existing online platforms more interactive (Gebiedonline), an existing community built around an online platform (Facebook group) was approached – the Sustainable Community of Amsterdam (SCoA).

January 2018: Preparing weekly Facebook posts, together with the two members of the SCoA team, around the topic "saving energy in the home" (following the founder's main interests for the community). Preparing the first meetup around the same topic.

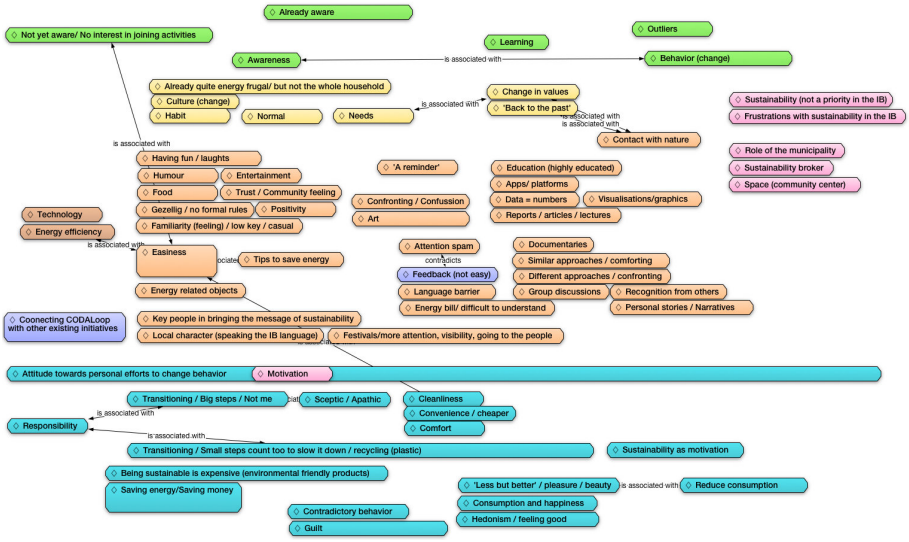
January–March 2018: Preparing a new intervention at De Meevaart, "the Big Neighborhood Energy Quiz", with the support of a local key figure (René J.) in the IB and the collaboration of Stamatious Doulis, a well-known comedian in De Meevaart.

Appendix 2 – The code networks of the three communities

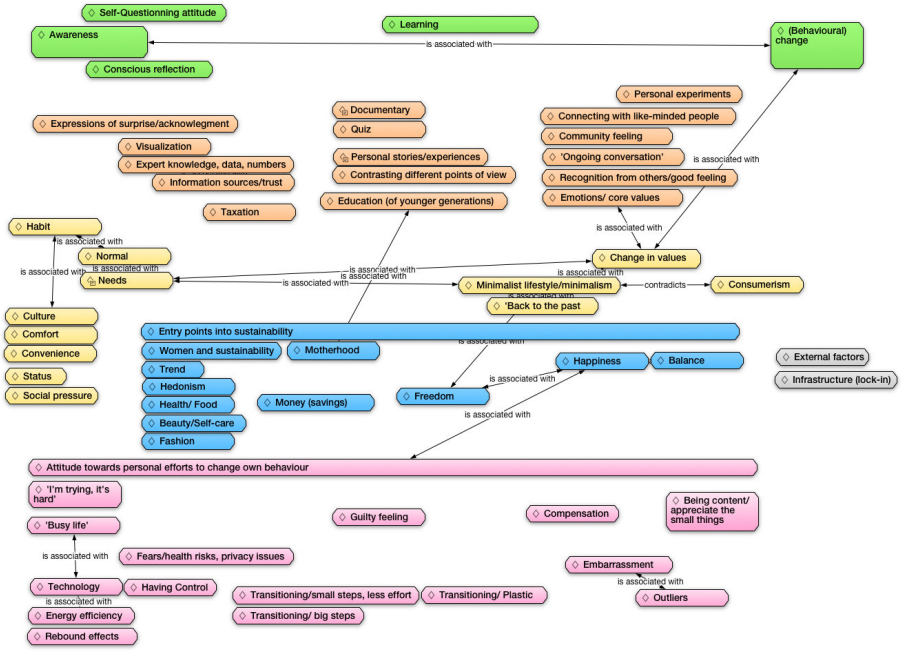
Code network – Buiksloterham



Code network – Indische Buurt



Code network – Sustainable Community of Amsterdam



Appendix 3 - Introductory message for the SCoA

2018-02-05

Hi there, I'd like to introduce myself. I'm Beatriz, I'm a researcher at the UvA working on environmental issues related to energy and food and analysing how communities learn about these issues.

