TRANSITIONS TO SUSTAINABLE CONSUMPTION PRACTICES IN CITIES

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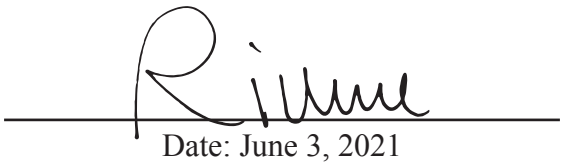

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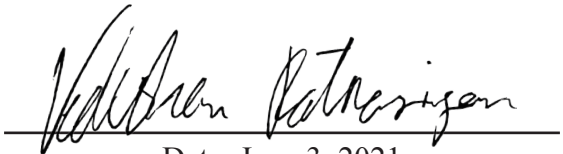

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ABSTRACT

This is a sustainable design project that takes its point of departure in the need for a transition to sustainable consumption levels and compositions, due to the excessive and increasing consumption in high-income cities leading to critical social and ecological impacts. Cities play an important role in dealing with these issues, due to their influencing power and 'closeness' to the citizens and the local context and culture. However, approaching consumption is generally seen as a political 'hot potato' and with the urgency dictated by social and ecological crises, efforts need to be both bold and effective. This project consists of an analysis, based on social practice theory, of current, planned and suggested city level initiatives to curb consumption-based emissions. The analysis is substantiated by a discussion of sustainability with regards to consumption and a preliminary understanding of the scope of city governance. The discussion on sustainability points to the limitations of a strictly climate- and circular economy scoping of consumption initiatives, and argues for a need for broader and stronger sustainability perspectives. Further, the practice theory approach allows for a broader perspective on consumption, than that of individual attitudes, choices and behaviour, which is typically applied in policy. Practice theory emphasises the socially and collectively shared practices as its unit of analysis and target for intervention. This perspective allows for an understanding of what makes practices so ingrained and meaningful to people - and how they can be changed. These insights feed into the design outcome of the project: an inspiration catalogue of initiatives, actions and recommendations for cities working to reduce consumption and related impacts and emissions. Thus, the project and its design outcome targets cities interested in making transitions towards sustainable consumption.

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CONTENTS

1.0 INTRODUCTION

1.0 INTRODUCTION

Cities, as geographically defined and determined areas, are described as centres of and central to economic growth, culture and innovation. C40 Cities (2012) describe them as the "birthplace for some of humankind's greatest ideas" and as having "the power to change the world" (C40 Cities, n.d.-a). Naturally, as a city network on climate action, C40 Cities wish to convey cities' tremendous potential. At the same time, however, C40 Cities (n.d.-a) address the cities' "enormous" environmental footprints. While cities only directly take up 2% of the land globally (C40 Cities, n.d.-a), "[c]ities consume over two-thirds of the world's energy and account for more than 70% of global CO_2 emissions" (C40 Cities, n.d.-a). In other words, "cities consume resources and energy, and then return them to the environment in the form of waste, pollution and land consumption" (Ciaramella & Dall'Orso, 2021). With increasing urbanisation (Ciaramella & Dall'Orso, 2021), the many dynamics leading to excessive and increasing consumption, and the insurmountable impacts that follow, are increasingly critical. In spite of efficiency improvements, the trend of increasing consumption, emissions and impacts continues if left unabated - more specifically, without further climate action, cities' consumption-based emissions will nearly double by 2050 (C40 Cities, Arup and University of Leeds, 2019-a). "In order to stay within established GHG-budgets and limit global warming to 1.5°C - the internationally agreed upper-limit for a climate-safe future - the average per capita impact of urban consumption in C40 cities must decrease by 50% by 2030 and 80% by 2050" (C40 Cities et al., 2019-a, p. 17). In light of the climate, biodiversity and environmental crises, cities are increasingly setting goals to reduce emissions and impacts.

Common for cities is, however, that they are more successful in reducing local emissions emitted within the city bounds (also called production-based or sector-based emissions), than mitigating the emissions and impacts of the consumption of imported goods. *The Future of Urban Consumption in a 1.5°C World* by C40 Cities et al. (2019-a) shows that C40 Cities were responsible for 2.9 Gt CO_2e in 2017 in a production-based perspective, while in the same year a consumption-based perspective accounted them for more than 1.5 times as much (4.5 Gt CO_2e). This is a significant difference, and while it is generally acknowledged that the impact of cities' consumption is unsustainable, focused efforts to mitigate the impacts of consumption are still missing. Transitioning consumption practices towards sustainability can however be considered a *wicked problem*[1], as defined by Rittel & Webber (1973). Due to the

1 As stated in Ch. 2, wicked problems are by nature ill-defined, rely on judgement, and there is no direct way of telling whether the problem has been solved (Rittel & Webber, 1973, p. 160)

general custom of measuring and targeting production-based emissions, addressing consumption from a climate perspective, is seen as the new frontier for cities to focus on "if we are going to be living in a climate safe world" (Lipton, 2021, personal interview). This emphasises the need for cities to build experience, for collaboration and peer-to-peer exchange to facilitate the sharing of knowledge and experiences. The opportunities to act on this frontier "will vary between cities, based on, amongst others, their consumption-based GHG emissions profile, governance structure and ability to act" (C40 Cities, 2018, p. 15).

The focus of the project is the city level scope of actions to reduce the citizens' and city administration's consumption and related impacts and emissions. There are a number of ways to divide consumption into categories, and the project aligns with the categorisation by C40 Cities et al., (2019-a), which are i) *buildings and infrastructure*, ii) *food*, iii) *private transport,* iv) *clothing & textiles*, v) *electronics and appliances*, vi) *aviation*. This project is conducted in collaboration with the Climate Secretariat of the City of Copenhagen, and the categories of focus in the project have been chosen based on conversations with the collaborators. The project focuses on *food* as a consumption category and *consumer goods* as a combination of the categories of: 1) clothing and textiles; and 2) electronics and household appliances. This focus is due to our collaborators' belief that there is already momentum for these categories, either through cities' own procurement or through circular economy strategies, along with our own impression that *food* is a controversial and therefore interesting topic, and our concerns with *consumer goods* primarily being addressed from the perspective of material circularity and waste rather than the understanding the reasons why and how these goods are consumed. The project thereby sets out to investigate:

> *What initiatives and actions can cities initiate in order to transition citizens' and administrations' consumption to sustainable levels and thereby mitigate the impacts and emissions of the consumption of food and consumer goods?*

Even though focusing efforts on transitioning citizens' consumption is considered a political "hot potato" (Bundgaard, 2021, personal interview), the project is timed with the current momentum for dealing with said hot potato. The project coincides with a City Council member proposal of March 4, 2021, proposing the City of Copenhagen to target a reduction of emissions from the citizens' consumption by 50% in 2035, and a reduction of emissions from public consumption and procurement by 50% in 2030 (Københavns Kommune, 2021).

1.1 UNEQUAL AND UNFAIR DISTRIBUTION OF EMISSIONS

"There are good reasons why most cities focus on sector-based GHG emissions. They occur from sources over which cities often have more direct influence; are easier

and more reliable to estimate and monitor; and align closely with the United Nations Framework Convention on Climate Change and guidelines from the Intergovernmental Panel on Climate Change." (C40 Cities, 2018, p. 15). However, such a scope far from captures the full picture and extent of city impacts and emissions. "Ideally, cities should be measuring both [production-based and consumption-based emissions], to make sure impacts are minimized, and are not exported to more vulnerable regions of the world" (Metabolic-b, 2020, November). The issue of emissions accounting is left out of the project, but a recognition of how different accounting measures affect the scope of action is necessary nonetheless.

Due to global inequalities and configurations of supply chains impacts are currently transferred to more vulnerable regions, which underscores the urgency of actions on the issue. This global unfairness and inequality is illustrated by the distribution of C40 cities as *producer cities* or *consumer cities* (fig. 1.1). 16 out of 79 C40 cities are producer cities with larger production-based emissions than consumption-based emission. These are mainly located in "South and West Asia, Southeast Asia and Africa" (C40, 2018, p. 9). The rest of the C40 cities are consumer cities with larger consumption-based emissions than production based. Half of the C40 cities have emissions at least twice the size of their production-based emission. Even more strikingly, 16 of the cities even have consumption-based emissions at least three times the size of production-based. These 16 consumer cities are mainly located in Europe and North America.

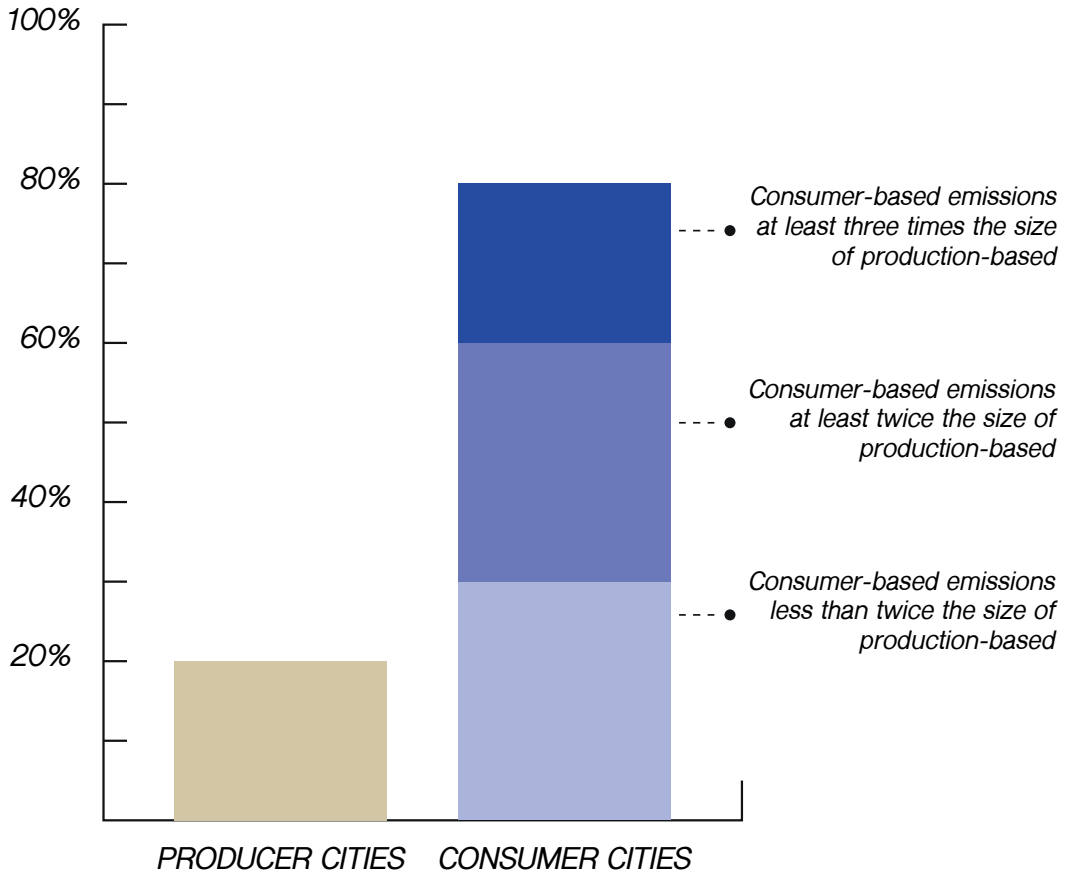

Fig. 1.1 - Distribution of C40 cities as producer or consumer cities. Based on C40 Cities (2018, p. 9)

1.2 CONSUMPTION CATEGORIES

The following is a brief description of some of the issues with the chosen consumption categories, to provide some context to the scope of the project.

1.2.1 FOOD

"Few things are as interwoven with human existence and culture as food. At the most basic level, we need it to survive. Beyond sustenance, food can bring joy and takes a central place in cultures around the world, often as the centrepiece of celebrations and festivities" (Ellen MacArthur Foundation, 2019, p. 8).

It is estimated that 13% of total consumption-based emissions across C40 cities in 2017 was associated with food (C40 Cities et al., 2019-a). Consumption-based emissions related to food thereby take the largest share of C40 cities' emissions. These emissions stem from on-site crop agriculture emissions, livestock rearing, electricity generation emissions, fossil fuel extraction emissions, on-site chemicals production emissions, land transportation emissions, and others. Of these, approximately 75% of the emissions are associated with the consumption of animal-based foods, and only 25% related to plant-based foods (C40 Cities et al., 2019-a). C40 Cities, Arup, & University of Leeds (2019-a; 2019-b) point to dietary change as the most significant focus for food initiatives to mitigate the impact, while also advocating, along with Ellen MacArthur Foundation (2019), for avoiding both household- and supply chain waste. Ellen MacArthur Foundation frames this focus as "make the most of food" (2019, p. 35), and furthermore promotes the focus of sourcing "food grown regeneratively, and locally where appropriate [and] design and market healthier food products" (2019, p. 25). C40 Cities et al. (2019-a) suggest a progressive target level of consumption of 16 kg of meat and 90 kg of milk or 10 kg of cheese for dairy per capita. They also suggest a more ambitious target level of 0 kg of either, per capita per year. Current levels are much higher than the progressive target, with 58 kg of meat consumed per capita annually on average in C40 cities, and 155 kg of dairy.

1.2.2 CONSUMER GOODS

This category comprises the sub-categories textiles & clothes and electronics & household appliances, as inspired by C40 Cities et al.'s categorisation (2019-a). Both categories are defined as encompassing full supply chain emissions. For clothing is counted emissions from all apparel, footwear and other textile products (e.g. rugs, curtains, bedding, fabric) purchased by city administrations and citizens. Electronics entail e.g. smart phones and laptops, and household appliances counts e.g. refrigerator, toaster, microwave purchased by city administrations and citizens. Emissions from clothing & textiles and electronics and household appliances made up 4% and 3%, respectively,

of C40 cities' consumption-based emissions in 2017 (C40 Cities et al., 2019-a). Consumption interventions suggested by C40 Cities et al. focus on reducing the number of new clothing items bought, reducing supply chain waste and optimising the lifetimes of electronics.

CLOTHING AND TEXTILES

C40 Cities et al. (2019-a) emphasise, with regards to clothing and textiles, that significantly larger emissions reductions can be achieved by reducing the number of purchased items, than by cutting supply chain waste. A focus on absolute reduction of consumption is therefore crucial. Reducing supply chain waste and the number of new clothing items bought by citizens to 3 new items per person annually by 2030, could reduce the emissions from clothing and textiles by 66% between 2017 and 2050 (C40 Cities et al., 2019-a). Danish households, specifically, bought a total of 75,330 tonnes of new textiles in 2016, with 83% of these being clothes. 42,130 tonnes were incinerated (Watson, Trzepacz, Gravgård Pedersen, 2018, p. 5). The amount of new clothes bought is the equivalent to every Dane buying approximately 54 new t-shirts each year[2]. Each clothing item is worn 7 times on average (Munk-Andersen, 2021).

ELECTRONICS AND HOUSEHOLD APPLIANCES

According to C40 Cities et al. (2019-a), the consumption-based emissions from electronics and household appliances in C40 Cities amounted to 118 $MtCO_2e$ in 2017, with "*[t]he most significant sources of emissions come from electricity generation and fossil fuel extraction emissions, likely consumed across the supply chain for electronics manufacturing and transportation to consumers*" (p. 93). The main focus of emissions reductions recommendations is lifespan optimisation, with the suggested target being a 7-year optimum lifetime of products such as personal electronic devices. The potential emissions reduction from this target must be assumed to derive from prolonged product lifespan leading to fewer new products being bought.

The outlined consumption-level targets by C40 Cities et al. (2019-a) have provided a foundation for this project to take departure in. However, throughout this report, the narrow climate and emissions-reduction perspective will be discussed and challenged.

