Unpacking Energy Needs

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How do citizens adapt their daily lives in ways that address the necessity of reducing energy use? Why do they not do so even when they are aware of the urgency of reducing their impact on the climate? These questions lie at the core of any serious attempt to deal with the rising environmental impact of cities and urban life. Ecologically concerned governments, still identify citizens – households, individuals – as rational consumers, able to calibrate their energy consumption on the basis of price incentives. Very often, they treat citizens as ecologically concerned urban dwellers who are willing to install state-of-the-art technologies to reduce their dwellings' energy intake. In most cases, citizens posited simply as unwilling followers of national or European reforms that bear upon energy prices and industrial production. Policy strategies oriented towards altering production or consumption patterns, and reducing human impacts on the environment, need to deal with the (im)possibility of enabling change in how individuals live. In other words, it is impossible to undertake serious policies towards sustainability without first questioning how households consume, buy, and move, particularly in cities (Shove, 2010).

Despite the obvious centrality of households/individual daily practices in all kinds of environmental policy making, ecologically concerned governments still deploy energy efficiency strategies. 'Efficiency-led' strategies encompass investments, regulations, and discourses that are oriented towards reducing the relative intake of energy used for a particular practice in cities without questioning the social practices at the root of these energy intakes. Examples include investments in clean energy technologies and energy-efficient devices, such as smart meters or low consumption ovens, and sustainably produced meat. These actions assume that it is still possible to reduce overall energy use in a particular area (for example a city) without questioning or compromising urban dwellers' lifestyles. Despite the widely reported 'rebound effects' of this approach (Buchanan et al., 2015), technological innovations that make energy cheaper and more effective remain a primary strategy for contemporary governments around the world. In so doing, governments have not only recurrently failed to match climate targets. Paradoxically, they have also encouraged households' energy use to rebound and thus increase. The liberating effect of increasing energy efficiency has led citizens to consume more (e.g. travelling) and governments to postpone the inevitable question of changing (and reducing) individual energy consumption choices. Therefore, despite the fact that energy efficiency increased in OECD countries over the last four decades (IEA, 2013), total energy use only slightly decreased, and then only recently (IEA, 2016). Besides, fewer improvements in energy efficiency policies were introduced in the last two years, leading to an acceleration in the growth of global energy demand. Driven by economic growth and changes in consumer behavior, energy demand rose by nearly 2% in 2017 (IEA, 2018).

The limitations of efficiency-led approaches – and their evident failure in terms of reducing CO2 emissions, for example – lies in a reductionist understanding of how individuals' daily practices are formed and change. This understanding privileges private rational considerations that inform daily choices such as driving or cooking. They hardly appreciate these practices' social, interac-

tive, and community-centered character. Think about how mobility patterns, food choices, and leisure activities are based on imitation and group dynamics. When efficiency-led policy approaches do include community considerations, they do so in an instrumental way, as a solution that maintains a particular practice in a way that uses less energy (e.g. car sharing). We lack research showing how individuals do or do not change their practices *in relation to others*, how they reflect upon their own practices, and why they find it hard to change them even when aware of their negative effects on the environment.

Over the last 3 years, the CODALoop project has attempted to shift focus from individual efficiency to social practices. It has approached this challenge from two main directions. Firstly, it addressed energy consumption from the perspective of individuals' energy demands. Efforts to reduce energy consumption should not avoid the question of reducing overall energy demand in a first place, regardless of whether this energy is sustainably or renewably produced. Focusing on reducing energy demand tackles the problem at its root. If there is less need for energy on the first place, less energy will be consumed. This entails a reconsideration of the level at which behavioral change needs to be addressed.

Secondly, the project has moved beyond the currently prevailing approach to energy efficiency – based on utilitarian individualism – for which individuals make ecologically rational choices based on price indicators or impact assessments of their practices. We have questioned the common wisdom, which predominates in contemporary policymaking and media, that consuming less energy is an individual process of awareness building that only takes monetary savings into account. To the contrary, we advance that it is only by addressing the collective spaces in which individuals interact that it is possible to understand and thus tackle the reasons why citizens engage (or not) in energy demanding practices, and how these practices affect each other or bundle in overall lifestyles. As we argue below, it is not easy to nudge individuals' habits by means of direct incentives (for a

detailed overview of factors involved in habit formation, see Kollmuss & Agyeman, 2002). Part of the reason for this is that such habits are constructed in a socio-spatial context.

We define this context at the level of the 'community,' by which term we refer to the daily social space in which individuals reflect upon and adjust their own practices in response to other individuals. We see the (discursive) community as a space in which information is shared through discursive frames about practices. Individual practices are thus built by *both* one individual's perception of other individuals *and* by the interdependency of individuals' practices (e.g. dwelling) with other, collective practices (e.g. driving, public space use, consuming). By moving from the individual to the inter-subjective level, we are able to address the transformation or maintenance of lifestyles, those constellations of homogeneous social practices.

In the present work, we will set out the results of the research project. We will present the multiple frames that the research team has been identified in the context of three case studies in Amsterdam. To do so, we build on the insights of social practice theory to dissect the role of frames in activating what we term 'energy discursive consciousness.' On the basis of our results, we develop a basic taxonomy of consciousness types, identified according their specific position in the discursive framing of energy needs in the three cases. The final section will reflect on the socio-spatial boundaries of these discursive interactions, setting them in contrast with the mainstream institutional view of household practices in the Netherlands.

DECENT LIFESTYLE, 'ENERGY DISCURSIVE CONSCIOUSNESS' AND FRAMES

Frames are key elements in understanding how the process of 'energy discursive consciousness' can be activated and, as a result, lead towards the development of a (more) 'decent lifestyle.'