In these last months, I've been closely working with Dina and Helena on a series of meet-ups and FB posts for all of you. They all gravitate around the topic of "saving energy". We understand how busy the life can get and so our goal is to facilitate your sustainability learnings by providing you with short bits of practical information on a weekly basis to inspire positive change in your household habits. The meet-ups will act as a great complement, encouraging an ongoing conversation, allowing us all to share our struggles and victories along the journey.

Today, we're very excited since we're starting this journey of FB posts. Every Monday you can expect to hear from us. Please, let us know if you have questions, doubts, anecdotes… or if you would like to learn more about certain topics. For us, your feedback is very important since it keeps us motivated to continue working hard!

This Thursday we will start with the first meet-up "saving energy in the home". It'd be great to meet many of you then and to continue this important discussion in person! Looking forward!

Appendix 4 – Feedback questionnaire SCoA

Hello SCoA members!

In the last six months (from February to July) the SCoA team has been working hard to prepare weekly posts about different topics such as: how to save energy in the home, how to travel more sustainably and how to make more environmentally conscious food choices. Also, we've organized three meet-ups to get to know each other and continue discussing offline. We hope you

enjoyed these posts and meet-ups and that you got inspired to act more sustainably in your daily lives!

We'd very much appreciate to hear from you and receive your feedback to keep on improving! Also, your answers will help our researcher and SCoA team member, Beatriz, to gain more insights for her work. All your answers will be anonymous unless you choose to share your name with us.

The questionnaire will take you no more than 10 to 15 minutes of your time. Thanks in advance for sharing your thoughts with us!

https://www.surveylegend.com/s/wab"

— · —

The first batch of questions covers some personal and general information regarding your participation in the SCoA group:

1. Name (optional):

2. Gender (optional):

3. Age group (25-30; 30-35; 35-40; 40-45, etc.):

4. Place of residence:

5. e-mail address (optional):

6. I'm a member of the SCoA group since (approximately):

7. I found the SCoA group:
    a. By chance
    b. Through a friend/acquaintance
    c. Other (specify)

8. I consider myself:
    a. an active member (I participate weekly in the group discussions, I like posts, etc.).

b. a somewhat active member (once every two to three weeks I participate in some of the discussions, I like some posts, etc.).
c. an observer (I follow the discussions but I don't participate)
d. other

9. My reason(s) to be part of the group is/are:
Open question

The second batch of questions is related to the weekly posts. In some of the questions you will use a seven-point scale to express your level of agreement with a statement. Choosing 7 stars means that you agree the most and choosing 1 star means that you agree the least.

10. Have you followed the weekly posts since February?
a. Yes
b. No
c. Partially

11. Which topic was more interesting for you?
a. Saving energy in the home
b. Travelling more sustainability
c. Making more environmentally conscious food choices.

12. Why was the topic you choose in the previous question more interesting than the others?
Open question

13. I consider that I've become more aware about the topics raised thanks to the weekly posts
1-7

14. Could you describe how you have become more (or not) aware about the topics raised thanks to the weekly post?

15. The information provided in the posts was clear enough.
1-7

16. The visual graphics used in the posts were helpful to convey the message.
    1-7

17. The discussions with the other members help me be more aware about the information provided in the post.
    1-7

18. Can you mention one or more things that you learned thanks to the posts?
    Open question

19. I've adjusted/changed my daily routine due to the posts.
    1-7

20. If any, can you mention one or more things that you have adjusted-/changed in your daily routine due to the post?
    Open question

The third batch of questions is related to the meet-ups. In some of the questions you will use a seven-point scale to express your level of agreement with a statement. Choosing 7 stars means that you agree the most, while choosing 1 star means that you agree the least. You'll see that some questions are for those of you who attended some of the meet-ups and that some other questions are for those who didn't attend any meet-up. Please, answer only the questions that apply to you.

21. I've attended some of the face-to-face meet-ups
    a. Yes
    b. No
    c. I couldn't but I'd like to attend future meet-ups.