1.3 RESEARCH DESIGN

This is a sustainable design project and it therefore takes its point of departure in the recognition of the urgent need for radical transition to a sustainable state of affairs, with a sharp and urgent reduction in consumption in high-income countries, regions and cities. We align with the framing of sustainability by Gaziulusoy, that "sustainability is a systemic property therefore talking about sustainability at product level is not possible without references to the system the product is embedded in" (Gaziulusoy, 2010, according to Gaziulusoy & Öztekin, 2018, p. 1047). Consequently, sustainable

2 Assuming 5,8 million Danes and a t-shirt weighing 200 grams

consumption cannot be approached solely through product design, and the design aspect of a sustainable design project must address and approach these systems. For these reasons, a full chapter of this report has been dedicated to the issue of sustainability (ch. 4.0), especially in relation to consumption. The project thus seeks to make a contribution to sustainable design and to sustainability transitions in cities, by taking a sustainable design approach to designing an inspiration catalogue of initiatives and insights targeted towards cities, for the promotion and support of sustainable consumption practices and patterns in cities. As sustainable design engineers, we understand that this kind of transition cannot be managed and controlled in its entirety. Rather, our job and ability in this context is to create and facilitate the conditions that open up to and make transitions possible, and eventually actual. Acknowledging the need to create transition without being able to manage it presents a conundrum, that we have decided to approach through creating an *inspirational* catalogue for cities. In this sense, we are partially speaking the language of city planners because this is a project that has already received great interest from such actors, and we want it to be directly applicable to their oncoming process of climate plans by creating it within the framework that has been requested. Meanwhile we are adding language of sustainability transitions that will be new and unfamiliar in many cases, and thereby inspire to push initiatives further.

The project research design and strategy, as depicted on fig. 1.2, takes its jumping off point in the acknowledgement that consumption levels in *consumer cities* are severely unsustainable and in the hypothesis that social practice theory can provide valuable insight into the efforts that cities can introduce to reduce consumption and related impacts and emissions. As social practice theory represents an alternative to the "classical structure-actor dualism" (Røpke , 2015, p. 347), the theory offers a broader perspective than that of either individual consumers or their surrounding conditions. "Relating practice theory to consumption and the environment, it makes little sense to say that people have a desire to consume. People think of themselves as being engaged in meaningful activities, and their motivations and desires are the outcome of practices (Warde, 2005)" (Røpke, 2015, p. 349). Practice theory thus represents a more useful perspective for cities to design actions to deal with consumption practices, than the perspective on individuals choices and behaviors, as is typically applied. This project seeks to make use of the insights that practice theory can provide for the complex undertaking of taking action to reduce consumption and related impacts.

The report begins by establishing the methodological (ch. 2.0) and theoretical foundations (ch. 3.0) of the project, especially with a focus on the applied design approach and the theoretical framework of social practice theory. Examples of how to study practice theory and approaching initiative implementations are also provided, to provide input and substance to the design outcome of the project. Subsequently, the report includes a chapter on sustainability (ch. 4.0), specifically with regards to consumption, based on a literature review of a number of sustainability frameworks. The

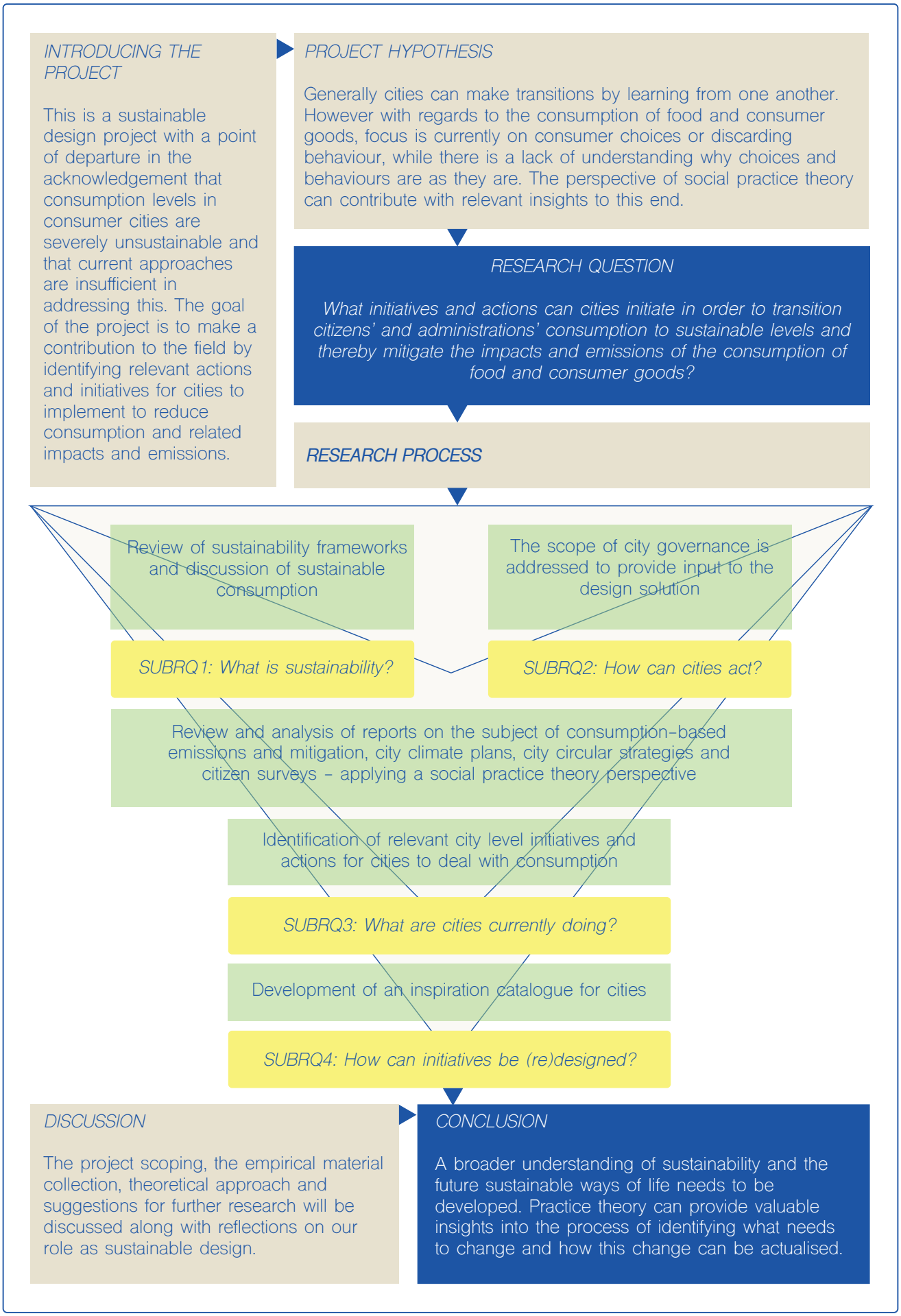

Fig. 1.2 - Illustration of the project research design and strategy

scope of city governance is then explored at a basic level (ch. 5.0), to provide insights specifically relevant for the design of the inspiration catalogue. A review and analysis of a number of city climate plans and circular strategies and citizens surveys follows (ch. 6.0), and is conducted by applying a social practice theory perspective. Combined with reports on the subject of consumption-based emissions and mitigation, the aim has been to identify relevant initiatives and policy areas for cities to approach, in order to deal with consumption reduction and impact mitigation. These elements ultimately feed into the final chapter (ch. 7.0) which presents the development of an inspiration catalogue for cities with suggestions and recommendations on initiatives to implement in order to reduce citizens' and city administrations' consumption and related impacts. Discussions (ch. 8.0) and conclusions (ch. 9.0) follow hereafter.

2.0 METHODLOGY

2.0 METHODOLOGY

We use design to make sense of the world, and to engage with the world and explore new possibilities; "design is ontological in that it is a conversation about possibilities" (Escobar, 2018, p. 110).

This is a sustainable design project, based on the problem-based learning approach of Aalborg University (hereinafter AAU), which means that the project must be "authentic and scientifically based" (Askehave et al., 2015, p. 4). The authenticity of the project relates to it being anchored in the reality beyond academia, while being based on scientifically sound theories, research and design practices. Design research and "design practice is significantly different from rational problem solving, since it [involves] the solving of a wicked problem" (Laursen & Haase, 2019, p. 815). *Wicked problems* are by nature ill-defined, rely on judgement, and there is no direct way of telling whether the problem has been solved (Rittel & Webber, 1973, p. 160). How cities can address and reduce their own administrations' and especially the citizens' consumption, and thereby mitigate the related impacts and emissions, is indeed a *wicked problem*. This problem is thus investigated through design methods based on 'designerly thinking', which offers a "practice-based approach to solving problems, making sense of things, and developing new knowledge" (Laursen & Haase, 2019, p. 815). This is reflected in our iterative process illustrated in fig. 2.1.

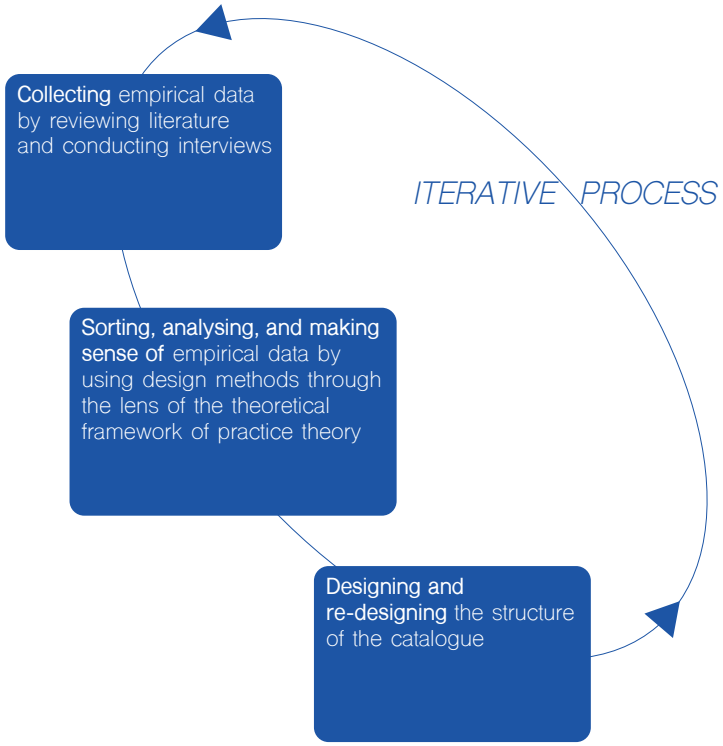

Fig. 2.1 - Illustration of the iterative process

This chapter will first describe our epistemological standpoint, and subsequently present the methods employed in the project.

2.1 EPISTEMOLOGICAL STANDPOINT

Escobar (2018) describes design as being ontological. “We design tools, and these tools design us back” (Escobar, 2018, p. 110), or as Willis (2016) phrases it “we design our world, while our world acts back on us and designs us” (Willis, 2006, 80 as quoted by Escobar, 2018, p. 110). As such, we believe, in line with Escobar, that “the observer is not separate from the world she or he observes but rather creates the phenomenal domains within which she or he acts” (Escobar, 2018, p. 111). This is reflected in our anti-positivist (Burrell & Morgan, 1979) epistemological perspective. Our iterative process of collecting and making sense of the empirical data through various design methods and simultaneously designing the catalogue affects how we understand the problem area, as we continuously make conscious and unconscious decisions about what to highlight and what not to highlight, what to include and what not to include. The tools that we design to make sense of the world, act back at us and affect our understanding of the world, and thereby shape our understanding of how we can act upon and (re)design this conception of the world.

2.2 REVIEWING LITERATURE

For this project, four different types of literature were reviewed:

- Different cities’ climate action plans and circular strategies
- Literature on sustainability frameworks and concepts
- Literature on social practice theory and consumption practices[1]
- Literature on governance in general and city governance

According to Czarniawska (2014) “Hernadia (1987) [...] divided the act of interpretation of texts into three stages: explication, explanation, and exploration” (p. 12-13). *Explication* seeks to answer “What does this text say?” (p. 13). The climate action plans and circular strategies of different cities have been reviewed and supplemented with different reports on consumption (sec. 6.1), to elucidate how cities are and/or can address the unsustainable consumption. This was supplemented with 1) literature on city governance and the action scope of cities, to give relevance to the design outcome of the project and 2) literature on sustainability frameworks in order to gain understanding of sustainable consumption and sustainability transitions.

Explanation addresses “why does this text say what it says” (Czarniawska, 2014, p. 13). Based on the impression that the common understandings of consumption practices are limited with regards to making radical transitions in urban consumption, this

1 Some of the literature on social practice theory was based on literature presented through out the educations Bæredygtigt Design (bachelor) and Sustainable Design (master) and literature identified through a structured literature search, which is explained in Appx. 1)

project addresses consumption through the perspective of social practice theory. Based on the literature on social practice theory and consumption practices, which shifts the unit of analysis from the individual to the collective, the problem framings of the city climate actions plans and circular strategies were assessed (sec. 6.1.3; sec. 6.1.4). The reviewed literature has included case studies, different ideas and explanations, which has informed our impression of the limited understanding of practices.

In the last step, *exploration,* "the readers *stand in for* the author, thus constructing a new text, although with an original one as a starting point. This stage may require the construction of a new text from scratch or a reconstruction of the existing one. In other words, it can be a critique or an espousal of the ideas or theories from the literature under scrutiny" (Czarniawska, 2014, p. 13). The writing of this project as a whole encapsulates this last step, as we examine and criticise the current climate action plans' and circular strategies' framing of consumption while at the same time incorporating much of the material from these plans and strategies in a combined presentation with new ideas based on the social practice theory approach to addressing consumption.

2.3 INTERVIEWS

"An interview is a joint product of what interviewees and interviewers talk about together and how they talk with each other" (Mishler, 1986/1991: viii, according to Czarniawska, 2014, p. 29). Interviews have been conducted for four different purposes throughout the project. Firstly, a structured interview was conducted in order to decide on the consumption categories of focus for the project. Secondly, a series of semi-structured interviews[2] were conducted to substantiate the tentative findings from the analysis and broadening the understandings of how city administrations can govern for sustainable consumption transitions and the challenges they are facing in this endeavour. Thirdly, two conversational interviews were conducted with one professor and one associate professor of AAU to explore and discuss the potentials of a social practice theory approach. Finally, one conversational interview was conducted with an associate professor of AAU to understand how citizen surveys on consumer goods are developed. This is elaborated in detail in tbl. 2.1.

2 This series of interviews were conducted with climate action planners from one city administration, two city networks and one think tank. While "what people present in interviews are but their interpretations" (Czarniawska, 2014, p. 30), we acknowledge that we will not be able to fully refrain from taking the interviewees' statements as representative for the organisations they are employed at. For this reason, questions for the interviews were sent beforehand to the interviewees to provide a chance to prepare as interviewees saw fit

Name of interviewee and date of interview	Role and organization	Purpose of the interview
Klaus Bundgaard February 17, 2021	Climate Advisor Climate Secretariat, Technical and Environmental Administration, City of Copenhagen	Structured interview The purpose was to discuss the different consumption categories as they are categorised by C40 Cities et al. (2019-a) in order to identify the most relevant consumption categories as focus for the project.
Julia Lipton April 28, 2021	Head of Innovation C40 Cities	Semi-structured interviews The purpose of the interviews was to substantiate the tentative findings from the analysis and broadening the understanding of how cities can act for sustainable consumption transitions. C40 Cities is an international city network which facilitates collaboration and knowledge sharing between cities around the world on how to "drive meaningful, measurable and sustainable action on climate change" (C40 Cities, n.d.-b) As it was not possible to make interview arrangements with employees who had taken part in developing the climate plans and circular strategies that were reviewed in this project, an interview was set up with Martin Kaae Riis of the City of Aarhus at the recommendation of our collaborator Klaus Bundgaard. KL - Local Government Denmark is "the association and interest organisation of the 98 Danish municipalities" (KL - Local Government Denmark, n.d.). They take part in the Danish project DK2020, which helps Danish municipalities in making climate action plans in accordance with the Paris Agreement (Realdania, 2020). CONCITO is a Danish climate think tank, who also takes part in the DK2020 project.
Martin Kaae Riis May 12, 2021	Development Consultant Secretariat for Climate and Green Transition, Department of Technical Services and Environment, City of Aarhus	
Mette Skovbjerg May 3, 2021	Chief Consultant and Team Manager Center for Climate and Business, KL - Local Government Denmark (Kommunernes Landsforening)	
Tobias Johan Sørensen April 28, 2021	Climate Analyst Future Cities, CONCITO	
Charlotte Louise Jensen April 15, 2021	Associate Professor Department of Planning, The Technical Faculty of IT and Design, Aalborg University Copenhagen	Conversational interviews The purpose of the interviews was to explore and discuss the potential of a social practice theory approach. The interviews provided concrete suggestions and ideas as well as insights into the challenges of practice theory approaches.
Inge Røpke April 8, 2021	Professor Department of Planning, The Technical Faculty of IT and Design, Aalborg University Copenhagen	
Michael Søgaard Jørgensen May 3, 2021	Associate Professor Department of Planning, The Technical Faculty of IT and Design, Aalborg University Copenhagen	Conversational interview The purpose of the interview was to understand what insights are obtained on *consumer goods* through citizen surveys.