In our society, the need for energy is not determined by the individual. It is the result of the way in which individuals articulate multiple daily practices in their lives. It thus emerges as a combination of individual needs and perceptions and as the result of a process of social interaction that contributes to individual identity building. 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, on a smaller scale, each community), determines what a 'decent lifestyle' is in its own way. At the same time, the meaning of 'a decent standard of living' differs from individual to individual. What one person finds 'decent' might seem 'austere' to another, or 'lavish' to yet another. Focusing on decency allows individuals to give meaning to their own actions. Thinking in terms of 'decent lifestyles,' requires a reflective process that questions taken-for-granted ways of life. 'How much energy do I need?' 'How much is enough?' These understandings of decency are socially constructed in and through social practices of interaction. The challenge of our project was to uncover and explain the generative mechanisms latent in this notion of the 'decent lifestyle.' We began from the expectation that individuals' daily practices, as well as their impact in terms of reducing or increasing energy demand, depend on these mechanisms. To capture them, we empirically studied different discursive frames (see below), understood as verbal and non-verbal signals that individuals within particular communities share and exchange while discussing their energy practices or lifestyles.

Understanding the hierarchy among these frames helped us unpack how the activation of 'energy discursive consciousness' takes places in the communities analyzed. In Giddens' view, discursive consciousness is "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). This process drives the structuration of practices into social norms, which bound social practices in turn. In our research, we mobilize this concept and explore the notion of '*energy discursive consciousness*,' defined

as the ability to reflect upon one's own energy-related practices and put them into words. This enabling ability to reflect and change endows individuals with agency. This contrasts starkly with the more deterministic character of the day-to-day knowledge that performing most energy-related practices (e.g. showering, driving, etc.) requires.

These energy-related practices are more resistant to change because they belong to the sphere of 'doxa' (Bourdieu, 1976), the unconscious sphere of common beliefs embedded in the 'habitus.' 'Practical consciousness' (Giddens, 1984) plays a crucial role in this sphere of 'doxa' in that it helps individuals develop routines and know-how as to how to act in society, without which they would constantly have to expend intense cognitive effort. The question is how to transition from the sphere of 'doxa' to that of 'heterodoxy.' The sphere of heterodoxy is a realm of discussion, debate, and argumentation, in which the 'habitus' (and thus the energy-related practices and the energy needs that constitute them) is contested, challenged, and in that way perhaps also transformed into a new 'habitus' that demands less energy. The research explored how the 'habitus' of the three Amsterdam communities is currently framed. Then, in trying out different research interventions, it established that certain frames are especially able to activate discussion in a community about the amount of energy needed to live a decent life.

NEW METHODS OF SOCIAL PRACTICE RESEARCH: DIGITAL ETHNOGRAPHY IN THREE COMMUNITIES

The three communities that we engaged with were: *The Sustainable Community of Amsterdam* (SCoA), the *community of self-builders in Buiksloterham* (BSH), and *Atelier K&K* (Kans & Kracht – 'Opportunity & Strength'). These cases were selected on account of their diverse geographical boundaries (city, neighborhood, street), variable levels of motivation towards sustain-

ability (ranging from very motivated to not motivated at all), and interactions in different types of space (physical and/or digital).

The Sustainable Community of Amsterdam (SCoA) is a Facebook group founded in 2016 by a woman who saw the urgency of talking about sustainability issues with like-minded people living in her city. Through these discussions, she hoped, members would inspire and help each other in living more sustainably. Of our chosen communities, only the SCoA focuses on sustainability at the city level. The founder's dedication to the Facebook group can be seen in the frequency of her responses to questions posed by group members and conversations among them. Her positive tone and hands-on approach to tackling daily sustainability challenges have been key to making this Facebook community an active, successful group. The community is growing rapidly. In August 2018, the group had 844 members, of whom 715 live in The Netherlands (559 in Amsterdam). 80% are women and approximately 60% of all the members are between 25 and 44 years old. As we write this book chapter (March 2019), the group has 1188 members and similar percentages apply.

The BSH, the community group of self-builders, live in Bosrankstraat and Monnikskapstraat, the first streets comprised of self-built houses to be constructed as part of a redevelopment project in Buiksloterham, an industrial area of Amsterdam North. This group of families decided to sign up for a plot in Buiksloterham in October 2011. Although they did not know each other, 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: http://bsh5.nl). They were attracted by the space, water, relatively low location costs, and proximity to the city center and creative NDSM area (an old shipyard that has been converted in Amsterdam's new spot for artists and entrepreneurs over the last few decades). Back in 2011, not many people saw the residential appeal of this post-industrial neighborhood. Over the last five years, however, the area has rapidly transformed into a more residential and work ori-

ented neighborhood and many new residents are moving into newly built apartments (see Savini & Dembski, 2016).

The Atelier K&K is one among many social groups that gather at *De Meevaart,* a community center located in Amsterdam's Indische Buurt (Indian Quarter). The neighborhood, which lies to the east of the city center, is primarily residential. Although it is undergoing rapid gentrification, the Indische Buurt still accommodates a high proportion of social housing. Multi-ethnic in character, it has an old housing stock developed during the 1980s. Houses are primarily owned by housing corporations, which are currently struggling to support investments in energy efficiency and develop a new 'culture' of sustainability among their tenants. People living in the neighborhood meet at De Meevaart and organize events, most of them related to educating youths and engaging with elderly people. Largely based on volunteering work, the center is also where the eastern district organizes activities related to multiculturalism, children's education, music, and art (website: https://meevaart.nl). Atelier K&K is a foundation that aims to "provide a safety net for and by vulnerable residents with a small wallet" (www.atelierkansenkracht.nl). Three main activities are organized: 'De Proeverij' (The Tasting) and 'De Gouden Handen' (The Gold Hands) for informal caregivers and ex-informal caregivers and 'Kunst uit de Kast' (Art from the Closet) for people with a psychological or social disability. For 28 hours a week, Atelier K&K employs a professional who is interested in bringing the topic of sustainability and energy consumption to the community.

During a one-year, action-oriented (digital) ethnography (2017-2018, see appendix), we conducted research-moderated social interventions among the members of these three communities. Her aim was to establish how discursive processes that challenge their members' current energy needs can be activated. This methodology allowed the researcher to find and engage with the aforementioned communities, and to establish entry points through which to discuss their energy needs. This knowledge enabled the researcher to design different interventions for each

community using formats and strategies such as storytelling, documentary screenings, humor, energy quizzes, Facebook posts, screening artistic films, etc. These activities were organized according to principles of feasibility, suitability, and diversity. They had to fit in with these specific communities' activities and interests, while also enabling their members to question lifestyle frames. Throughout the project's duration, we organized activities of different kinds to capture the various ways in which both 'frames' and 'counter-frames' are mobilized. The challenge was for us to engage consistently with the communities without overly planning the content of each activity.