22. [If you have attended some of the meet-ups] Sharing personal experiences help me become more aware about the topic at hand.
    1-7

23. [If you haven't attended any of the meet-ups] I believe that sharing

personal experiences can help me become more aware about the topic at hand.

1-7

24. [If you have attended some of the meet-ups] Watching a documentary and discussing with other members helped me become more aware about the topic at hand.

1-7

25. [If you haven't attended any of the meet-ups] I believe that that watching a documentary and discussing with other members can help me become more aware about the topic at hand.

1-7

26. According to you, which other formats/activities could be used in future meet-ups to raise awareness regarding sustainability related topics?

Open question

27. [If you have attended some of the meet-ups] I've adjusted/changed my daily routine after attending some of the meet-ups.

1-7

28. [If you have attended some of the meet-ups] If any, can you mention one or more things that you have adjusted/changed in your daily routine after attending some of the meet-ups?

Open question

29. [If you have attended some of the meet-ups] The combination of online discussions and exchanging opinions with other members during the meet-ups has helped me become more aware of the topics raised.

30. [If you haven't attended any of the meet-ups] I believe that the combination of online discussions and exchanging opinions with other members during the meet-ups could help me become more aware of the topics raised.

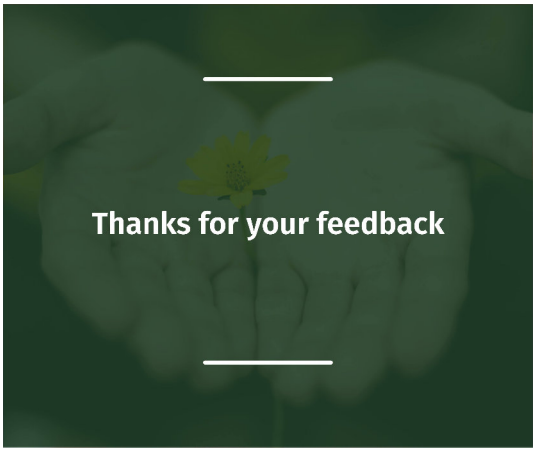
31. Can you mention one or more reasons to explain your answer to question 29 or 30?

Open question

Thank you very much for completing these questions. Your opinion is very valuable for us to keep on improving!

If you have any suggestions or if you'd like to become more active in the group, please let us know by sending an e-mail to beatrizpinedarevilla@gmail.com.

The SCoA team



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SUMMARY

From efficiency to decency: Cultivating energy needs in urban communities

There is an urgent need to reduce the energy consumed by urban households. Despite current investments in energy efficient technologies, energy consumption continues to increase in cities. In this thesis, I move beyond the efficiency paradigm and its emphasis on reducing energy consumption, to understand instead how the energy needs that shape urban households' energy demand can be challenged and reduced. People do not use energy for the sake of using it. The practices that they perform in their daily lives such as driving, heating the home or flying for work or leisure require energy. How people frame their energy practices and how these bundles of practices configure different energy lifestyles is strongly shaped by the social contexts where the individuals live and interact. This research investigates one specific social context, that of the community, in order to unpack how the social interactions within community members lead to the activation of discursive processes that challenge current energy intensive lifestyles. Despite the routinised character of most energy-related daily practices people still have the ability to verbally reflect on and alter their actions. The activation of this "energy discursive consciousness" or "awareness which has a discursive form" (Giddens, 1984, p. 374) is at the center of this research. It aims to unpack how energy discursive consciousness is activated at the community level and how it ultimately may lead to the contestation and reduction of energy needs and to the development of a "decent lifestyle". The notion of "decency" entails considering standards of morality and appropriateness that go beyond the individual and affect soci-

ety in general. Common understandings of decency are influenced by social norms which, in turn, are shaped within communities. Also, the notion of decency helps trigger a reflective process during which individuals, by giving meaning to their energy-related practices in relation to a wider community, reconsider their own personal lifestyle choices.