Tbl 2.1 - Presentation of the interviewees

2.4 AFFINITY DIAGRAMS

For the purpose of bringing together and organising the many initiatives identified in the literature review, the initiatives were organised and re-organised through several mapping procedures. These processes are explained in sec. 6.1. In the second mapping, initiatives were bundled according to how they related to one another, with inspiration from the method of affinity diagrams (Beyer & Holtzblatt, 1998). Such diagrams are created through selecting and discussing each individual piece of empirical material with regards to how it relates to the next piece of material. This process brings out interesting patterns, themes, commonalities and conflicts. Each piece was thus placed with those other pieces with which it had affinity and/or with which it created interesting connections, and the bundles were then given relevant names. The method is very helpful in design processes when large amounts of data need to be organised and understood in relation. Furthermore, the process can stimulate inspiration when unexpected discoveries are made. The process was conducted with the use of the online collaborative tool, MURAL (appx. 1).

2.5 OBJECTIVE TREE

Objective trees serve to clarify design objectives and their sub-objectives and how these relate to one another (Cross, 2000, p. 57). When designing with often ill-defined problems, a good method to clarify the objectives of the design is very valuable as "[t]he outcome of designing is a proposal for some means to achieve an end" (Cross, 2000, p. 61). While this project is not a design project in the sense of a product design or a clear concept design to serve as a specific solution, it has nonetheless had many characteristics of a design process, as a result of our design background and designerly approach.

For the development of the catalogue, the ambitions were organised and prioritised in a tree-like structure, inspired by the method of objective trees (sec. 7.2.1; 7.3.1; 7.4.1). The method is described as a method for product design (Cross, 2000), but as Cross also explains, some methods are really just formalised and rationalised cases of good old common-sense practices within design, and as such many of the methods are broadly applicable and sensible. The idea of the objective tree is to make clear statements of the design objectives that serve as a means to achieving an end and to show the relation between these objectives. The method also illustrates the relational pattern between the objectives and the sub-objectives, and in the case of the ambitions these can potentially be unfolded into more and more detail. It should be noted that the creation of the ambition trees did not follow the procedure of objective trees in a strict sense, but the method merely served as inspiration as to how the large amount of empirical material could be organised in a sensible way, in order to serve as a structure for the catalogue.

3.0 THEORETICAL FRAMEWORK

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Sovacool & Hess (2017) note that there is no general consensus on what a theory is, and that a theory can therefore be seen as "any theoretical construct, conceptual framework, analytical tool, heuristic device, analytical framework, concept, model or approach relevant to technology and society" (p. 707). Different theories have been considered as relevant for conducting this study, such as theories of sociotechnical transitions (for instance Multi-Level Perspective) (Geels, 2002; Geels & Schot, 2007), Strategic Niche Management (Schot & Geels, 2008; Smith, 2007), Actor-Network Theory (Callon, 1984; Law, 1992; Latour, 1999), Transition Management (Loorbach, 2010), and finally Social Practice Theory (henceforth referred to as practice theory) which will be presented in this chapter as the analytical theoretical framework of choice.

The above mentioned theories have, among others, been presented throughout the Master's programme Sustainable Design at AAU, which means that they have shaped our understanding of how socio-technical transitions come about. Practice theory will play a central role in this project, while ideas, concepts, and insights from the other theories will also contribute to shaping the project.

This project does not take its point of departure in the conviction that one approach is superior in dealing with changing what people do at the scale needed to transition to sustainable consumption levels. Rather, the project takes departure in the understanding that in order to create transitions in socio-technical systems, a focus exclusively on individual behaviour or on what lies outside of the individual, will not suffice. Therefore, the project utilises practice theory as it provides a relatively comprehensive perspective of practices, as they are performed by people, comprising socially shared cognitive, value-based and material elements. As expressed by Spurling et al. (2013) "[t]aking practices as the unit of analysis moves policy beyond false alternatives — beyond individual or social, behaviour or infrastructure. A practice perspective re-frames the question from *"How do we change individuals' behaviours to be more sustainable?"* to *"How do we shift everyday practices to be more sustainable?"* After all, 'behaviours' are largely individuals' performances of social practices." (p. 4, italics added). There are serious limits to the conventional supply side approach that puts technological innovation and efficiency at its centre (as will be further discussed in ch. 4.0). However, the compensation for these inadequacies by shifting the focus to the demand side and centering on individual choice is equally limiting. Understanding the many overlaps and interlocking practices is therefore of high relevance.

3.1 THE INDIVIDUAL OR THE COLLECTIVE

The political arena in relation to consumption and sustainability has been dominated by what Shove (2010) refers to as a "dominant paradigm of ABC - attitude, behaviour, and choice" (p. 1273), with the central focus being the attitudes, behaviours and choices of individuals. Shove discusses the origins and the consequences of this paradigm and contemplates the extent to which the paradigm originates in the research fields of economics (in which choice is an important concept) and psychology (which is concerned with the driving factors of behaviour), and the extent to which the paradigm is sustained by the very policy approaches for which this approach is convenient. Since the ABC puts citizens as individuals and consumers at the centre of social change, it makes them the central decision makers and "positions governments and institutions as enablers, whose role is to induce people to make pro-environmental decisions" (Shove, 2010, p. 1280). This tendency results in the placing of responsibility on the "individual CO_2 addict and in the same move deflects attention away from the many institutions involved in structuring possible courses of action and in making some very much more likely than others." (p. 1280). While consumption is indeed unsustainable at the aggregate and at the individual level, the predominant placement of responsibility on individuals is insufficient and unfair.
While the *C* would sometimes stand for 'context' in policy, Shove (2010) argues that ultimately, what it still tends to boil down to is 'choice', which manifests through such strategies of intervention as persuasion, pricing and advice, based on the idea that the choice to be an environmentally conscious consumer is a consequence of positive motivators or drivers and negative barriers. The problem with the listing of motivators and barriers, argues Shove (2010), is that there is no clear idea of the limits to these drivers and barriers, many of them are ambiguous in the sense that the same things can be drivers or motivators depending on the perspective, and there is lack of interest and method to understand what lies behind them and how they are connected. "While there is a recognised need to make *"major changes in the way we meet our needs and aspirations"* (Sustainable Consumption Round Table, 2006, page 33), and while social norms are often cited as driving factors, there is no scope at all for wondering about how needs and aspirations come to be as they are" (Shove, 2010, p. 1277, italics added). As a consequence of the ABC characteristics, this paradigm is a lock-in that inhibits the scope of policy needed, and its concepts are inadequate for understanding and creating radical transformations.

There are other, more relevant, theoretical perspectives with which to consider and approach policies related to consumption, than that of the ABC, as mentioned earlier. Practice theory moves the primary focus and centre of analysis from individuals to the shared social practices, by making people the carriers of practice, and making the focus of inquiry how practices evolve and are picked up or dropped by their carriers. Understanding how practices change hereby becomes the essence of understanding social change. The theoretical approach of this project is driven by the two issues

discussed here. That the narrow focus on individuals and personal responsibility is morally inadequate, and that the ABC scope has been highly inadequate in the pursuit of creating sustainability transitions.

3.2 SOCIAL PRACTICE THEORY

Practice theory, specifically as presented by Spurling et al. (2013), forms the theoretical foundation of this project. It "focuses on the social practices through which resources are collectively consumed, and on how these social practices might become targets for intervention" (p. 7). According to practice theory, individual behaviour is better understood as "performance of social practices" (p. 8). Rather than "being the expression of an individual's values and attitudes, behaviour is the observable expression of social phenomenon (socially shared tastes and meanings, knowledge and skills, and materials and infrastructure)" (p. 8).

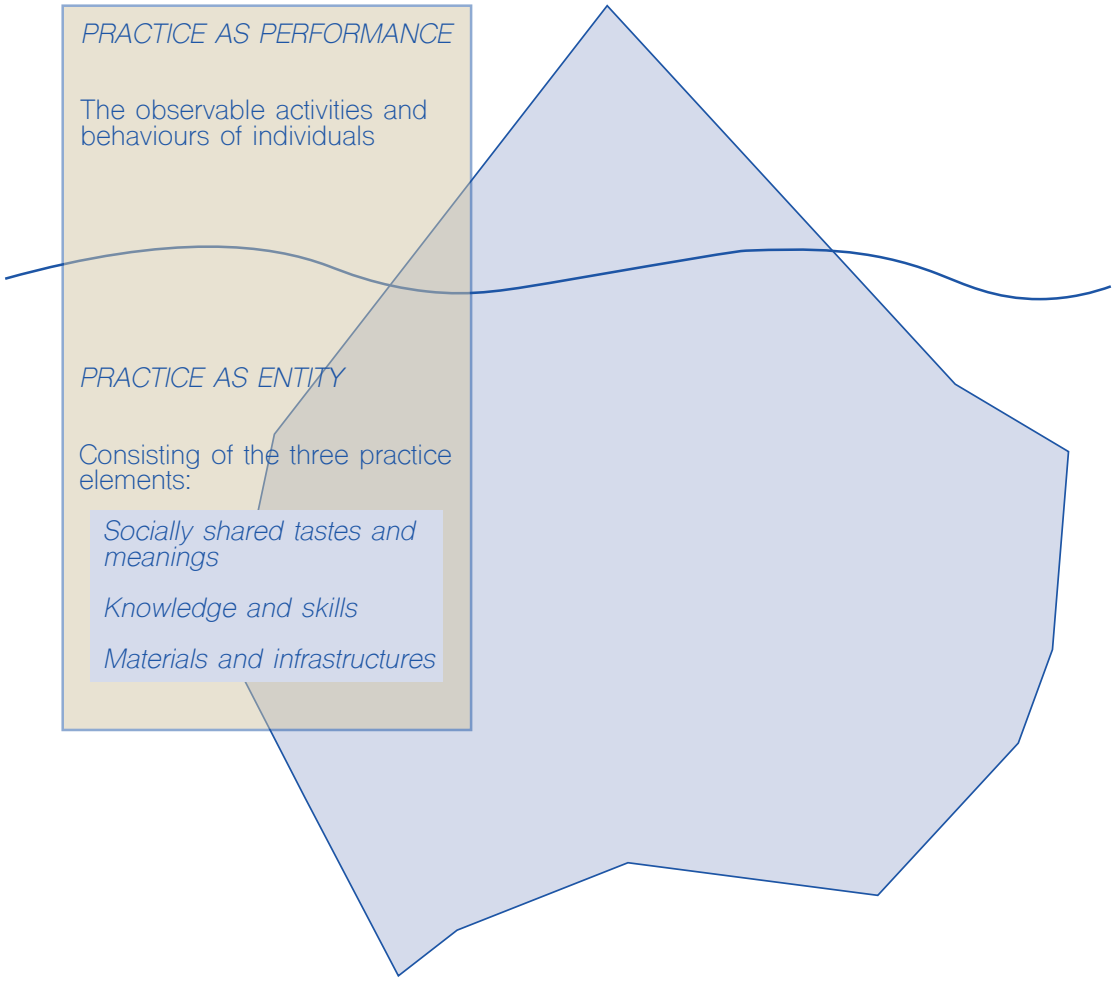


Fig. 3.1 - Practice theory distinguishes itself by the idea that individual behavior is actually just the "tip of the iceberg" (Spurling et al., 2013, p. 8), and hence, that interventions that are aimed at affecting behaviour will only address the tip of the iceberg. Illustration inspired by Spurling et al (2013, p. 8)

As 'practices as entities' are socially shared and underpin the observable 'practices as performance', these present a deeper and more relevant target of intervention (fig. 3.1). These have a history of stability and change, they have developed over time and have a "trajectory, or path of development" (Spurling et al., p. 21), which makes them recognisable as practices, through time and space. This perspective on what people do

and why, and the trajectory that made it so, "encourages us to imagine what the 'new normal' of everyday sustainability might look like—and suggests possible trajectories towards it" (p. 14). Practices should then be the unit of intervention when it comes to policies for sustainable consumption. Since practices are dynamic, and always changing and "[s]ince such 'trajectories of practice' already exist it makes sense to ask how they might be guided in more sustainable directions" (p. 14).

3.2.1 UNDERSTANDING PRACTICES

Practices are defined as being made up of different elements, divided into three types, as represented in tbl. 3.1 and fig. 3.2: "material, competence and meaning [...] Each time a practice is performed these different elements are brought together, and it is not possible to perform a practice unless all the requisite elements are available" (Spurling et al., 2013, p. 9).

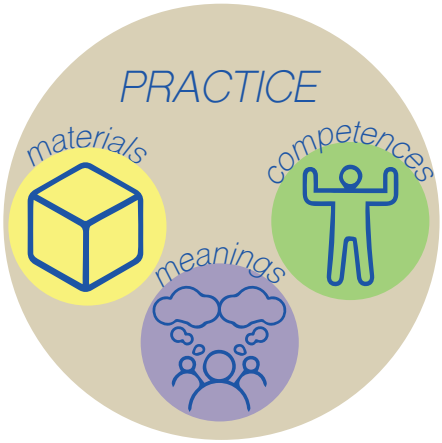


Fig. 3.2 - "Social practices are made of three types of element: material, competence and meaning (Shove et al., 2012: 23)" (Spurling et al., 2013, p. 9). Illustration inspired by Spurling et al (2013, p. 8)

Element	Example
Materials	"Objects, tools, infrastructure"
Competence	"Knowledge and embodied skills"
Meanings	"Cultural conventions, expectations and socially shared tastes meanings"

Tbl. 3.1 - The three types of elements that practices are made of. Based on (Spurling et al., 2013, p. 9)

Attitude is generally understood to be an individual's, somewhat active opinion towards something, in a way that is "tied to the individual. Whereas meanings are to be found in the practices"[1] (Jensen, 2021, personal interview). Charlotte Louise Jensen

1 Original quote in Danish: "Når man snakker attitude mener man mere eller mindre implicit at det er noget man ligesom har en individuel, aktiv holdning til, altså en attitude overfor noget, som kan bindes til individet. Men en mening skal man ligesom finde i praksis" (2021, personal interview)

provides an example by explaining that we tend to shower the amount that we believe to be appropriate, and that this amount might very well be "something that we believe others to think, when actually, no-one really thinks it themselves, we just believe that others think this or expect us to do things a certain way, and might not even expect it from others"[2] (Jensen, 2021, personal interview). This is what she calls a "socially anchored understanding of what the shower means"[3] (Jensen, 2021, personal interview). As for competences, although they are "needed to perform a practice [and] are partly embodied in the practitioners, the practice perspective implies that competences are seen as part of the practice rather than as a characteristic of particular individuals" (Røpke, 2015, p. 348).

The performance of a social practice rests upon the three elements, and behaving in a socially acceptable way requires the individual to bring together these elements in order to perform a social practice (Spurling et al., 2013). This applies to individuals and organisations alike. Practices are the recognisable, repeated and routineised patterns in the way that these elements are brought together. This means that we can also talk of production, business, governing, community or organisational practices - and not only the household related practices of individual citizens and consumers - and likewise study the configurations of the three types of elements (Schulz, Hjaltadóttir & Hild, 2019, p. 3). Inge Røpke (2021, personal interview) explains that practice theory is most often used in order to gain understanding of how practices are embedded in households, but that in order to understand household practices, it is important to understand how other practices (such as municipal or business) can affect what household practices are embedded in. "Practice theories offer deep insights into processes of socio-technical change and complex causal interactions that result in resource-intensive patterns of everyday consumption (Welch and Warde 2015)" (Köhler et al., 2019, p. 24). There are settings and conditions in which the practices are embedded and through which they are enabled, and it is relevant for the purpose of policy, to ascertain which of these settings and conditions are within the scope of city influence and power, for cities to then intervene (Røpke, 2021 personal interview).