Research data consists of the researcher's fieldwork notes and transcripts of the recordings of some interventions (this required the participants' consent and trust between the researcher and participants). Research data was analyzed using the software Atlas.ti. An initial phase of open coding was followed by a phase of focused coding, during which conceptual codes emerged. These codes were organized into several categories. During a final phase of theoretical coding, different relationships among these categories were established, which contributed to the process of theory building. The Dutch quotes that appear in this chapter have been translated to English by the researcher. One final note: having assumed the role of researcher-as-participant, the researcher acknowledges the influence of her personal input in engaging with community members; designing, organizing, and facilitating the interventions; and finally analyzing social interactions among the members (for a timeline of the research activities and interventions, see appendix).

FOUR ALTERNATIVE FRAMES OF ENERGY LIFESTYLES

Our case studies identified four sets of frames that are differently mobilized (see below) in each community: moral, monetary, efficient, and hedonistic.

Moral frames belong to a 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 establishing the communicative conditions behind processes of interaction around a particular social practice. They provide a level playing field in communication, a basic normative statement that allows other individuals to open up and share their energy practices. Often overlooked by energy policies that grasp people as purely calculative, individualized beings, these frames are hardly nurtured in contemporary efficiency-led policies. This is unsurprising, for such policies are often based on the commonplace idea that individuals are not motivated by practical considerations of comfort, not ideals concerning sustainable living. However, we found that moral frames are mostly activated and strengthened in collective discursive interactions within communities. 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 is now widely recognized that using less can save money, energy demand is a driving force in changing energy practice. It is interesting to see how these frames articulate with other frames in particular collective situations. Abstract notions of the *homo economicus*, based on the utilitarian understanding of individual choice, cast energy practices as the result of calculative choices. These frames are far from being purely calculative and quantitative. Instead, they can supplement other frames (see below). They represent an understanding of utility that is highly socialized in relation to the broad nexus of practices. In many cases it appears that saving money is the most relevant dimension, especially in poorer communities. At times, however, monetary frames are also used in a negative way, such as to point out the disadvantages of changing particular practices (e.g. taking a train instead of flying). They can also be used positively, such as to underline the positive effects of living more sustainably. Mon-

etary frames are often combined with other utilitarian justifications, such as saving time and reducing food calories.

Efficiency frames belong to a family of discursive and narrative constructs for which changing energy practices is a necessary step towards realizing a particular energy lifestyle. In these frames, notions of decency or sustainability are contextual to the use of a specific 'tool' or technology. A particular action is framed as useful, necessary, or required in the pursuit of energy efficiency. Saving energy by changing energy practices is made possible by technological devices, which allow households to maintain particular practices while consuming less energy. This frame belongs to the category of pragmatic reasoning, which typically underlies goal-oriented rationality in social practices. Today it is the most widely mobilized frame. Unlike the monetary frame, it does not necessarily entail the quantification of social practices.

Hedonistic frames are part of a family of frames in which the notion of decency or sustainability contributes towards projects of personal satisfaction. Framed hedonistically, saving energy makes individuals feel good or satisfied. Sustainable actions are motivated by hedonistic desires for pleasure and self-realization. In our study, we discovered a subtype of this hedonistic frame, which Samuel Alexander terms 'alternative hedonistic' or 'voluntary simplicity' (Alexander, 2011). The core message put forward by alternative hedonism is that the simple things in life (e.g. spending time with friends and family, being in contact with nature, etc.) bring the most pleasure. In reacting against contemporary consumer society, alternative hedonist frames offer attractive alternative paths towards more sustainable forms of consumption.

We have established a hierarchy among these frames. Distinguishing between primary, secondary, and enabling frames, we mean to unpack the role played by each frame in activating 'energy discursive consciousness' in each community.

Primary frames are those that exert the greatest influence on the roles and responsibilities of both individuals and communities in making more or less sustainable choices. These frames relate to intrinsic motivations and can be identified by their centrality in conversations and group dynamics. Although they often kick-off conversations, primary frames tend to be left on the background as the conversation proceeds.

Secondary frames help explain why individuals and communities act as they do and are largely associated with contexts. These frames can be identified by their role as specifiers; often they are used to substantiate motivations and justify primary frames. In this sense, they are mobilized to identify external conditions or factors. Both primary and secondary frames shape the collective imaginary of individuals and communities. They are the necessary foundations upon which a fruitful space for community discussion can be set up.

Enabling frames are especially relevant in our study because they can activate the kinds of discursive exchange through which current lifestyles are contested. Working as meta-frames between primary and secondary frames, they enable discursive consciousness and shape what individuals consider a 'decent' lifestyle. These frames respond to the need to identify 'necessary steps' towards achieving a primary and secondary frame. The relationships among primary, secondary, and enabling frames are dynamic. An enabling frame for a community at a given point in time, may later become a primary frame. This mirrors the dynamism inherent to the formation of social norms and values.

ARTICULATIONS OF FRAMES IN 'ENERGY DISCURSIVE CONSCIOUSNESS'

In studying the communicative processes through which energy lifestyles are framed (and re-framed) in our three communities, we identified three ideal types of 'energy discursive conscious-

	Primary frame	Secondary	Enabling	Type of discursive consciousness
SCoA	*Moral*	*Monetary*	*Hedonism Efficiency*	*Engaged hedonism*
BSH	*Monetary hedonism*	*Moral*	*Efficiency*	*Self-centered DIY*
Atelier K&K	*Monetary*	*Efficiency*	*Moral*	*Money oriented solidary*

Table 1 Types of 'energy discursive consciousness'

ness.', see table 1. Although these are pure abstractions, they are based on our analysis of the framing processes and provide an accurate picture of the variegated reasoning that lays behind energy use.