During a one-year ethnographic action research, I worked together with three Amsterdam-based communities: (1) a community of self-builders in the northern quarter of Buiksloterham; (2) the people that gather in the community centre De Meevaart in the Indische Buurt, located in East Amsterdam; and (3) the online Facebook group called "The Sustainable Community of Amsterdam". During my fieldwork, I aimed to unpack how energy discursive consciousness is activated by analysing the following three building blocks. First, I analysed how members framed their energy needs, coming up with different frame articulations. Contrary to popular belief, monetary frames were not always central in the process of informing people's decisions. They were intertwined with other frames related to morality, efficiency and self-fulfilment. Second, I focused on how community members interact, i.e. the different "communicative ecologies" or "the complex system of communication, media and information flows in a community" (Tacchi, 2004, p. 93). I paid particular attention to the spatial nature of each community: physical, digital, and hybrid. In some communities, digital interactions were key for sharing certain types of energy-related data and information such as numeric data and statistics that could not have been shared otherwise and that served to trigger discussion. However, face-to-face interactions remained crucial for enabling processes of mimicry and trust-building, in all three communities, empowering members to express themselves freely. Third, I explored different types of energy-related data and information, from "hard" data (statistics) to "soft" data (personal experiences) in order to co-design with the communities a set of interventions (e.g., energy quizzes, documentary screenings, Facebook posts, energy story nights, etc.). During the interventions, we experimented with the power of narratives and different artistic expressions such as humour, performance and verbatim theatre, which helped convey the different types of data and information. A balance between numeric and qualitative data as well as energy-related data and information co-produced and shared by the members helped spark community discussions that challenge current energy needs.

In summary, when thinking of ways to reduce energy demand, it is important to acknowledge the social context and pay close attention to the community level. The individual's various communities provide essential support and inspiration when making energy-related choices. As this thesis shows, the discursive interactions at the community level have the potential to challenge current energy needs and shape common understandings of normality, enabling a shift from efficiency to decency. The findings point out towards different aspects that enable the activation of energy discursive consciousness, paving the way towards community-centred energy policies that aim to reduce not only energy consumption but also energy needs.

To watch a video of the research findings, scan the QR code

SAMENVATTING

Van een eenzijdig efficiënte naar een brede op fatsoen gebaseerde kijk op energiebehoeften in stedelijke gemeenschappen

Het is dringend noodzakelijk om het energieverbruik van stedelijke huishoudens te verminderen. Ondanks de huidige investeringen in technologie voor een efficiënter energiegebruik, neemt het stedelijke energieverbruik toe. In dit proefschrift laat ik het dogma van efficiëntieverhoging en de daaraan gekoppelde nadruk op het verminderen van energieverbruik, terzijde. In plaats daarvan analyseer ik hoe de energiebehoeften welke het energiegebruik van stedelijke huishoudens bepalen, ter discussie kunnen worden gesteld en verminderd. Mensen verbruiken energie niet zomaar omdat ze energie willen gebruiken. Praktijken uit het dagelijks leven; zoals autorijden, verwarming en vliegen; vereisen allemaal energie. Hoe mensen de praktijken waarbij ze energie gebruiken inrichten en hoe bundels van praktijken in de context van verschillende leefstijlen met het bijbehorende energiegebruik functioneren, wordt sterk bepaald door de sociale omgeving waarin individuen leven en met elkaar omgaan. Dit onderzoek bestudeert één specifieke sociale context, namelijk die van de gemeenschap. Het doel is om zichtbaar te maken hoe sociale interacties tussen de leden van de gemeenschap leiden tot de activering van discursieve processen welke energie-intensieve leefstijlen van de leden van de onderzochte gemeenschappen van vraagtekens voorzien. Ondanks het routinematige karakter van de meeste energie-gerelateerde dagelijkse praktijken, kunnen mensen hun handelen veranderen. Dat gebeurt met behulp van het vermogen tot reflectie. De activering van dit "discursieve energie-bewustzijn" of "het besef dat een discursieve vorm heeft" (Giddens,

1984, p. 374) staat centraal in dit onderzoek. Het is bedoeld om te bestuderen hoe het discursief gevormde energiebesef op gemeenschapsniveau wordt geactiveerd en hoe het uiteindelijk kan leiden tot vraagtekens bij en vermindering van de energiebehoeften, en tot de ontwikkeling van een "fatsoenlijke levensstijl". Het begrip "fatsoen" houdt in dat er wordt nagedacht over morele normen dus over: "wat behoorlijk is". De normen gaan verder dan het individu en werken door in de samenleving in het algemeen. Gemeenschappelijke opvattingen over fatsoen worden beïnvloed door sociale normen welke binnen gemeenschappen worden gevormd. Het begrip fatsoen helpt ook een reflectief proces op gang te brengen; waarbij individuen, door betekenis te geven aan hun energie-gerelateerde praktijken in relatie tot een bredere gemeenschap, hun eigen persoonlijke levensstijlkeuzes heroverwegen.