With reference to Røpke (2009), Jensen & Jørgensen (2013), note the importance of analysing how practices are shaped "through co-evolutionary studies of the changing configurations of practices, modes of provision and global supply chains" (Jensen & Jørgensen, 2013, p. 345). Individuals figure in practice theory, by being 'carriers of practice', they "face practices-as-entities as these are formed historically as a collective achievement; and through their own practices-as-performance, individuals repro-

2 Original quote in Danish: "Men der er også en socialt delt forståelse af hvad der er 'the appropriate amount of showering' og det kan sagtens forholde sig til et eller andet som vi tror at andre synes, men i virkeligheden er der ikke rigtig nogen der selv synes det, vi tror bare at andre synes det, eller at andre forventer at vi gør noget på en bestemt måde. Vi forventer måske ikke det af andre eller af os selv. Så der er sådan en socialt forankret forståelse af, hvad badet ligesom betyder" (Jensen, 2021, personal interview)

3 Originates from the same Danish quote as mentioned in the note above

duce and transform the entities over time [...] (Røpke, 2009)" (Jensen & Jørgensen, 2013, p. 345). Transformational processes require changing practices, and a central question is therefore how people become (or do not become) carriers of new shared practices. Though practices as entities are constantly reproduced and therefore remain stable through space and time, they are also dynamic, constantly changing and even challenged (Schulz, Hjaltadóttir & Hild, 2019). As such, experiments can be very beneficial since experimentation allows for practice innovation and facilitates the compounding of the dynamic and ever changing nature of practices (which will be elaborated in sec. 7.2.2).

3.2.2 PRACTICES AND PROBLEM FRAMINGS

Spurling et al. (2013) emphasise that "problem framings have implications for what are viewed as plausible and possible targets of intervention" (p. 14) which constrain or enable the scope of options. They present six problem framings: three conventional and three that are anchored in practice theory (tbl. 3.2). These problem framings will form as a basis for understanding the initiatives and policy approaches reviewed in this project (sec. 6.1.3; 6.1.4).

Conventional problem framing	**Practice theory problem framing**
Innovating Technology *"Reduce the resource intensity of existing patterns of consumption through technical innovation"*	Re-crafting Practices *"Reduce the resource-intensity of existing practices through changing the components, or elements, which make up those practices."*
Shifting Consumer Choice *"Encourage consumers to choose more sustainable options"*	Substituting Practices *"Replace less sustainable practices with more sustainable alternatives. How can new or alternative practices fulfill similar purposes?"*
Changing Behaviour *"More broadly, encourage individuals to adopt more sustainable behaviours and discourage them from less sustainable behaviours"*	Changing How Practices Interlock *"Social practices interlock with each other - for example: mobility, shipping and eating. How can we harness the complex interactions between practices, so that change ripples through interconnected practices?"*

Tbl. 3.2 - Based on (Spurling et al., 2013, p. 5, italics added)

During the course of empirical collection and analysis in the project, it has become clear that there is still a strong prevalence of ABC framing, although there is potential for new developments. According to our interpretation, some of the empirical material hints at an ambition to apply a deeper perspective, and understand the underlying processes that shape citizens' activities. Especially in appreciation of this perceived interest, practice theory seems like a very relevant approach. It is our interpretation that this ambition is an indication that the language and tools of practice theory is wel-

comed in emerging policy approaches.

Spurling et al. (2013) recommend the three new policy framings based on practice theory, as seen in tbl. 3.2. These problem framings have served as input to the analysis and recommendations created in the design of the inspiration catalogue (ch. 7.0).

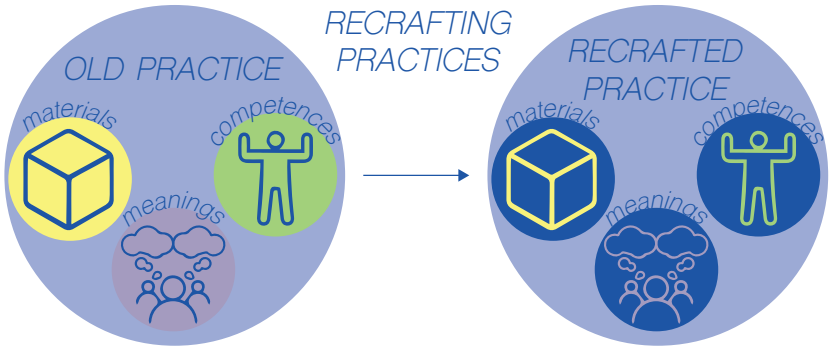


Fig. 3.3 - "Reduce the resource intensity of existing practices through changing the elements that make up those practices" (Spurling et al., 2013, p. 10). Illustration inspired by Spurling et al (2013, p. 10)

The *re-crafting practices* framing (as defined in tbl. 3.2), though similar to common strategies, is a more "systematic approach to interventions" (Spurling et al., 2013, p. 22), since it deals with how new practice elements can be introduced or old practice elements can be removed, so as to encourage more sustainable forms of performance and make these easier to enact than the old practices.

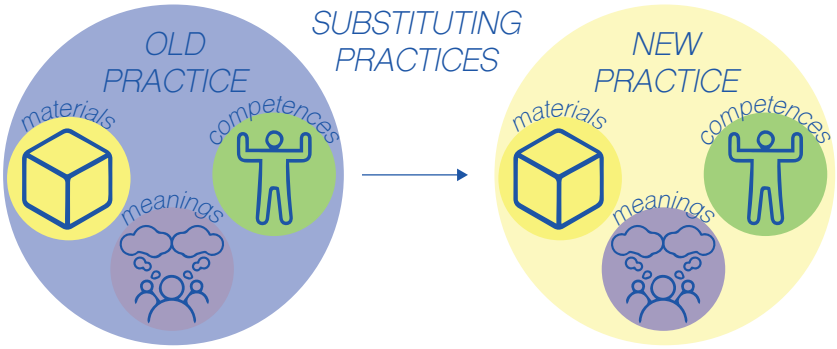


Fig. 3.4 - "Replace less sustainable practices with more sustainable alternatives" (Spurling et al., 2013, p. 11). Illustration inspired by Spurling et al (2013, p. 11)

The *substituting practices* framing is defined in tbl. 3.2. Practices are always evolving and people, as the carriers of practices, can be recruited by practices and drop the practices they carry. In this sense, practices are always competing for carriers in order to exist "as without regular performance from a critical mass of people a practice will cease to be 'normal' or even die-out. Importantly for policy makers, some practices directly compete for performers because they meet the same needs when performed" (Spurling et al., 2013, p. 23). This means that there are alternative variants of practices with different trajectories, meeting similar needs, which can be encouraged, strengthened and compounded through policy intervention.

The final approach to practice theory framings is that of identifying and *changing how practices interlock* (as defined in tbl. 3.2). Infrastructure and institutions are particular-

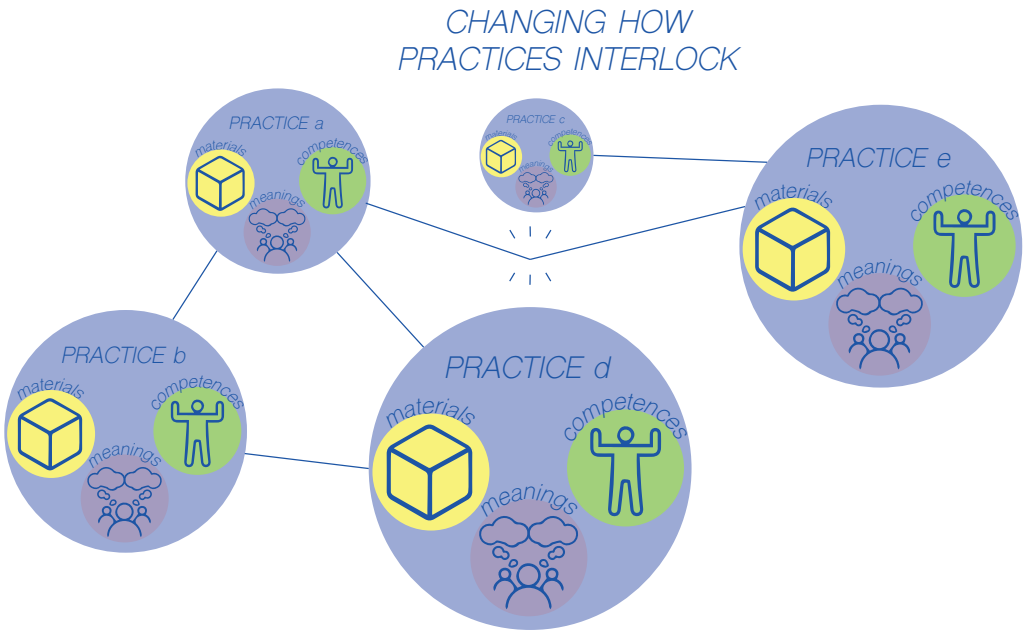


Fig. 3.5 - "Harness the complex interactions between practices, so that change ripples through interconnected practices" (Spurling et al., 2013, p. 13). Illustration inspired by Spurling et al (2013, p. 13)

ly important targets of intervention with regards to this framing, since these elements affect "where" and "when activities take place" (Spurling et al., 2013, p. 23) respectively, "which greatly affects how the activities, or practices, interlock" (p. 23). Practices interlock either through synchronisation or through sequencing. In synchronisation, many people's performances of a practice are synchronised in time and/or space. Sequences of practices relate to the "identifiable patterns in sequences of practices within day-to-day life" (Spurling et al., 2013, p. 24), in daily schedules that are "in-part determined by institutions and organisations" (p. 24). Another way to intervene in sequences of practices is to inquire into and intervene in the order of these, since it is often negotiable "when, where and by whom each aspect [of a practice sequence] is completed" (p. 24).

3.3 CONSUMPTION AS SEEN THROUGH THE LENSE OF SOCIAL PRACTICE THEORY

The conventional ways of addressing and framing consumption lead to fragmented perspectives, as will be discussed in further detail in relation to the project in the analysis (ch. 6.0). Such fragmented perspectives do not offer the comprehensive understandings that a practice theory approach can. This section will present case studies from practice theory research literature along with insights from the interviews conducted with Inge Røpke, Charlotte Louise Jensen and Michael Søgaard Jørgensen, in order to shed light on ways practice theory can contribute to deeper perspectives on consumption. Due to the age of these case studies, the primary focus is not the content or configuration of the practices that were studied, since these might have changed since the studies were conducted, but rather on the approach with which they were studied, which is still highly relevant in a contemporary context.

3.3.1 STUDYING FOOD PRACTICES

This section focuses on the consumption category of *food*. First, two case studies are presented on the subject, before insights from the interviews are presented.

UK FOOD 2030 STRATEGY

This case study is an example of how practice theory can contribute with insights on how a strategic proposal can be studied. As Spurling et al. (2013) also constitutes the theoretical foundation for our analysis (sec. 6.1), this case study has been very inspirational in that regard.

Spurling et al. (2013) have analysed the UK Food 2030 strategy, published by Defra in 2010, on how the UK food system could achieve "healthy and sustainable diets; a resilient, profitable and competitive food system; increasing food production sustainably; and, reducing waste" (Spurling et al., 2030, p. 33). The strategy is a comprehensive synthesis of policy understandings of the core components of the food system, and of the critical actors. The analysis by Spurling et al. investigated what problem framings the strategy was built upon[4].

By studying the UK Food 2030 strategy, Spurling et al. (2013) found that the strategy was based on a business-as-usual approach to the food system, which assumes that "the dominant supply chain will remain international, supermarkets will continue to be the principal mode of food provision to households; and domestic preparation and consumption will continue to dominate eating practices" (p. 33). The main finding of their analysis was therefore that the UK Food 2030 strategy places a strong emphasis on *changing consumer choice* and *changing behaviour* as problem framings. These individual consumer choices and behaviours are presented in the strategy as being "constrained by knowledge, time, cost, convenience and retail offers" (Defra, 2010;47 as cited by Spurling et al., 2013, p. 34). Changing choice and behaviour, according to this perspective, thus becomes "a matter of informing those choices and providing support for socially preferable options using market incentives (e.g. pricing) or through educating and re-skilling consumers" (Spurling et al., 2013, p. 34). Informing choices through market incentives plays into the abstract and highly disputed ideal of the rational economic man or 'homo economicus'[5].

"Changing how and what we eat is about much more than choosing different products" (Spurling et al., 2013, p. 35). As such, the following foci are suggested in order to potentially recraft practices: "tastes, sociability and conviviality, cultural conventions (e.g. a 'proper meal'), competency, routines (e.g. three meals a day) and income" (p. 35). In order to transform eating practices, these different social and cultural

4 The innovating technology problem framing was left out, as it is a framing that Spurling et al., in this specific context, had "reserved for the production and delivery of food" (2013, p. 33)

5 See e.g. Raworth (2017, p. 94-128) and Pedersen, & Collin (2018)

elements (among others) need to be re-crafted. Furthermore, in order to potentially substitute practices Spurling et al. suggests "encouraging existing variants of eating practice: partial or complete substitution of domestic eating with eating out in the local community; return of lunchtime as the main meal of the day provisioned collectively (e.g. in the workplace) accompanied by less domestic storage/cooking/eating; continued eating at home but less domestic cooking through the purchase of pre-prepared, yet nutritional, foods" (p. 37). Finally Spurling et al. (2013) suggest focusing on how practices interlock. Some of the practices that are suggested to interlock with food practices are "caring for a family, socialising , working, travelling and even watching the television" (p. 37). As household compositions have changed and are changing significantly, it is necessary to reimagine future eating practices and the practices that they will interlock with.

The findings of Spurling et al. (2013) from studying the UK Food 2030 strategy are in line with the findings from analysing current efforts on transitions in food consumption in cities, presented in sec. 6.1. Focus tends to be directed at changing behaviour and shifting consumer choices, without studying and understanding the complete practices. The case study by Spurling et al. (2013) illustrates the potential of practice theory for suggesting far more radial efforts with greater potential at re-crafting practices, substituting practices and changing how practices interlock.

INCLUSIVE FOOD SYSTEM IN THE NETHERLANDS

This case study illustrates the insights that can be gained from studying practices ethnographically.

The EAT-Lancet report on Food, Planet and Health by the EAT-Lancet Commission "recommends that everyone adopts a 'planetary health diet': a universal diet rich in plant-based, fresh or minimally processed food" (Brons et al., 2020, p. 1028). While the report acknowledges the need to transition food practices, it does not investigate the diversity of citizens and thereby the diversity of food practices that need to change. "Differences exist in tastes, preferences and food practices among diverse ethnic groups, which becomes progressively relevant in light of Europe's increasingly multi-ethnic cities. There is a growing tension between current sustainable diets standards and how diverse ethnic resident groups relate to it within their 'culturally appropriate' foodways" (p. 1027).

The case studied two groups of migrants from Syria in the Netherlands. One group was defined as short-term migrants, since they had stayed in the Netherlands for less than 5 years, and the other group was defined as long-term migrants, having stayed in the Netherlands for more than 5 years. The two groups, originating from the same area in Syria, were picked in order to gain an understanding of whether the duration of a stay in a new country affected their food practices. Based on interviews, observations and the theoretical framework of practice theory, the study investigated two food re-

lated practices: i) the practice of acquisition, and ii) the practice of preparing food. For both of these, the "dynamics in tastes and preferences" (Brons et al., 2020, p. 1030) were in focus. Furthermore, as these food practices changed as a result of changing lifestyles and the development of new skills and knowledge, new types of practices were investigated. Lastly, the migrants' understanding of healthy food and sustainability was investigated.

The study indicates the need for a nuanced understanding of inclusion and exclusion based on the conclusion that "inclusiveness is a dynamic process, in which migrants can be capable of including themselves, demonstrating creativity in sustaining their cultural practices and developing coping strategies in interaction with a changing environment" (Brons et al., 2020, p. 1038).