Engaged hedonism: this type of consciousness is visible in those communities whose members all primarily use moral frames in reflecting on their energy consciousness. Members of the SCoA agree that achieving a more sustainable lifestyle requires that they consume less and therefore also reduce energy demand. All of the members of the SCA are already very aware of their actions' environmental impacts and they share a general feeling that something must be done about current energy practices, regardless of energy costs. Most members are motivated to live more sustainably, but think that this is hard. A smaller group is highly motivated and already undertakes some measures towards living more sustainably. A few individuals were still further along in their own personal transition. Energy consumption is used more as an entry point into talking about sustainability in general, which is where members' interests lie. They have different motivations for engaging with sustainability: health, especially in relation to food (much discussion focuses on how food is good for themselves, their families, and the planet); motherhood as a turning point in realizing the importance of living more sustainably; reducing single-use plastics; sustainable fashion; and learning how to make self-care products, etc. In fact, some members have built businesses around sustainability, whether they work as consultants, run shops (selling clothing and beauty products), or have start-ups.

The monetary frame remains in a secondary position, with cost-effective choices being identified as an advantageous additional consequence of their choice to change lifestyles. Whereas some members seem to care more about the energy they consume than the money they pay, others use saving money as a quantitative indication of environmental performance that they proudly share with others (e.g. less heating resulting in a reduced energy bill). In other cases, monetary value allows members to calculate the degree to which they should compensate for continuing to pursue activities that, though difficult to relinquish, are environmentally harmful (e.g. flying). In this last case, saving money can have a liberating effect in that they can 'compensate' their flying practices by paying more. In general, any new costs that accrue as a result of members changing their practices do not seem to affect their primary concern for achieving a more ecologically conscious lifestyle.

Alternative hedonistic frames were present in many online discussions. Questions about how to find pleasure in simple things, and how to need (and therefore consume) less, appeared in many discussions. This frame proved useful in enabling discussions that fit into the community's primary moral frame while simultaneously giving members practical tips for starting their own transition towards a 'minimalistic lifestyle' (as they framed it). This enabling frame was best supported by the face-to-face meetup format. During this meetup, one community member who was relatively far advanced along the path towards living simply shared her story with the other attendees. When asked about her own lifestyle, she answered:

> *I guess it's just freedom, freedom of not desiring, or wishing or having certain things to be found 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 (SCoA member_2018-07-28, Meetup).

Her struggles and small victories sparked a discussion in 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 bringing your own glass jars to shops to avoid using unnecessary plastic). Living a simpler life results in needing and consuming less and, by default, living more sustainably. Also, the researcher used weekly Facebook posts to continue the discussion online. Using alternative hedonistic frames proved an effective way of sparking discussions. Where members were not ready to consider shifting towards a more minimalist lifestyle, alternative hedonism also led to discussions about efficiency frames, according to which one might maintain one's current level of consumption while using less energy. Whereas many members referred to technology as an ally in making the task of reducing energy consumption easier, some pointed out the risk of rebound effects. In sum, in the SCoA community, moral frames did not need to be stimulated, alternative hedonistic and efficiency frames were important in enabling 'energy discursive consciousness,' and monetary frames remained secondary, yet useful.

Self-centered DIY: monetary and hedonistic frames were central and intertwined on the case of the BSH, and came back recurrently in discussion. The self-builders have made big monetary investments in building their own houses and are interested in calculating when their houses become profitable. During the discussions, it became clear that, in this community, reducing energy needs is of secondary of importance behind establishing more comfortable living conditions. The BSH community relies on technology and efficient devices to optimize comfort, convenience, and long-term economic investments. When asked about

the ideal temperature at home, for example, one of the members stated that he wants to have a warm house at the minimum possible cost. To achieve this, he is willing to experiment with innovative technological solutions in his home. Another member also considers monetizing his innovative efforts as a pioneer self-builder. This member aspires to sell heat to the grid and is exploring a business model involving storing rain water in his own house plot. All of these innovative and experimental approaches were made possible thanks to the support of municipal plans for this area, which focused on enabling circular wastewater treatment on housing plots, off-grid energy supply, and new ways of reusing building materials.

Hedonistic frames were central to the discussions, as the testimony of one 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 labor, that were transported oversees. 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 are not made fair, I don't feel happy… (Self-builder_Testimony gathered from the documentary 'Ecological footprint'_Retrieved from: http://lab.rtve.es/huella-ecologica/es).*

When focused on sustainability and lifestyles, discussion revolved around the domain of dwelling. Sustainability was not defined as a moral priority in designing their homes. Rather, it was seen as a result of their practices of adapting housing structures. The moral argument that we 'all' need to live more sustainably was of secondary importance in relation to their individual needs (e.g. the need to have a large, comfortable home). The priority of efficiency frames over moral frames is captured in the following quote:

> *- Then, what is your real motivation in applying all of these energy solutions?*

- 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… (Self-builder_Energy Story Night, 2018-11-21_translated from Dutch).

Efficiency was clearly an enabling frame that allowed the researcher to engage with the members of this community and spark 'energy discursive consciousness.' Members do not consider reducing energy needs as an option. Still, the topic of whether they would experiment with energy-efficient technologies to reduce domestic energy consumption served as an attractive entry point for discussion. Technology allows these individuals to control their own homes and, in most cases, become energy independent (they are not connected to the grid). In sharing these frames, individuals tend to detach the instrumentality of particular tools from the original aim of reducing energy. Conversation moves from sustainable lifestyles to comparing different technologies in terms of comfort. Shower wastewater recycling systems, for example, are discussed without reference to the actual practice itself – in this case, that of showering more or less.

This enabling frame was best supported by the format of the 'Energy Story Night.' Discussions were framed by efficiency – the technologies different members use to heat their homes, for example. Members found numerical data important in 'proving' that their chosen technologies work and in their ongoing processes of experimentation and learning. In conclusion, monetary and hedonistic frames were considered as essential for the members of this community, while moral frames, where present, were secondary. The most effective enabling frame in activating discussions was that of efficiency, although discussions failed to contest contemporary energy-intensive lifestyles.