Tijdens een etnografisch actie-onderzoek van een jaar heb ik samengewerkt met drie Amsterdamse gemeenschappen: (1) een gemeenschap van zelfbouwers in Buiksloterham in Amsterdam Noord; (2) bezoekers van het buurthuis De Meevaart in de Indische Buurt, gelegen in Amsterdam Oost; en (3) de online Facebookgroep genaamd "The Sustainable Community of Amsterdam". Tijdens mijn veldwerk heb ik onderzocht hoe het energie-discursieve bewustzijn wordt geactiveerd door middel van de volgende drie bouwstenen. Allereerst heb ik geanalyseerd hoe de leden hun energiebehoefte hebben ingekaderd, waarbij ik verschillende typen van interpretatiekaders heb ontwikkeld. In tegenstelling tot wat vaak wordt gedacht, staan financiële kaders niet altijd centraal in het proces van het informatieverschaffing aan mensen ten behoeve van hun beslissingen. Geld is verweven met morele vraagstukken, efficiëntie en zelfontplooiing. Ten tweede heb ik me gericht op de manier waarop de leden van de gemeenschap met elkaar omgaan, dat wil zeggen de verschillende "communicatieve ecologieën" of "het complexe systeem van communicatie, media en informatiestromen in een gemeenschap" (Tacchi, 2004, p. 93). Ik heb bijzondere aandacht besteed aan de ruimtelijke dimensie van elke gemeenschap: fysiek, digitaal, en hybride. In sommige gemeenschappen zijn digitale interacties essentieel voor het delen van bepaalde soorten energiegerelateerde gegevens en informatie, zoals numerieke gegevens en statistieken welke anders niet gedeeld hadden kunnen worden en die aanleiding geven tot discussie. Face-to-face contacten zijn cruciaal gebleken in alle drie de gemeenschappen. Ze stellen de leden van die gemeenschappen in staat om vertrouwen te wekken en zich vrij te uiten. Ten derde heb ik verschillende soorten energie-gerelateerde gegevens en infor-

matie verkend; van “harde” gegevens (statistieken) tot “zachte” gegevens (persoonlijke ervaringen). Dit is gebeurd om samen met de gemeenschappen een set van interventies te ontwerpen, bijvoorbeeld energiequizzen, de vertoning van documentaires, Facebook-posten en avonden met verhalen over energie. Tijdens de interventies is er geëxperimenteerd met de kracht van vertellingen en verschillende artistieke uitingen zoals humor, performance en verbatim-theater. Deze vormen van expressie zijn een hulpmiddel om verschillende soorten van data en informatie over te brengen. Een evenwicht tussen numerieke en kwalitatieve gegevens - alsmede het zichtbaar maken van relaties tussen energie-gerelateerde gegevens en informatie welke door de leden van gemeenschappen samen met de onderzoeker worden geproduceerd en gedeeld - helpt om discussie binnen de gemeenschap op gang te brengen en de huidige energiebehoeften kritisch te benaderen.

Samenvattend: bij het bedenken van manieren om de vraag naar energie te verminderen is het belangrijk om recht te doen aan de sociale context en goed te letten op het gemeenschapsniveau. De verschillende gemeenschappen waarbinnen individuen zich bewegen, bieden essentiële ondersteuning en inspiratie bij het maken van energie-gerelateerde keuzes. Zoals dit proefschrift laat zien, hebben de discursieve interacties op gemeenschapsniveau het potentieel om de huidige energiebehoeften ter discussie te stellen en gemeenschappelijke opvattingen over wat normaal is, vorm te geven. Hierdoor wordt een verschuiving van (alleen maar) efficiënt energiegebruik naar fatsoenlijk energiegebruik, mogelijk. De bevindingen wijzen de weg naar verschillende aspecten welke activering van het energiediscursieve bewustzijn mogelijk maken. Daardoor wordt de weg vrijgemaakt voor een gemeenschappelijk energiebeleid dat niet alleen gericht is op het verminderen van het energieverbruik, maar ook op het verminderen van de energiebehoeften.