As for shaping a more inclusive, healthier and sustainable food system, the study made the following proposals:

1. Focus on "moving beyond a supply side only-perspective on in/exclusion" (Brons et al., 2020, p. 1038)
2. "[N]ationally or even globally defined dietary guidelines" (p. 1038) need to be reevaluated
3. Acknowledgement and emphasis should be placed on "citizens' creativity in organizing their food practices" (p. 1038)
4. Acknowledgement of migrants also being "consumers driven by 'lifestyle' needs like convenience" (p. 1038)

DISCUSSION ON FOOD WITH INGE RØPKE

The cases of the UK Food 2030 Strategy and Inclusive Food System In the Netherlands illustrate the importance of paying attention to how practices interlock. The following statement from the interview with Inge Røpke underlines this point:

> "Let's say you want to affect food preparation practice, then you will have to investigate many different food preparation practices, for instance, the different practices of the youth, elders, families, etc. When doing that, it is important to be aware of the other practices that interlock with the food preparation practices. And then you will have to pay attention to what is lacking for the different groups, in order to identify through what and how to support changes. This is where lists of *meanings*, *materials*, etc. might be useful because they make it possible to identify the differences between the different groups' food preparation practices. It is necessary to investigate people's everyday lives and practices, in order to discuss what barriers there are for the different groups of interest" (Røpke, 2021, personal interview).

Understanding the different practices and how they interlock holds potential for changing how the practices interlock, as well as for re-crafting and substituting practices.

3.3.2 STUDYING CONSUMER GOOD PRACTICES

This section focuses on the consumption category *consumer goods*. First, a case study is presented on the subject (specifically on clothing), before insights from the interviews are presented.

CLOTHING PRACTICES OF YOUNG ACADEMIC WOMEN

This case study illustrates the insights that can be gained from studying practices ethnographically.

When an item of clothing is considered 'done', seldom does it have anything to do with functionality, but rather with many other concerns (Jensen, 2021, personal interview). Sociological studies of women's relationship with clothes show strong elements of self-expression and identity creating practices. Understanding the marketing, provisioning, supply chain-related, social and other factors that shape such practices, is very interesting from an environmental perspective (Jørgensen & Jensen, 2012; Jensen & Jørgensen, 2013).

One specific study was conducted through ethnographic methods wherein six Danish women were asked to write in a diary, describing their choices of clothes and the reasoning behind these choices, after which they were interviewed. The study found that alternative clothing concepts with an environmental profile (e.g. second hand, eco-labelling, redesigning, repurposing fabrics etc.), were only considered positive alternatives for the women during their shopping if these required only little changes in their clothing practices, and if they still offered the consumer the same range of designs and colours as before. In other words, they did not want environmental concerns to limit their possibilities for choosing styles. The women felt social expectations (from colleagues and friends) to make frequent changes and purchases, which could lead to fear of judgement if not fulfilled. Another finding was that the women spent less time considering purchases when prices were low, which led to many cheaply purchased items not being used (Jensen & Jørgensen, 2013). Such research indicates the interesting, dynamic and complex interplay between meanings, tastes and social factors on the one hand, and material opportunities and facilitation on the other. "The combination of statistical analyses of a consumption area and ethnographic studies of user practices based on a practice theory approach, such as that used by Røpke (2009), enables analyses of how interactions between business strategies and social dynamics, such as workplace dress codes, shape everyday life practices" (Jørgensen, & Jensen, 2012, p. 172). For policy purposes, it is relevant to identify and cultivate the social identity markers and ways that we can and do express our cultures and identities in less material or immaterial ways (Røpke, 1999). This is something that cities and communities can contribute to highlighting.

There is very little focus on practices when it comes to policies targeting *consumer goods* and knowledge on the subject is much needed. Approaches too often focus narrowly on waste handling (ch. 6.0). Reasons for a lack of knowledge might be due to the complicated nature of *consumer goods* and how these perform across practices. Many consumer goods are part of numerous meaningful practices (Røpke, 2021, personal interview). According to Charlotte Jensen (2021, personal interview), "studying consumer goods at a product level opens up for a lot of practices, in which these products take part. This can be quite overwhelming, as studying practice in which products take place needs to be quite empirical. Understanding why a product becomes waste in the first place requires an understanding of the practices, in which the products take part, due to the complex performance of consumer goods". There is a lot to learn about discarding practices, but even more so about what comes before; how to avoid that a *consumer good* becomes something to discard.

As will be illustrated in the review of citizens surveys (sec. 6.2), there is some available knowledge on citizens' preferences in terms of buying new or used etc. However, Michael Søgaard Jørgensen points to the need for further knowledge on why, when and how products break and when, why and how this leads to discarding them. He recognises the need for further knowledge on the social constructions that lead citizens to excessive consumption, and notes that such information can be useful in enabling the debates that can lead to changes in behaviour (Jørgensen, 2021, personal interview). Michael Sørgaard Jørgensen stresses that there is a general preference for approaching the issue of consumption through studying waste, rather than studying ways of consumption dynamics and prevention. It is not possible to understand consumption just by observing waste amounts. Such a perspective is far too limited since so many factors influence the waste amounts, and by only observing the consumption through the waste it creates, the reasons behind changes in waste amounts remain unknown. By studying these influencing factors, it can be easier to identify relevant 'initiative indicators'[6] that can enable municipalities to monitor and understand what initiatives are actually successful at decreasing waste amounts (Jørgensen, 2021, personal interview).

3.3.3 STUDYING PRACTICES

Practice theory can offer valuable insights into resource-intensive patterns of consumption and socio-technical transitions. By studying practices in an effort to explain persistent resource-intensive patterns of consumption, a practice oriented approach can help "point to the potential sites for intervention to facilitate transitions" (Köhler et al. 2019, p. 24). Studying the performed activities, practice as performance, is essential for the study and understanding of practices. A practice is a meaningful activity

6 In danish: "indsats indikatorer"

that integrates the three aforementioned elements: *materials, competences and meanings*. Though identifying these elements within a practice is helpful, understanding the activity performed is central to understanding the practice (Røpke, 2021, personal interview). This, in part, makes the study of practices demanding, since the only way to really accomplish this is through observing multiple instances of the practice as performance. It is only the practices as performance, the actual activities, that are observable. From many observations, it is possible to create a principle description of a practice as an entity - a 'crystallisation' of what that practice entails. Once this description is obtained, it is possible to point to something recognisable, something relatively stable, which is what makes it a subject of inquiry and of intervention (Røpke, 2021, personal interview). If the aim is to affect the citizens' practices with regards to food and cooking for instance, it is necessary to observe the many different manifestations of food related practices, and examine what these practices are tied to (Røpke, 2021, personal interview). There will be different barriers to change for different types of practices and for different groups. Thus, it is essential that citizens are not seen as a homogenous mass, but as different groups, sharing different practices and barriers to change.

Ethnographic methods of interviews and observation at the site where practices take place are the most common and relevant research approaches. But due to the somewhat demanding nature of such processes, it is interesting to explore how citizen surveys could provide insights into practices, through new configurations of surveys. It could be relevant to structure interview and survey questions in a way that covers the three elements of practice (not necessarily directly and explicitly), but by keeping these elements in mind during question formulations. The difficulty with surveys is that getting to the 'why' of practices is very challenging in the survey format, but it would be very interesting to attempt a practice-oriented survey structure (Jensen, 2021, personal interview). The difficulties with understanding practices based on a number of current citizen surveys will be further explored in sec. 6.2.

4.0 WHAT IS SUSTAINABILITY?

4.0 WHAT IS SUSTAINABILITY?

"At present, it is clear that SD [sustainable development] amounts to no more than *'reducing unsustainability' (Ehrenfeld, 2008)*. Flawed from the start, the SD movement can be said to have arrived to its natural end" (Escobar, 2011, p. 137, italics added). As this statement indicates, the idea of sustainability is highly contested and the practical process of transitioning to a sustainable state of affairs is far from straightforward. This chapter will explore these matters. The first part of the chapter consists of a literature review of a number of sustainability frameworks that have been explored, compared and consolidated with the aim of providing a reliable knowledge foundation for the development of ideas for sustainability transition policy initiatives pertaining to consumption. This is followed by a discussion of the notion of sustainable consumption, and lastly, a section on sustainability transitions. The process is illustrated in fig. 4.1.

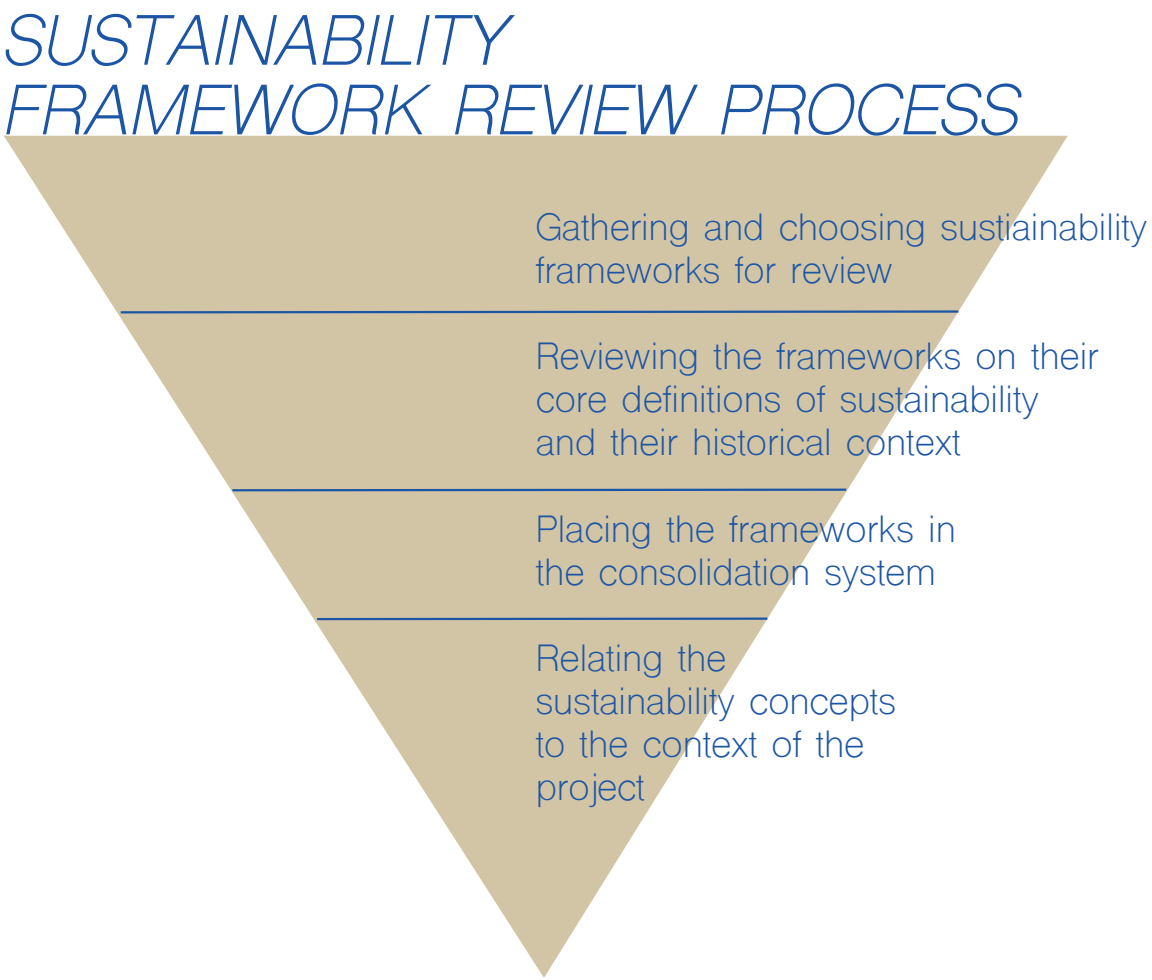


Fig. 4.1 - Research process for the sustainability literature review and subsequent use of sustainability conceptions in relation to the catalogue design

4.1 WHAT IS SUSTAINABILITY?

This section consolidates a literature review of developments in the understanding of what sustainability means philosophically and practically, along with developments in sustainability frameworks and their use. The consolidation aims to provide sustainability practitioners with a tentative overview of different, opposing and overlapping sustainability frameworks and a tool for assessing the applicability of the frameworks to specific contexts.

The frameworks included in this consolidation relate to the economic, geographical and temporal context of the project[1]. The frameworks reviewed are illustrated in fig. 4.2, and the specific references for each framework are listed in appx. 3 accompanied by a timeline.

Fig. 4.2 - The reviewed sustainability frameworks

The frameworks are assessed and compared based on different characteristics: their operational level, their level of radicality versus conventionality, and whether they have a high level of actionability or a kind of vision quality that is not directly actionable. A core definition of sustainability has been extracted from each framework to represent the framework in a clear way, while the assessments are based on a broader review of the frameworks. The frameworks were also assessed and discussed based on the following parameters, that we believe a meaningful and useful sustainability framework needs to account for:

1 The frameworks chosen for the compilation are ones that were discovered and introduced throughout the Bachelor's and Master's programs of Sustainable Design at AAU, and ones deemed relevant for the project context. We acknowledge that other frameworks, sustainability definitions and fields of research have been left out

1. An account of what is to be sustained:
    - What elements of the current state of affairs are desirable to sustain?
    - Why and for whom?
2. A concept of a state of affairs that is sustainable and therefore desirable:
    - What state of affairs is sustainable?
    - How does it differ from the current?
3. Ideas for how this state can be attained (in more or less detail):
    - What changes need to occur in order to attain a sustainable state of affairs?
    - Who can and should do what?

The frameworks each provide answers to these questions to varying degrees, and the types and degrees of answer they provide have been influential in placing them in the consolidation system below (fig. 4.3). Some frameworks might provide strong and comprehensive answers to point 1 and 2 while giving little detail to point 3, which makes them less actionable and useful in policy contexts. Other frameworks might generally provide sound answers to all three points but leave out considerations about with whom the responsibility for action lies, which make them less radical in challenging the status quo. Other frameworks again might provide little answer to point 2, which lessens their ability to serve as a vision for a different state of society and planet.

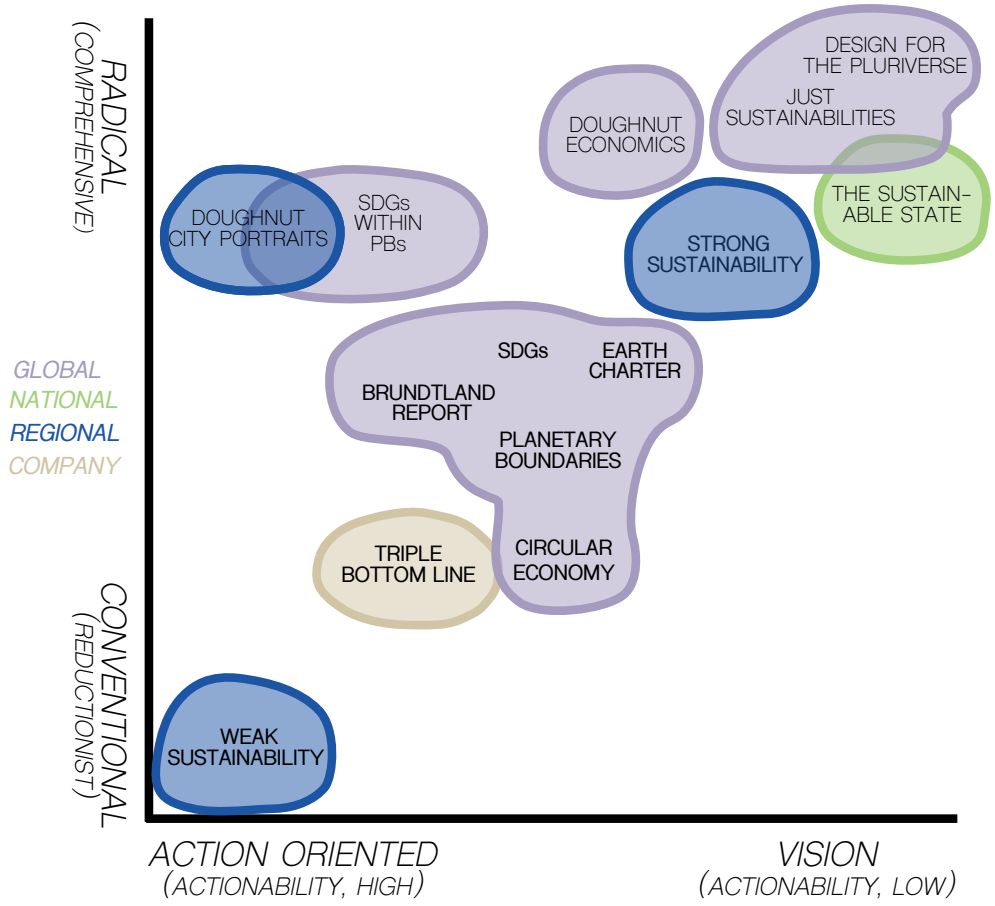


Fig. 4.3 - The consolidation system - used for assessing and comparing the sustainability frameworks on the following parameters: a) their operational level (global, national, regional, company); b) their level of radicality versus conventionality, and the related secondary parameters of comprehensiveness and reductionism, respectively, and; c) whether they have a high level of actionability or a kind of vision quality that is not directly actionable

The following two sections will discuss the placement of those of the frameworks that have played the biggest role in the project - either by being at the center of our understanding of sustainability, or by being ones that play central roles in policy and city governance.