Money oriented solidarity: In the case of Atelier K&K commu-

nity members, saving energy primarily means reducing their energy bill. Some of the members were already considering their energy bills carefully, aware that saving energy can mean saving significant sums of money. Members' interest in environmental issues, however, was minimal or nonexistent. To them, sustainable living is of secondary importance in relation to other daily concerns (e.g. unemployment, caring for ill relatives, etc.). It is interesting to note that when it came to mobility choices (car vs. plane) in taking relatively long-distance trips (from The Netherlands to Turkey, for instance), some community members were making environmentally friendly choices (traveling by car with the whole family instead of flying) because they presented the cheapest option. When traveling alone or only with their partners, however, they prioritized convenience and only considered flying.

Although efficiency frames were of secondary importance in this community, they were mobilized in the conversation as possible ways of reducing energy bills. Most often, investments in energy efficiency were looked upon skeptically, for they imply further expenditure. To access energy-efficient devices, in other words, members needed to be able to afford them. When talking about other energy-efficient technological solutions, such as installing solar panels on the roof, it became clear that subsidies are indispensable (which again links back to monetary frames). The majority of Atelier K&K members live in social housing. In the Indische Buurt especially, such housing is often in urgent need of renovation. Were social housing developers to upgrade the housing stock, however, this would imply raising tenants' rents.

Despite their skepticism, members of this community saw clear value in building social ties around the issue of sustainable living. They deemed the sharing of good everyday practices (such as reusing warm water from cooking, switching off lights, reducing home heating one degree, etc.) more important than technologically efficient improvements. A combination of monetary and moral frames proved key in enabling individuals to communicate about these issues. One of the most successful research in-

terventions, The Big Energy Neighborhood Quiz, used this combination of frames to spark discussions around decency and lifestyles. The main tool used during this intervention was humor; a comedian facilitated the event. The format of the quiz was straightforward. It posed 10 questions about energy issues, giving 3 options to select between per question, and awarding prizes to the winners at the end. During his performance, the comedian referred to the monetary frame many times and several questions focused on how much money can be saved if certain measures are undertaken (e.g. reducing heating by 15 degrees when leaving home, buying LED lamps as a way of saving money over the long term, etc.). These monetary frames were related to the moral frames of building a community able to share such tips. Members reportedly attended the quiz because they care about both money and community cohesion. This activity helped them strengthen friendship ties and solidarity networks around the topic of energy. Another 3 energy quizzes were conducted with sub-groups in this community. In these cases, the community founder facilitated the quizzes. Humor was replaced by trust and a feeling of solidarity among the members of these three groups, who have confidence in both each other and the organizer. Prizes were also replaced by friendly competition over who could get the answers right. In sum, monetary frames were crucial in engaging with community members and a combination of monetary and moral frames enabled discussions around energy lifestyles. Efficiency frames were secondary in this community due to affordability issues.

THE SPACE AND SCALE OF 'ENERGY DISCURSIVE CONSCIOUSNESS

In Dutch policymaking arenas, the notion of '*draagvlak'* is used to indicate the necessary social acceptance and political legitimacy of a particular national, regional, and municipal policy. Social acceptance is a crucial problem for contemporary policymakers who are attempting to nudge forward changes in

how people live and consume energy in cities. Today, the so-called *Climate agreement* (Klimaatakkord) exemplifies how and why social acceptance becomes a problem for eco-efficiency strategies. The ambition of this comprehensive national policy strategy is to achieve the Paris climate targets, overseeing a reduction of CO**2** emissions by 49% by 2030 as compared to levels in the 1990s. In the Netherlands, the Climate agreement represents the first unitary policy strategy for establishing a multi-scalar and trans-ministerial agreement over everything that bears upon energy efficiency (broadly construed) and CO**2** emissions. The plans developed by the current government span technological advances in industrial production; circular waste management; an increased use of biomass for energy production; reuse of wastewater in cities; electric mobility; housing efficiency; and many more. However, the ratification of this document is currently in jeopardy on account of the Dutch population's weak *acceptance* of the actions it envisages. The key issue is the policies' costs and benefits for the everyday life of households – their energy tariffs, employment opportunities, mobility and food consumption choices, and services and products. The current draft agreement proceeds by elaborating all of the infrastructural and efficiency requirements to be met by Dutch industry and concludes by pointing out that the change in the country's productive system will reshape individuals' lifestyles only indirectly. Still, as the document also states, we do not yet know how and for which reasons citizens might be willing to adapt their behavior.

The Climate agreement is the most representative and encompassing example of how citizens lifestyles and choices are treated in top-down eco-efficiency policymaking and the scale at which social interventions are deployed. After listing all of the required actions, the government specifies key interventions oriented towards producing social acceptance of the policy. The government showcases initiatives such as national 'citizens talks,' undertaken with about 200 citizens in 2018 and 2016, and a National Platform of Citizens Participation (Nationaal platform burgersparticipatie). It calls for housing developers and social housing corporations to become more involved in 'educating'

citizens in the benefits of energy efficiency in their buildings. It aims to 'nudge' technologically innovative practices through the regional programs of universities and secondary schools (i.e. developing 'techno-hubs' and 'incubators'). Overall, the government stresses the need to maintain a 'neighborhood approach' (*wijkaanpak*) to developing energy infrastructural adaptation measures in different urban areas (e.g. solar panel and wind mill installation, parking reduction, etc.). In all of these indications, citizen participation remains a national or regional endeavor. The neighborhood remains an undefined 'stage' in building legitimacy while data sharing platforms have recently gained popularity as enablers through which households might improve their own energy practices. These physical (neighborhoods) and virtual spaces (data platforms) give an indication of how the program of national energy transition approaches the spatiality of citizens' practices.

To what extent are these 'spaces' able to heighten households' awareness of their own practices and ultimately trigger change in them? In other words, how do these 'spaces' contribute towards or jeopardize the activation of 'energy discursive consciousness'? To address these questions, our research has also mapped the socio-spatial scales at which socially normative processes occur. Our analysis looked at the socio-spatial boundaries within which different frames where exchanged in activating 'energy discursive consciousness.' These socio-spatial boundaries are not only physical (e.g. rooms, streets, etc.). For the most part, they are mostly social, in that they often involve belonging to a particular group or community of consumers. Atelier K&K and the community of self-builders in BSH both have a clear physical profile. By and large, they interact within the walls of the De Meevaart community center or in their immediate living environments, respectively. For members of these two communities, face-to-face contact is a necessary condition for developing trust. Trust, in turn, enables the sharing of frames regarding their energy consumption. In these cases, the few attempts at digital interaction, through an online platform, produced only a very low level of engagement (see the *Gebiedonline* website www.buik-

sloterham.nl and the newly created Facebook group, www.facebook.com/buiksloterhambuurt).

In the cases we studied, the socio-spatial boundaries of social interaction appear to be much smaller than the neighborhood level. We noted that some communities, such as Atelier K&K and the community of self-builders, identify themselves with a particular street or block, or a sub-neighborhood area. Accordingly, they often require highly customized interventions to discuss their energy needs. In the case of the SCoA, the community is defined by the digital 'boundaries' of a Facebook page. Still, we noticed that despite the platform's wide reach, in this community the physical space of face-to-face interaction remains crucial to building consciousness around energy practices through the sharing of frames. While the digital platform functions as a stage for this community, physical interactions called *Meetups* are necessary for group cohesion. Face-to-face meetings among members of this community allowed them to explore the role that both online and offline spheres play in activating 'energy discursive consciousness'. In the case of the SCoA, digital and physical spaces both strengthened the process of 'energy discursive consciousness.' Neither physical nor virtual space was secondary to the other, and neither would have allowed the sharing of complex energy practices alone. Physical and virtual spaces are interwoven (see also Dourish & Bell, 2011; Jurgenson, 2012; (Korn, 2013).

The role of these spaces of face-to-face interaction in activating 'energy discursive consciousness' becomes important when establishing boundaries of *trust* and *mimicry*. We reported variegated expressions of acknowledgment and recognition of each others'efforts to live more sustainably during face-to-face exchanges. This community's discussions deepened significantly during face-to-face meetings, which occasioned a fuller exchange of frames regarding energy needs. Sharing struggles and small victories with like-minded people, as the members say themselves, helps them to keep up their motivation for living more sustainably and develop a feeling of a communal belong-

ing. Due to their commitment to, and knowledge of, certain areas of sustainability, some members have become community 'experts.' Their suggestions guide and inform other members' choices. This appreciation is shown in others' comments and responses, during both online and offline discussions, and in the Facebook platform's the 'like' functionality.

> *What I like about the community is that there are people focusing 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 (SCoA member_2018-07-28, Meetup).*

Together, face-to-face and virtual interaction lay the foundation for the process of building a sense of communal belonging. This belonging, we claim, is a necessary condition for the building of consciousness among individuals. It seems that the presence of a *digital* space with a broad reach is important in allowing members of the community to share basic information about energy use. Figures and facts related to their lifestyles allows members to measure their energy needs– though often in a general and reductive way. To share this information, members use online sources that they deem trustworthy. These sources allow them to select specific information from the large amount of data that is available on the internet and in various reports. Also, platforms make it possible to share media. Indeed, many of the online discussions are supported by images, videos, graphs, etc., that members share to help them convey a message more effectively. These flows of information "keep conversation going" on a daily basis and satisfy members' need for communal engagement. This information does not allow members to calculate and recalibrate their energy practices in any immediate sense. Rather, it has the socially binding effect of maintaining group conversation. Contrary to the utilitarian and rationalistic understanding of data prevalent in current policymaking, these data are not directly

generating awareness and therefore behavioral change. Instead, they indirectly sustain the building of social ties, grounded in basic expert knowledge, through which the group engages in processes of sharing and community building.

The character of information sharing is therefore often contextual rather than universal; local rather than global/aggregated; and reductive/selective rather than complex/extensive. Data do not immediately provide 'useful' information for social practice. Primarily it works by mobilizing interactions, most of which move beyond the specific theme of the initial data. Most of the Facebook posts we coded relate to things happening in or around Amsterdam and directly contribute to the feeling of being part of an urban collective. The SCoA's founder encourages this. Indeed, one of the group's initial guidelines stipulates that discussions should be kept 'local' and that members should avoid discussion of big issues as much as possible, for these often remain superficial. This way, members can always ask for practical advice when they are in doubt (e.g. as to where the nearest repair cafe is or how to participate in a compost initiative, etc.). The city scale seems to work well in creating this feeling of communal belonging – at least in the case of a city of Amsterdam's size.

CHALLENGES FACING A FUTURE ENERGY TRANSITION

In the study presented here, we problematized the paradigm of energy efficiency, which assigns individuals the reductive role of calculative consumers. Instead, we showed the variegated character of both social practices and the processes that normatively shape them. The study reached the following conclusions:

First, we questioned the commonplace conception – based on the ideal of *homo economicus* – that individuals can rationally calibrate their energy practices by means of technological improvements and expert information. Instead, drawing on theories of

social practice, we showed that questioning (though not yet changing) energy practices entails communicative processes that query the routine, moral, and hedonistic nature of social interaction. Members of the communities that formed our case studies seem to learn from each other in context, and to appreciate their sense of belonging to a community that is founded upon a particular framing of energy practice. Technology and technical expertise are, at best, a secondary or enabling frame when considering the activation of energy discursive consciousness.

Second, we questioned the taken-for-granted idea that monetary factors (incentives or fines) have the greatest capacity for 'activating' possible lifestyle changes. Today, this idea is used to justify extensive top-down interventions in tariffs, subsidies, tax-deduction, and technological improvements that shrink households' energy bills. Looking at different articulations of frames in specific contexts, we showed that while monetary framings of energy conscious lifestyle remains important – living sustainably is often cheaper – they are not always the primary frames in play. In fact, they are often secondary to the deeper ideal of saving energy as such. These conclusions are based on a set of three case studies, carefully selected, in which two of the three chosen communities belong to Amsterdam's high earning and highly educated middle classes. The case of the Atelier K&K, however, reveals that while monetary concerns incite members of a group to get together and share tips about reducing energy bills, monetary arguments are functional to building solidarity and support among members. The behavior of this group indicates that the significance of this solidarity extends far beyond the need to reduce energy bills.