4.1.1 FRAMEWORKS IN THE TOP

Design(s) for the Pluriverse (Escobar, 2011; 2018), Just Sustainabilities (Agayeman, 2012; 2013) and Doughnut Economics (Raworth, 2012; 2017) have been placed in the section of radical (and comprehensive) frameworks with a strong vision quality and relatively low actionability (fig. 4.3). This is because the three frameworks provide strong answers to what state of affairs can be considered sustainable - in terms of planetary stability but also in terms of just conditions for living beings, which we find to be an essential quality in conceptions of sustainability.

DESIGN(S) FOR THE PLURIVERSE

"We need to stop burdening the Earth with the dualisms of the past centuries, and acknowledge the radical interrelatedness, openness, and plurality that inhabits it" (Escobar, 2011, p. 139). As such, "[t]he pluriverse can be described as 'a world where many worlds fit'. At their best, it can be said that the rising concepts and struggles from and in defense of the pluriverse constitute a post-dualist theory and a practice of interbeing" (p. 139)

JUST SUSTAINABILITIES

"The definition of just sustainabilities [...] focuses equally on four essential conditions for just and sustainable communities of any scale. These conditions are:

- improving our quality of life and wellbeing;
- meeting the needs of both present and future generations (intragenerational and intergenerational equity);
- justice and equity in terms of recognition (Schlosberg 1999), process, procedure, and outcome;
- and living within ecosystem limits (also called 'one planet living') (Agyeman 2005, 92)" (Agyeman, 2013, p. 7)

THE DOUGHNUT ECONOMY

"The Essence of the Doughnut: a social foundation of well-being that no one should fall below, and an ecological ceiling of planetary pressure that we should not go beyond. Between the two lies a safe and just space for all" (Raworth, 2017, p. 11)

In their descriptions of different states of societal and planetary circumstances, they all base their ecological concerns on the Planetary Boundaries, which Rockström (2015) states "underscores the need for a form of world development that can evolve within Earth's safe operating space. Reconciling a respect for limits with principles of justice presents the profound challenge of imagining and creating a basis for sustainable development, i.e., good lives for all on a resilient and stable planet." (Rockström, 2015, p. 6). Thereby, the frameworks make a point of challenging established regimes such

as the Neoclassical macro-economic paradigm and unjust and exploitative global dynamics. They also have sound discussions on the subject of responsibility, and define strong sets of values and principles, but they do not sketch out concrete paths or tools for action.

The Doughnut Economy has recently been accompanied by the Doughnut City Portrait methodology, by the Thriving Cities Initiative, in collaboration between Doughnut Economics Action Lab, Biomimicry 3.8, C40 Cities and Circle Economy. This methodology is outlined as a guide to any city or place interested in downscaling the Doughnut to their specific context (The Thriving Cities Initiative, 2021). The method centres around the question: "How can our city be a home to thriving people, in a thriving place whilst respecting the wellbeing of all people, and the health of the whole planet?" (Raworth, 2020). This question combines local aspirations with global responsibility and is unpacked and explored through four sub-questions they call lenses: the local ecological, the global ecological, the local social, and the global social. This method is one approach to making a strong sustainability framework tangible and actionable in a local governance context.

Essentially, the frameworks placed in the top are strong and comprehensive and they clarify, beyond environmental concerns, what a sustainable state of affairs entails. The frameworks offer understandings of global inequity and inequality issues, however, there is need for better understandings at the local scale. Active efforts to redistribute at both levels are crucial for sustainability transitions according to these frameworks. However issues differ in nature from the local to the global level, and from one local context to the other.

4.1.2 FRAMEWORKS IN THE MIDDLE

The Sustainable Development Goals (SDGs) and Circular Economy (CE) will be highlighted in this section, as relevant frameworks to discuss, from the middle-area of the consolidation system (fig. 4.3).

The SDGs are often praised as being an incredibly ambitious and groundbreaking international agreement, but they do not particularly fit the characteristics of any of the four corners of the consolidation system. The goals were conceived in 2012, at the United Nations (hereafter UN) Conference on sustainable development in Rio de Janeiro: "The objective was to produce a set of universal goals that meet the urgent environmental, political and economic challenges facing our world" (United Nations Development Programme, n.d.). As such, the total of 17 goals, and 169 targets, "seek to realize the human rights of all and to achieve gender equality [...]. They are integrated and indivisible and balance the three dimensions of sustainable development: the economic, social and environmental" (United Nations Department of Economic and Social Affairs, n.d.). While the UN highlights that the goals are in fact inseparably

connected, this is often misunderstood, forgotten or ignored by various actors wanting to contribute to the goals, who thereby fail to embrace the entirety of the agenda. Why this seems to happen, or whether it is an inevitable consequence of the complexity of the agenda will not be further discussed here. The SDGs do aim to form a vision of a sustainable future, and the goals can be said to do this as a coherent agenda, but because the interconnectedness of the goals is so often missing from their application, they are not as successful in this as they could be.

The SDGs are not entirely actionable either. They do not prescribe policies or indicate clear pathways, but rather draw up the goals for pathways to be directed at. Randers et al. (2018) have attempted to translate the goals into operational policy pathways by modelling four different scenarios. The most compromising issue of the SDGs, and what keeps them from taking a spot high on the axis of radicality, is that they do not address the issue of conventional economic growth: "Nowhere [...] is it admitted in the 2030 Agenda that the successes in reaching the eleven social and economic goals (Goals 1 – 11), *if done based on conventional growth policies,* would make it virtually impossible to reduce the speed of global warming, to stop overfishing in the oceans or to stop land degradation, let alone to halt biodiversity loss" (Randers et al., 2018, p. 6). Randers et al. (2018) conclude, based on their scenario modelling, that achieving a significant number of SDGs while staying within a significant number of planetary boundaries is completely out of reach of conventionality. "[B]old, transformational policies" (2018, p 30) are necessary, along with accepting that maximising GDP growth (at least in high-income countries) is not a viable way to sustainability and active redistribution. They thus place restrictions on the SDGs in order to strengthen the coherence and ambition of these.

Along with the SDGs, Circular Economy (henceforth CE) frameworks are arguably the most prevalent and favoured sustainability frameworks in policy contexts to address consumption-based issues. This is also why circular strategies of cities were reviewed in this project (sec. 6.1). Ellen MacArthur Foundation (2013), defines CE as "an industrial system that is restorative or regenerative by intention and design [...]. It replaces the 'end-of-life' concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse, and aims for the elimination of waste through the superior design of materials, products, systems, and, within this, business models'' (p. 7). The concept "aims to 'design out' waste" (p. 2) in the sense that consumables will be made from biological ingredients that can re-enter the biosphere, and durable products and components are made from materials that can be recycled repeatedly by the use of renewable energy (Ellen MacArthur Foundation, 2013). It is worth mentioning that this is but one of many definitions of CE. In a systematic literature review of CE literature (published between 1950 and 2015), Kirchherr et al. (2017) found 95 different definitions of CE (according to Schulz, Hjaltadóttir & Hild, 2019, p. 6).

The critique on CE frameworks primarily revolves around the lack of concern for social sustainability and social transformation and for building on capitalist and consumerist values (Jaeger-Erben et al., 2021). The frameworks generally end up referring to "an adjusted or alternative capitalist model for economic growth rather than a new paradigm" (Schulz, Hjaltadóttir & Hild, 2019, p. 5). This lack of consideration of socio-political aspects in CE research is unfortunate, since it brings certain risks, such as the deception that "the current economic systems could become entirely sustainable by implementing CE principles of closed material and energy loops, regardless of the character of the product. This *"technological fix"* approach not only neglects the demand side of CE implementation but it also - at least implicitly - denies the need to question current consumption patterns, global inequalities and persisting negative externalities" (Schulz, Hjaltadóttir & Hild, 2019, p. 2, italics added).

The CE literature review and analysis by Schulz Hjaltadóttir & Hild (2019) shows a disproportionate focus on one out of *the three R*s; reduce, reuse, recycle - recycling being the one most often emphasised. This focus, they argue, is an indication of a priority being given to a technological and management focus over a focus on "broader sociocultural change [which] is also apparent in the low priority given to the principle of 'reduce', as the least-discussed of the 3R concepts (Kirchherr et al., 2017), and a peripheral approach mainly mentioned in theoretical discussion" (Schulz, Hjaltadóttir & Hild, 2019, p. 5). This leaves consumption practices, consumer perspectives and consumer responses ill-understood (Schulz, Hjaltadóttir & Hild, 2019). There are, however, efforts to conceptualise CE with a 'stronger' understanding of sustainability. Schulz, Hjaltadóttir & Hild (2019) point to certain strands of the literature that focus on the need for fundamental changes in user and consumption patterns, and advocate that CE will involve fundamental changes in society and human activity. Such versions of CE would mean a radically new economic model, including de-growth and post-growth approaches, and that socio-political and socio-ecological aspects be addressed to a much higher degree.

These are interesting examples of how sustainability frameworks are constantly and dynamically evolving, sometimes to stronger more comprehensive forms, and other times to reduced, simplified and compromised versions of their potential or original intentions.

4.2 SUSTAINABLE CONSUMPTION

As established in ch. 1.0, current levels and practices of consumption in high-income cities, are not sustainable, due to the fact that they jeopardise a safe and resilient state of the Earth system and build on exploitative and unjust production, trade practices and deep inequality. Consequently, it is relevant to consider the notion of sustainable consumption. Essentially, sustainable consumption would imply a level of consumption that enables good lives for all within the limits of what the planet can sustain.

However, what is understood by sustainable consumption has changed over time (Røpke, 2015) and the idea raises a myriad of complex questions. The complexity of the matter is too extensive for the scope of the project, and some of the challenges in this regard will therefore be outlined.

For the purpose of developing policy initiatives aimed at mitigating consumption-based emissions and impacts, the estimations of climate safe consumption levels outlined by C40 Cities et al., (2019-a) are relevant. These are tangible estimates of climate safe levels of consumption within six different consumption categories, which makes them very useful in the complex task of sketching out the contours of what a sustainable consumer lifestyle might look like. The scope of their work however only concerns GHG-emissions and thus represents a relatively narrow approach and perspective. Meanwhile, they acknowledge that "[i]f existing technologies cannot be scaled-up quickly enough, or if no unforeseen technological and social shifts occur, it may be necessary to address another macro driver of consumption emissions: increased expenditure due to economic growth. [...] annual GDP growth rates have a significant impact on emission levels in C40 cities over time" (C40 Cities et al., 2019-a, p. 125), but this perspective is not reflected in the scope of their suggestions. Thus there are many good reasons to challenge the delineation of sustainable consumption based only on an emissions perspective, since such a perspective leaves out many important considerations. There are, however, likewise many reasons to align with the perspective of C40 Cities et al., (2019-a) to some extent, since it can provide initial indications of what sustainable consumption might look like.

It should be noted, that some consumption practices, in other spaces or times can very likely be considered sustainable, and inspiration could probably be drawn from such examples, in spite of cultural differences making direct translation from one context to another difficult, or even unlikely. This is however outside the scope of the project, since limited resources has made it necessary to make a socio-geographical and temporal delineation (which will be further discussed in ch. 8.0).

4.2.1 REBOUND EFFECTS

There are many complex dynamics to consider, when working with the systemic issues of consumption and production based impacts and emissions. One significant aspect that is very important to consider, is that of rebound effects or rebound associations. Rebound effects, or rather rebound associations (a term argued for by York & McGee, 2016), describes the situation where savings due to increased efficiency leads to an increase in production that eats part of - or all of - the resource or energy savings gained by the efficiency increase. The term Jevons Paradox applies to a rebound effect of more than 100%: "through a variety of mechanisms, potentially both direct and indirect, efficiency spurs production and consumption, and does so enough to overwhelm the direct gains from efficiency itself" (York & McGee, 2016, p. 79). Direct

effects occur when efficiency gains leads to reducing the price of producing a good or service, which in turn leads to an increase in both production and consequently in consumption. Indirect effects might be harder to observe and to handle. These can occur when the money saved (e.g. due to efficiency improvements or savings from one type of consumption) is then spent on other goods and services that require more energy and resources. Rebound effects are part of the explanation why consumption in high-income countries tends to be more efficient in relative terms, but much higher in absolute terms than consumption in low-income countries, or why the "more efficient nations tend to have higher rates of growth in electricity and overall energy consumption and carbon dioxide emissions" (York & McGee, 2016, p. 77).

If such effects are to be avoided, it would therefore have to be through conscious efforts to design policies that ensure that efficiency gains lead to decreases in resource and energy consumption, and not increases in total production and consumption. This requires thorough understanding and awareness of the complex systems dynamics at play and the drivers of consumption (Røpke, 2015). In other words, due to the prevalence of rebound associations, "[e]fficiency measures thus needs to be complemented with sufficiency approaches (Princen, 2005)" (Schröder et al., 2019, p. 123). In that sense, there are essentially two angles to consumption transitions (Røpke, 2021, personal interview): one angle is within the scope of what people earn, with a focus on changing what the money is spent on. The other, more radical angle, is where income is lowered (in high-income, high-consumption societies) so that consumption in general will also be lowered. Both angels are important as both the composition (or make-up) of the consumption needs to be changed, and the absolut consumption needs to be lowered. Changes in consumption composition should mean switching from spending on high-impact goods and services to ones of low-impact. The role of cities in this endeavour is investigated further in this report. How cities can play an active role in lowering income, however, is far too complex for the scope of this project (discussed further in ch. 8.0).

4.3 SUSTAINABLE TRANSITION

Throughout the project, it has been relevant to draw inspiration and terminology from the field of sustainability transitions, which concerns changes in the socio-technical systems and the way that societal functions are fulfilled. Our standpoint aligns with the view that the socio-ecological challenges that we are facing globally - climate change, biodiversity loss, resource depletion, growing inequality etc. - cannot be solved through incremental steps and techno-fixes, or by solely placing responsibility on the individuals to make the change. As stated by Julia Lipton "we need to think far more cleverly about how we appeal to people, that their individual consumer choices make a difference. And at the same time, not make it all about the individual" since, as she argues, this would not be fair when it is the global economic system that "is driving us to catastrophe, not wanting to sound too dramatic" (Lipton, 2021, personal

interview). These acknowledgements call for what is referred to as sustainability transitions or transformations, i.e. radical change in the ways that societal functions are fulfilled, especially functions of provisioning (Köhler et al., 2019).
Due to the questions of equity, justice, distribution and nature-society relations being inextricably linked to sustainability, value judgements are at the core of sustainability transitions. This is important to acknowledge, because if social acceptance of the transition progress is not attained to a certain degree, this failure can halt the progress itself. Equally important, the transition, if ill-designed and ill-considered, can potentially reinforce injustices or create new ones (Köhler et al., 2019, p. 30).