Third, we questioned the common understanding that the most effective scales at which an energy transition can be pursued are the national, regional, and neighborhood. Looking at concrete practices of communicative interaction, we discovered that the socio-spatial scale at which discursive consciousness is enacted combined small-scale face-to-face community interaction and online interaction. A wide-reaching platform cements a commu-

nity and enables it to share informative triggers such as videos and basic figures, which in turn entail further face-to-face interaction. Yet, digital platforms need face-to-face interaction to maintain trust in the community, which is a precondition for sharing experiences. These insights raise important questions about the scale and character of policies and interventions that aim to develop a new culture of decent lifestyles. Building what Alexander defines as 'voluntary simplicity' (Alexander, 2011) requires much more customized processes of physical interaction for existing ecological communities, not yet more standardized plans for technological investments across city-regions.

What is the space in which individuals build social norms and energy practices? At which scale do socially normative interactions, which generate social practice, occur? Addressing these questions is crucial to achieving two fundamental aims of an energy transition. Indeed, doing so is especially crucial if we are to question current energy practices, not simply question existing infrastructures and modalities of energy provision and consumption. We need to redefine the meaning of transition. This should be based not on an efficiency paradigm focusing on large scale networks of production and infrastructural adaptation, but on one focusing on daily practices of energy consumption. This means moving beyond current approaches that treat citizens as (un)willing receivers of national programs of infrastructural transition, exclusively grouped in terms of jurisdictional boundaries (e.g. neighborhood, region, city), or as falling into broad categories of income and home ownership (e.g. social renters, homeowners). Rather, it means appreciating the community ties that individuals build around lifestyle and consumption. Here, citizens – and their collective formations, such as households – become active and willing agents of a social transition towards new ways of living and using energy decently, rather than being the objects of an infrastructural transition.

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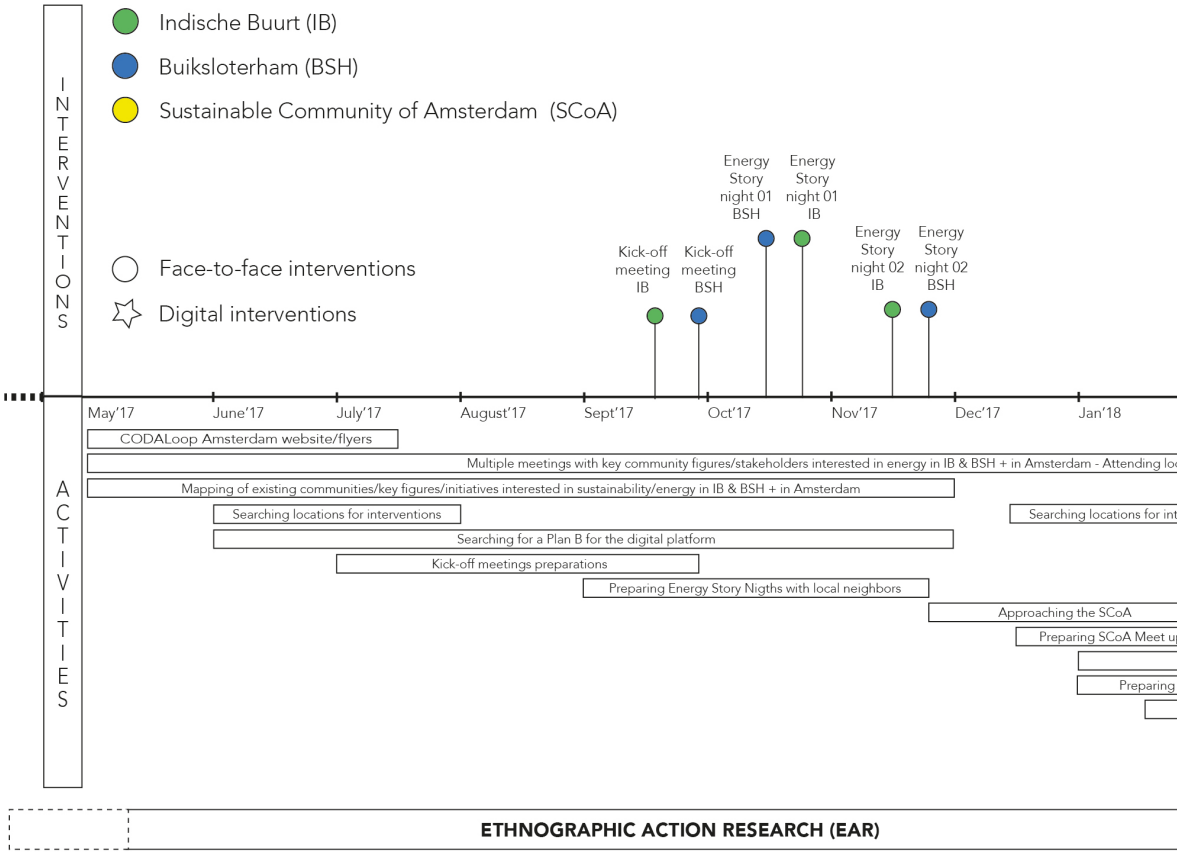
WEBSITES