These acknowledgements evidently call for transdisciplinarity and creativity and a tolerance for complexity. Researchers in the field are finding ways to deal with the complexity and developing theories, tools and methods for design practices for sustainability transitions. Three types of knowledge need to be generated in order to achieve sustainability transitions:

> "systems knowledge, target knowledge and transformation knowledge (Pohl & Hirsch-Hadorn, 2007). Systems knowledge focuses on the present states of systems to understand what needs to change. Target knowledge generates alternative future proposals for those systems that are desirable and plausible. Transformation knowledge, on the other hand, is about building the potential paths between the current - undesirable, unsustainable - and future - desirable, sustainable - states of the systems that are subject to transformation" (Gaziulusoy & Ryan, 2017, p. 1916).

The potential paths should further be built with the help of various methods of future inquiry, such as participatory design visioning. This approach to sustainability transitions along with the tools and methods, will come into play in the development of the inspiration catalogue (sec. 7.2.2). These methods and the discussions and reflections of this chapter will feed into the design of the inspiration catalogue in ch. 7.0.
The sustainability frameworks reviewed have clarified the necessity of strong and comprehensive sustainability frameworks, along with the necessity of making these concepts of sustainability tangible and actionable at the contexts where sustainability transitions need to happen. The following chapter will investigate governance from the perspective of cities, to develop a preliminary understanding.

5.0 HOW CAN CITIES ACT?

5.0 HOW CAN CITIES ACT?

As described in ch. 1.0, cities have a tremendous environmental footprint stemming from consumption. This chapter explores how cities can act on the subject of consumption. Insights are drawn from the interviews that have been conducted and reviewed literature on governance and urban governance. First, the concept of governance is explored on a general level, before focus is directed towards governance from a city perspective to gain a preliminary understanding on the subject.

5.1 GOVERNANCE AS A CONCEPT

"The traditional use of 'governance' and its dictionary entry define it as a synonym for government" (Stoker, 1998, p. 17), and "in particular government is understood to refer to the formal and institutional processes which operate [...] to maintain public order and facilitate collective action" (p. 17). Public order is maintained and collective action is facilitated by having control over "the policy and affairs of a state, organization, or people" (Soanes, Hawker, & Elliott, 2006, p. 325).

A central aspect of governance is that governance is exerted from a distance. "Officials of the modern state are, of necessity, at least one step – and often several steps – removed from the society they are charged with governing" (Scott, 1998, p. 76). Thus, in order to govern something at a distance, it is important to know the *something* that is being governed, whether that *something* is a state, organization, people or, as in the context of this project, specifically the consumption of the citizens of a city. Put differently, it is only possible to govern *something* if that *something*, no matter how complex and intangible it may be, becomes legible. If that *something* is not legible, governing it will be very difficult or ultimately impossible.

Scott (1998) discusses how to make sense of a society, or a state, for it to become legible. He describes *state simplifications* as a key concept for exactly that. State simplifications are typifications that capture reality. An example of such a state simplification is the creation of surnames. While naming conventions have differed throughout time and space, they all share the purpose of identifying individuals. Names "were necessary to the successful conduct of any administrative exercise involving large numbers of people who had to be individually identified and who were not known personally by the authorities" (Scott, 1998, p. 68). These administrative exercises could be keeping track of tax records to hold the individuals responsible for paying taxes, keeping

track of the individuals' property rights in order to either protect or challenge them, etc. Another example of a simplification, relevant to this project, is GHG-emission inventories for cities - which is a typication of a city's climate impact. While it is out of scope for this project to investigate how these inventories are made, and how they can become more reliable, it is important to stress that these inventories, and thus a city's climate impact, can vary depending on what is included in the inventories and what is not. For instance, (as mentioned in ch. 1.0) a production-based inventory accounted for 2.9 Gt CO_2e (in 2017) from 79 C40 cities, while a consumption-based inventory accounted for 4.5 Gt CO_2e in the same year (C40 Cities et al., 2019-a, p. 40). This illustrates Scott's (1998) point that, "all state simplifications, are always far more static and schematic than the actual social phenomena they presume to typify" (p. 46). However, the dilemma is that "even the most equitable, well-intended cadastral system cannot be uniformly administered except on the basis of stable units of measurement and calculation" (p. 46). This means that state simplifications, such as "maps, censuses, cadastral lists, and standard units of measurements" (p. 77) are a necessity to governing societies, even though they by nature cannot encapsulate all of societies' complexities. Fig. 5.1 illustrates this dilemma for the design and application of state simplifications: the complexity, locality, particularity and multiplicity of society is reduced while the simplicity, actionability, comparability, calculability and governability is amplified.

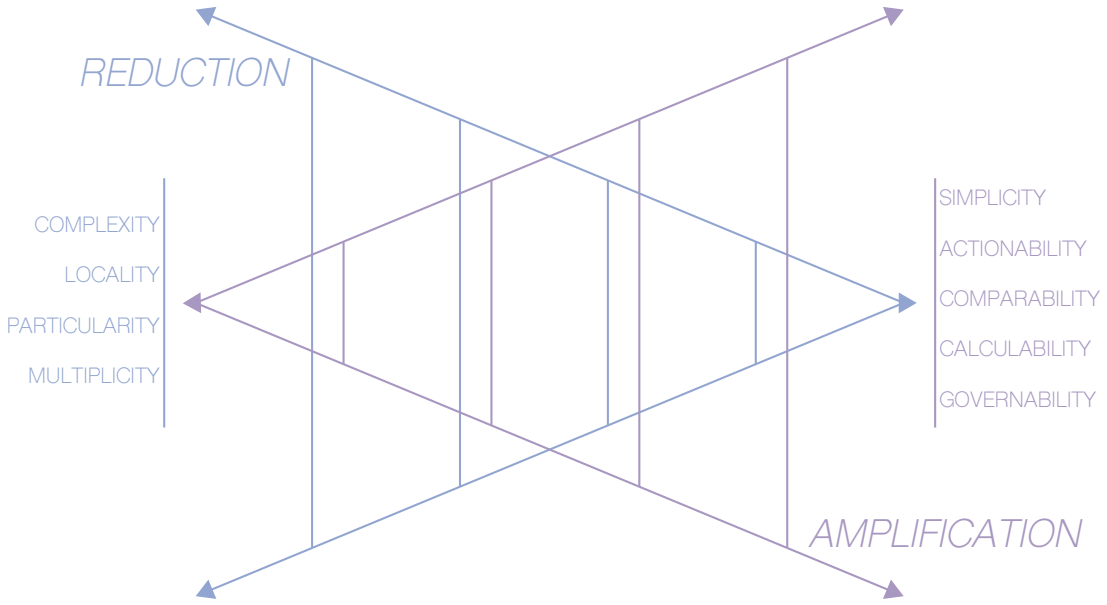


Fig. 5.1 - Simplicity, actionability and governability is enhanced on the cost of complexity and particularity. Inspired by Latour (1999, p. 71)

Governing at a distance through simplifications illustrates what Miller & Rose (1993) calls the "programmatic character of governmentality" (p. 78). They point to the tendency of actors, within governance and in academia, to make use of and perpetuate this characteristic, by continuously proposing programmatic reforms to deal with different issues in society. This tendency is also an indication of what Miller and Rose (1993) refer to as "an eternal optimism that a domain or a society could be administered better or more effectively, that reality is, in some way or other, programmable"

(p. 78). This kind of thinking furthermore aligns with the idea that society can be fully controlled from a central point which, inevitably, is not possible (Miller & Rose, 1993; Stoker, 1998; Avis, 2016; Köhler et al., 2019), because there is no one central point. A formal (and very simplified) hierarchical order of three public governing bodies can be illustrated as a reverse pyramid (fig. 5.2). If the starting point is the middle of the pyramid (the national level), national state governments can set out rules, laws and regulations that anyone in a particular country has to adhere to. A national state can decide to subscribe to international laws, rules and conventions. If this is decided, national laws, rules and regulations have to be in line with those international conventions. As such, international laws have more power. Finally the city/regional level is to be found at the bottom of the pyramid. City- and regional administrations can decide to implement regulations, but they can only influence and decide within the powers assigned to them by their national government and national laws. This example, while representing reality extremely simplistically, illustrates that a governing body can only formally govern within the room for manoeuvre provided by a higher governing authority. The collaboration between these different levels is therefore important (Avis, 2016).

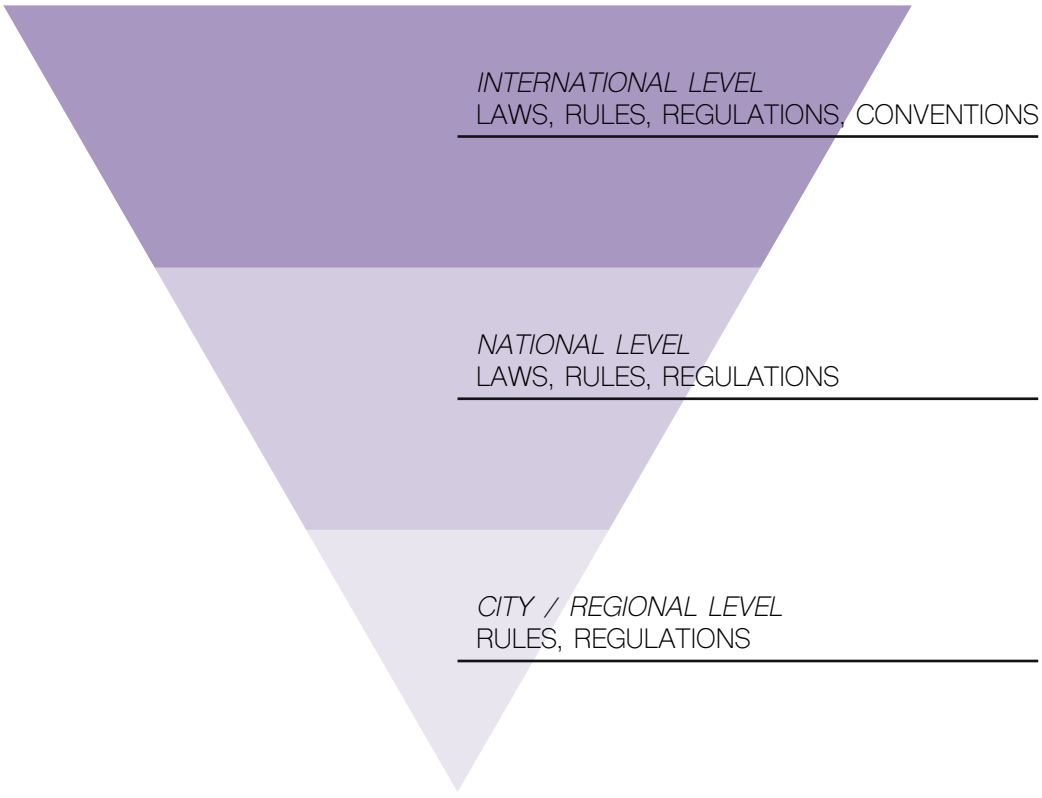


Fig. 5.2 - Simplistic pyramid illustrating the formal power structure

In addition, having the formal authority to implement an action is not necessarily desirable, as it alone cannot guarantee successful implementation. An example of such a case is the Danish national government's attempt to implement two meatless days in the canteens for state employees (Svendsen, Frederiksen, & Sæhl, 2020), which was published as a proposal on October 29, 2020. Formally this is feasible, as the national government has power to implement such changes in canteens for state employees. The proposal was, however, withdrawn on November 2, 2020 only a few days after it was first proposed (Ritzau, 2020) because of objections in the public debates, pressure

by interest organisations and others. This example illustrates that while formal power might exist, it can be challenged by pressure from different networks of actors.

The above mentioned examples illustrate that governance should not necessarily be understood as a strict formal government, but instead it is necessary to understand that governance is dependent on "negotiations and bargaining between interested state and non-state actors with interdependent resources" (Smith, Stirling, & Berkhout, 2005, p. 1498). As such, we align our understanding of governance with the following five aspects outlined by Stoker (1998):

1. "Governance refers to a set of institutions and actors that are drawn from but also beyond government.
2. Governance identifies the blurring of boundaries and responsibilities for tackling social and economic issues.
3. Governance identifies the power dependence involved in the relationships between institutions involved in collective action.
4. Governance is about autonomous self-governing networks of actors.
5. Governance recognizes the capacity to get things done which does not rest on the power of government to command or use its authority. It sees government as able to use new tools and techniques to steer and guide" (p. 18)

5.2 CITIES AS GOVERNING ACTORS

During the conducted interviews, cities were noted as having huge potential due to them being closer to the businesses and especially to the citizens.

> "You can make some transition elements in the cities that are close to the citizens and the businesses, which may come into action a little faster than those of the nation states"[1] (Skovbjerg, 2021, personal interview)

> "The cities are the gathering point for many citizens. They are a democratic unit and the link between many different citizens. In that sense the city administrations can take leadership and take the lead. They are closer to the citizens and have a better feel of what is going on and what are the concerns of the citizens. It gives cities the opportunity to take responsibility"[2] (Riis, 2021, personal interview)

Acknowledging the aforementioned limitations in formal direct powers and the role of

1 Original quote in Danish: "Man kan lave nogle omstillingselementer i byerne som er tæt på borgere og virksomheder, som måske kommer lidt hurtigere ud over starthullerne end netop nationalstaterne." (Skovbjerg, 2021, personal interview)

2 Original quote in Danish: "Byerne er samlingspunkt for en masse borgere. Det er en demokratisk enhed, som er bindeled på mange forskellige borgere på alle mulige leder og kanter. På den måde har byen et lederskab, så det vil være oplagt at de går forrest. De er tættere på borgerne og ved hvad der rører sig og er borgernes udfordringer. Det giver byerne mulighed for at tage ansvar." (Riis, 2021, personal interview)

cities as being close to both citizens and businesses, it is useful to direct focus towards ways of governing for cities as outlined by Holm, Stauning & Søndergård (2014, p. 307) and Bulkeley & Kern (2006, p. 2242). The following four ways of governing have been suggested:

1. *Self-governing*, which is the act of governing the administration's own activities;
2. *Governing by provision*, which is the "shaping of practice through the delivery of particular forms of service and resource" (Bulkeley & Kern, 2006, p. 2242) and according to Holm et al. (2014) typically related to energy planning and energy standards (p. 307). And as stated by Mette Skovbjerg (2021, personal interview) "these are the areas where municipalities, or let's say cities, are co-owners of utility companies that provide water, heat and energy. It could also be local airports or harbour ports, or public transportation and infrastructure. [...] In a Danish context many of these will be publicly owned, and that means members of the city councils are represented in the companies. This means the municipality can participate in making an ownership strategy for how a company must operate"[3];
3. G*overning by authority*, by exerting traditional forms of top-down government through laws and regulations; and
4. *Governing through enabling*, which relates to "facilitating, co-ordinating and encouraging action" (Bulkeley & Kern, 2006, p. 2242) through various means such as campaigns, partnerships, networks, etc.

One way of governing cannot be said to be better than the other. As stated by Julia Lipton (2021, personal interview) "A city that doesn't have that power and control might take a very different approach. Maybe it's more bottom up and consultative right from the start. [...] So, it's not as simple as that, to say [...] the cities that have more power have more ability to make change. It's just different ways of making the change. And there's no one best fit scenario. It is complexity, at the end of the day". However, in a consumption perspective, especially *self-governing* and *governing through enabling* has been mentioned in interviews conducted throughout the project, as key governing activities for cities in order to mitigate the impact of consumption and to transition consumption practices. This is due to the nature of consumption-based emissions. They occur outside of a city's geographical territory and it is limited how many of them are directly associated with public city services.