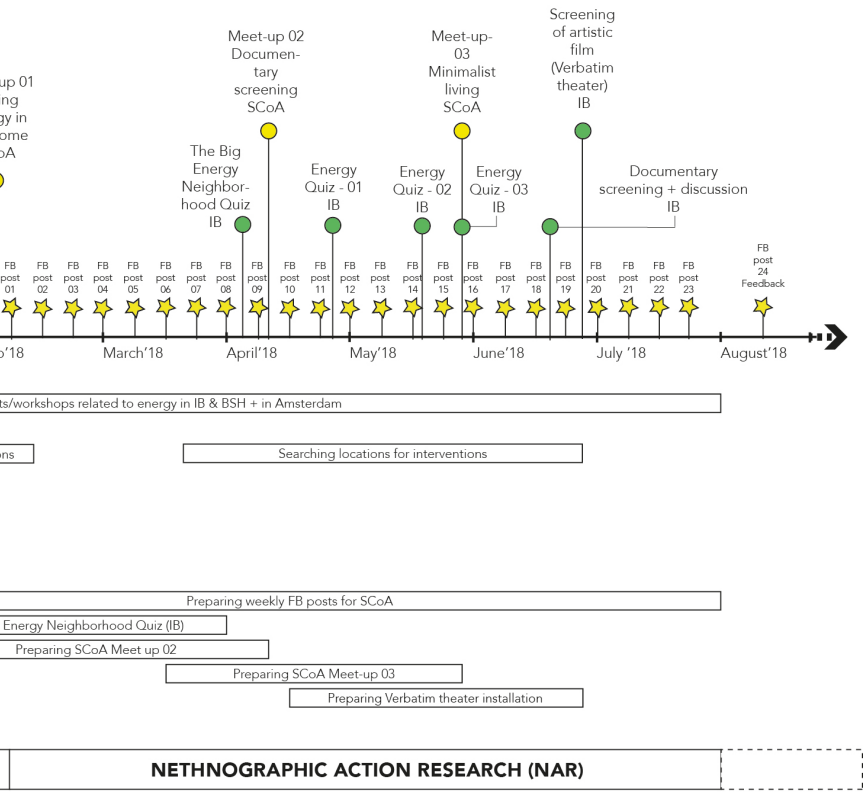
Blog self-builders Buiksloterham: http://bsh5.nl
Website community center De Meevaart: https://meevaart.nl
Website community Atelier K&K: www.atelierkansenkracht.nl

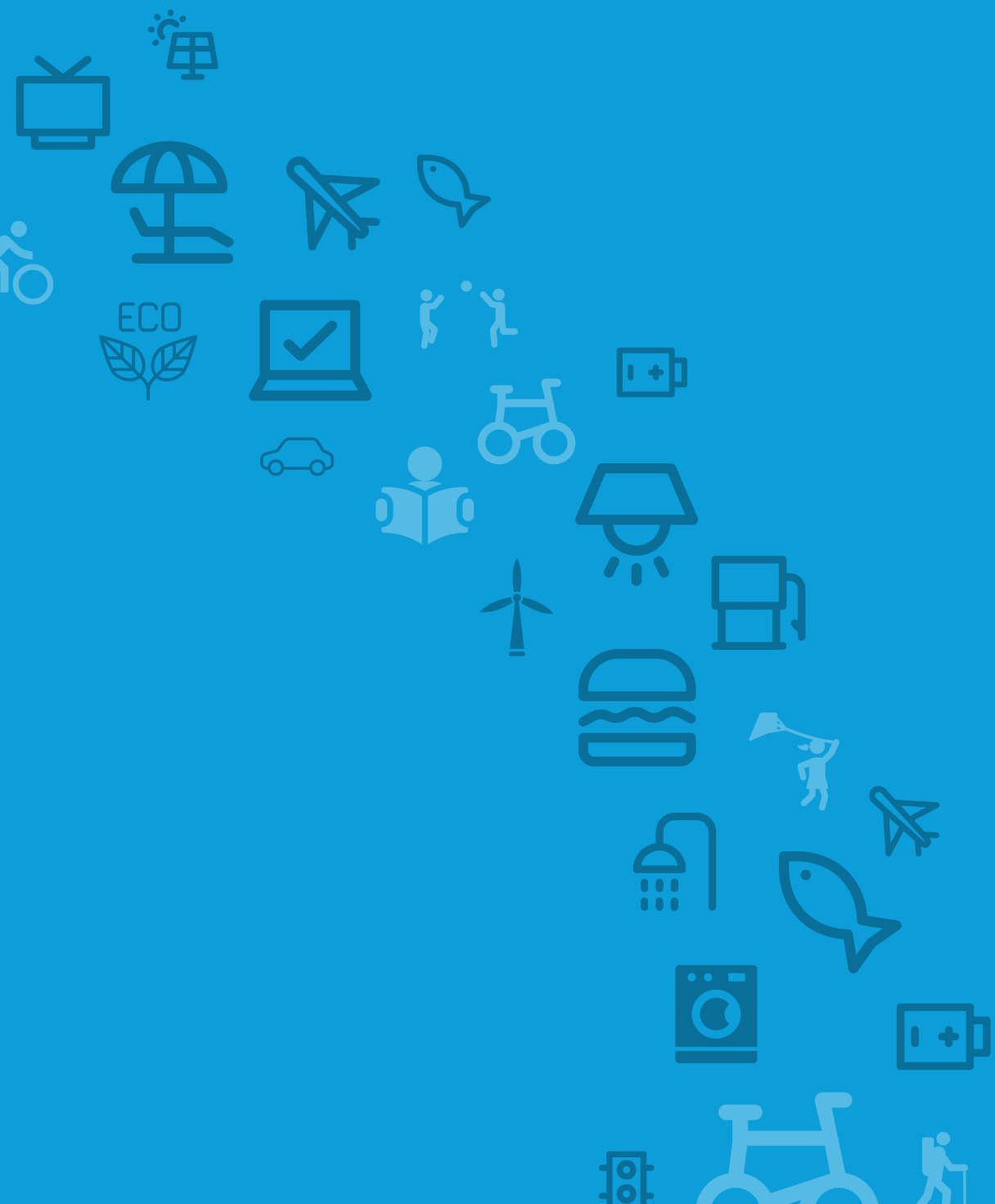


Website Klimaatakkord: https://www.klimaatakkoord.nl
Website Gebiedonline Buiksloterham: www.buiksloterham.nl
Facebook group Buiksloterham: www.facebook.com/buiksloter-hambuurt

APPENDIX

Research interventions and activities plan per community.

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