As tbl. 5.1 shows, *self-governing* is strongly related to public procurement. However, the potential of *self-governing* does not only lie in cities having more direct influence

3 Original quote in Danish: "Det handler sådan set om alle de steder hvor kommuner eller vi kunne sige byer er medejere af forsyningsselskaber, vand, varme og energi, det kan også være lokale lufthavne eller havne for den sags skyld, eller kollektiv trafik og infrastruktur. [...] Men i hvert fald i en dansk kontekst vil mange af forsyningsselskaberne stadigvæk være kommualt ejet, og det vil sige at der sidder repræsentanter fra en kommunalbestyrelse ude i selskaberne og at kommunen har mulighed for at lave en ejerstrategi for hvordan selskabet skal operere." (Skovbjerg, 2021, personal interview)

Tbl. 5.1 - Responses from the interviews highlighting the importance of self-governing and governing through enabling. Original Danish quotes are provided in appx. 4

Interviewee	On self-governing	Governing through enabling
Tobias Johan Sørensen (Concito)	"First, there is the municipalities' procurement. This has a significant share of and impact on Denmark's global CO_2 emissions. The municipalities are responsible for about half of the public procurement. This is quite substantial, so here they have a significant role to play. [...] The municipality as an organisation, i.e., what they do as a role model. It is also here procurement lies, influencing both behaviour in general and employees, and being this sort of role model. If you want the citizens to take part in something, or the businesses, then you also have to take the lead yourself" (Sørensen, 2021, personal interview)	"The second part of it is in terms of being able to collaborate and influence their citizens, businesses, agriculture and industry. They [municipalities] are the nearest authority locally. So the municipalities play an important role by leading the way and by facilitating dialogue. [...] Clearly, it is not only the role of municipalities that drives this. But we have 98 municipalities in Denmark and if they are all engaged in this, both in their city councils and in their organizations, and in relation to partners in the business community, etc., and get citizens involved in different ways, then it is a pretty big impact they potentially have" (Sørensen, 2021, personal interview)
Julia Lipton (C40 Cities)	*Self-governing was not discussed during this interview, as the interview instead focused on facilitating changes of the citizens' consumption practices.*	"They [city administrations] can influence the culture and the infrastructure, locally, that facilitates people to live a sustainable lifestyle[1]. [...] [T]here's the individual behaviour change, there's the collective, cultural behaviour change, then there's the systems and infrastructure that is needed, and all four elements are needed to create the change. And each city will have different ways of making that possible. [...] [T]here are different policies in place. There are different cultures in place, different abilities, powers at the city level" (Lipton, 2021, personal interview)
Mette Skovbjerg (Local Government Denmark)	"If you just looked at the municipality as a business [...] that is, the municipality's own buildings or car fleet or the municipality as an employer. Here they can of course have a very big impact because they make decisions themselves and they have the ability to do some things. They are like the masters' of their own homes" (Skovbjerg, 2021, personal interview)	"If we are looking at the consumption-based emissions, where I must say, a lot of Danish municipalities are probably not very far along, then it will be that toolbox [partnerships] you reach into" (Skovbjerg, 2021, personal interview)
Martin Kaae Riis (City of Aarhus)	"First and foremost, there is the municipality's own role as a procurer, where the city takes the lead and inspires citizens, companies and organizations locally. In that way, it's an important role to play." (Riis, 2021, personal interview)	"We have no authority to say that people should buy an electric car or eat less meat, nor is it the city council's wish to dictate. [...] We can try out different projects and change some things, and that should not be underestimated either. [...] The municipality must elevate the responsibility in collaboration with the citizens. This means that we have to develop new ways for collaborating, because the last part of the journey towards a climate friendly community requires that we all go along. The climate crisis is global but it will have to be solved locally, and here the municipalities are relevant as they understand the citizens' reality" (Riis, 2021, personal interview)

1 Julia Lipton further referes to the definition of sustainable lifestyle by Cambridge Sustainability Comissions (2021), who defines it as "*A '***sustainable lifestyle***' is a cluster of habits and patterns of behaviour embedded in a society and facilitated by institutions, norms and infrastructures that frame individual choice, in order to minimize the use of natural resources and generation of wastes, while supporting fairness and posperity for all*" (p. 11)

and control over public procurement, but also because taking the lead on sustainable procurement can inspire both citizens and businesses. Additionally, self-governing is important since cities will seem hypocritical if they only encourage others to transition their consumption practices, which will not be fruitful for the transition. Because cities have limited authority over citizens' consumption, they have to rely on various forms of enabling to facilitate a transition of citizens' consumption practices. In order to *govern through enabling* "they cannot just be facilitators. They must act as strategic actors in a rethinking of local configurations of actor-, agenda- and technology networks, and they must build new local coalitions and modes of operation based on specific local conditions at both the tactical and operational level"[4] (Holm et al., 2014, p. 308-309).

To sum up the complexity of governing the consumption transition, cities must adhere to "[c]ollaboration and dialogue with many types of urban actors in different network organizations" (Sehested, 2009, p. 252). In addition,"[c]oordination and communication between the many projects and networks" (p. 252) is necessary. And lastly cities must facilitate "network regulation and sparring about the political goals and visions" (p. 252). All of these aspects are reflected in our understanding of the role of cities that feeds into the design of the inspiration catalogue (ch. 7.0).

4 Original quote in Danish: "skal de ikke kun være facilitatorer. De må agere som strategiske aktører i en gennemtænkt formning af lokale konfiguration af er aktør-, agenda- og teknologinetværk og på det taktiske og operationelle plan må de bygge lokale koalitioner og driftsformer baseret på de specifikke lokale forhold." (Holm et al., 2014, p. 308-309)

6.0 WHAT ARE CITIES CURRENTLY DOING?

6.0 WHAT ARE CITIES CURRENTLY DOING?

This chapter will first present an analysis, applying a practice theory approach, of the initiatives that cities are currently implementing, planning to implement or have been recommended to implement. The analysis confirms insights from interviews presented in the previous chapter, concerning how cities can govern for transitions of citizens' consumption and reveals how cities' current efforts align with circular economy and exhibit a limited understanding of consumption practices. This limited understanding is also investigated through a review of citizen surveys, presented in the second section of this chapter.

6.1 REVIEW OF CLIMATE PLANS AND CIRCULAR STRATEGIES

This section comprises a review of i) initiatives and efforts that have been recommended to city administrations for implementation, ii) initiatives that cities are planning on or currently implementing, and iii) initiatives that cities have already implemented. These initiatives have been investigated to gain an understanding of how cities approach the transition to sustainable consumption practices. The plans, strategies and reports that have been studied are listed in tbl. 6.1.

Besides Copenhagen, the cities Amsterdam, Paris, Portland and Vancouver were chosen based on suggestions from Klaus Bundgaard of the Climate Secretariat in the City of Copenhagen. These cities are all part of the C40 Cities network, and as such they are already collaborating on various climate related issues. The City of Boulder was chosen since it was introduced in an article by the sustainability consulting firm Metabolic (2020-b, November) with regards to how cities can contribute to living within ecological limits. The article was identified early in the project process[1].

1 In hindsight the article might have been published for marketing purposes, as Metabolic were consulting the City of Boulder on these endeavours. The roadmap for the City of Boulder is also the only inclusion of a city specific roadmap that has not been adopted politically. All of the cities chosen for the review can be considered consumer cities (C40 Cities, 2018), meaning their consumption-based impacts are larger than their production-based impacts. In other words, cities like these largely consume goods that they import, rather than consuming what they themselves produce

City	Name of the document	Key focus of the document
Not city specific (except for a few highlighted examples from different member cities)	C40 Cities (2018). Consumption-based GHG emissions of C40 Cities	Presents the methodology of making consumption-based GHG emission inventories for cities
	C40 et al. (2019-a). The Future of Urban Consumption in a 1.5°C World: Headline report	Outlines sustainable consumption from a climate perspective
	C40 et al. (2019-b). Addressing food-related consumption-based emissions in C40 Cities: In focus	Based on the abovementioned report, this report focuses solely on food
	Ellen MacArthur Foundation. (2019). Cities and circular economy for food	Presents how future urban food systems can be reimagined based on circular economy principles
Amsterdam	Gemeente Amsterdam. (2020). Amsterdam Circular 2020-2025 Strategy	Presents how the City of Amsterdam is planning on implementing a circular economy
	Doughnut Economics Action Lab., Biomimicry 3.8., Circle Economy., & C40. (2020). The Amsterdam City Doughnut: A tool for transformative action	Presents the City Portrait of Amsterdam based on Doughnut Economics and The Thriving Cities Initiative
Boulder	Metabolic. (2020-a). Circular Boulder: Pioneering Steps Towards a Zero-Waste and Climate-Neutral City	Presents the first visions and an initial roadmap for the City of Boulder to achieve carbon neutrality
Copenhagen	Københavns Kommune. (2019). Cirkulær København: Ressource- og Affaldsplan 2024	Presents the initiatives that the City of Copenhagen is implementing / planning to implement to achieve circularity
	Københavns Kommune. (2020). Doughnut-modellen: Handlingsplan for implementeringen af doughnut-modellen som styringsredskab i Københavns Kommune	Outlines the initial plan for implementing the Doughnut Model in the City of Copenhagen
Paris	Mairie de Paris. (2018). Paris Climate Action Plan: Towards a carbon neutral city and 100% renewable energies	Presents the climate action plan for the City of Paris to achieve carbon neutrality
Portland	City of Portland., & Multnomah County. (2015-a, June). Local Strategies to address climate change: Climate Action Plan.	The full version of the climate action plan for the City of Portland
	City of Portland., & Multnomah County. (2015-b, June). Local Strategies to address climate change: Climate Action Plan Summary.	A summary / shortened version of the climate action plan for the City of Portland
Vancouver	City of Vancouver. (2020-a). Climate Emergency Action Plan	Presents the Climate Emergency Action Plan for the City of Vancouver

Tbl. 6.1 - Table of the studied plans

As described in sec. 2.4 the initiatives were analysed by being grouped and sorted through several mappings. The different steps of the mappings are explained in fig. 6.1.

1ST MAPPING

Initiatives and actions were identified

INITIATIVES FROM THE FOLLOWING REPORTS, CLIMATE AND CIRCULAR CITY PLANS

Paris (climate)	C40 Cities (2018)
Boulder (circular)	C40 Cities et. al. (2019-a)
Vancouver (climate)	C40 Cities et al. (2019-b)
Amsterdam (circular)	Ellen MacArthur Foundation (2019)
Portland (climate)	København (circular)

WERE MAPPED ACCORDING TO THEIR RESPECTIVE CONSUMPTION CATEGORY

Foods | Consumer goods | Cross category

AND ACCORDING TO THEIR CHANGE POTENTIAL (INSPIRED BY VANCOUVER)

Change the RULES	Change the MARKET
Change the CULTURE	Change the CONTEXT

2ND MAPPING

Initiatives and actions were mapped and bundled according to affinity and in order to identify interesting new connections

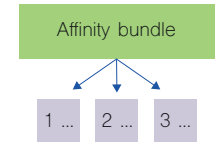
THE FOLLOWING AFFINITY BUNDLES EMERGED FROM THE SORTING

City / business agreements	Awareness campaigns	City as a buyer / public procurement	Financial support for new business models
Tax	Education	Lobbying	Investigate possible new markets
Spatial planning	Encouragement / motivation	Demands	Supplanting new material consumption
Logistics & infrastructure	Support for community-based initiatives	Investigating possibilities in legislation	Partnerships & networks
Technical support / advise for citizens	Unspecified support for new businesses	Stranded asset support	Equality / just transition
Metrics	ABC approach vs. practice approach	Events	The limits of city power
City owned experiments / niches	Labels / certificates	Technical support for businesses	

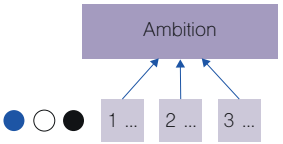
3RD MAPPING

The affinity bundles were sorted so that new groupings would only include 1-3 initiatives. These were analysed for problem framings. The bundles were re-mapped and rephrased as ambitions based on our interpretations

THE AFFINITY BUNDLES WERE SORTED IN NEW GROUPS TO INCLUDE 1-3 INITIATIVES



BUNDLES WERE RE-MAPPED AND REPHRASED AS AMBITIONS, SUPPORTED BY INITIATIVES



THE INITIATIVES WERE ANALYSED ACCORDING TO PROBLEM FRAMINGS

Conventional problem framings
- *Technological innovation*
- *Consumer choice*
- *Changing behaviour*

Practice theory problem framings
- *Recraftingpractices*
- *Substituting practices*
- *Changing how practices interlock*

4TH MAPPING

The outline of the catalogue was mapped by prioritising ambitions and connecting chosen initiatives in one "objective tree" structure within each of the three consumption categories: Cross Category (CC), Food (F), Consumer Goods (CG)

THE AMBITIONS WERE PRIORITIES BASED ON DISCUSSIONS REGARDING THE FOLLOWING TRAITS:

Ambition A
Ambition B
Ambition C

- *How radical their potential is*
- *How soon they could be implemented*
- *Availability of literature and inspiration*
- *Their level of innovative thinking*

CERTAIN AMBITIONS WERE RANKED HIGH DUE TO THEIR RADICALITY. OTHERS RANKED HIGH DUE TO THEIR IMPLEMENTABILITY. OTHERS RANKED LOW DUE TO A LACK OF AVAILABLE KNOWLEDGE ON THE TYPE OF IMPLEMENTATIONS

THE AMBITIONS WERE COORDINATED WITHIN CONSUMPTION CATEGORIES

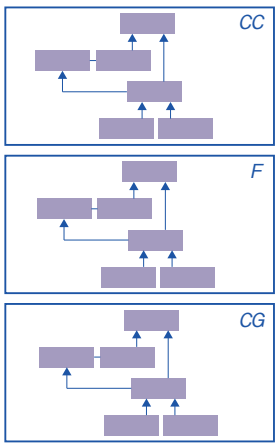


Fig. 6.1 - Illustration of the steps of mapping the initiatives. This chapter presents steps 1-3, except the rephrased ambitions, which are presented in ch. 7.0 along with the coordination

6.1.1 CHANGE POTENTIALS

The aforementioned reports, plans and strategies have been studied by extracting short descriptions of initiatives that are related to either the consumption categories *food* or *consumer goods* or initiatives with a broader relevance, categorised as *cross category*. A total of 168 initiatives were extracted and reviewed. As illustrated in fig. 6.2 most initiatives were *cross category* (73 initiatives), followed by *food* (70 initiatives), and the fewest initiatives relate to the category of *consumer goods* (25 initiatives).

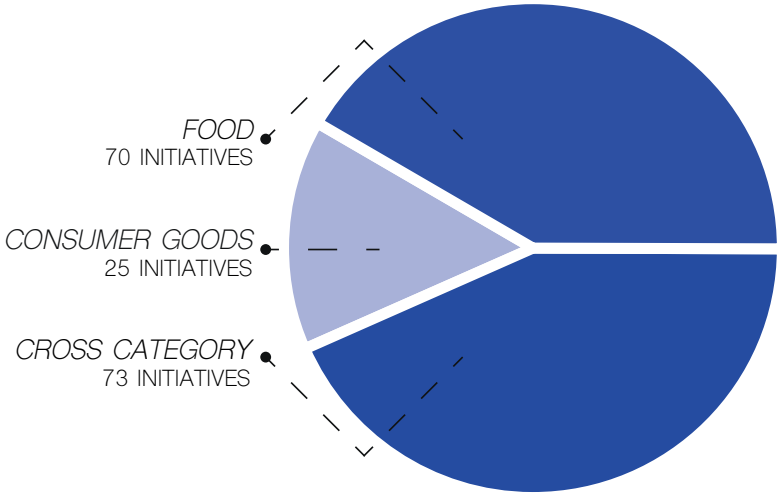


Fig. 6.2 - illustrating the distribution of initiatives across the different categories that were reviewed in total

All of the 168 initiatives across the different consumption categories were first mapped (as described in fig. 6.1) according to their *change potentials*. These *change potentials* are inspired by the City of Vancouver (2020-a, p. 50), who grouped their actions for consumption-based emissions in the building sector according to the following 'types' of change:

- *Change the rules* (e.g. regulation, legislation and new rules)
- *Change the market* (e.g. providing incentives through economic instruments)
- *Change the culture* (e.g. collaborative networks/partnerships, events, knowledge sharing, funding tools/methods, training, education, awareness campaigning)
- *Change the context* (e.g. aligning with other city strategies and plans, other sustainability issues)

	CROSS CATEGORY	*FOOD*	*CONSUMER GOODS*
CHANGE THE RULES	FEWEST	FEWEST	THIRD MOST
CHANGE THE MARKET	SECOND MOST	SECOND MOST	SECOND MOST
CHANGE THE CULTURE	MOST	MOST	MOST
CHANGE THE CONTEXT	THIRD MOST	THIRD MOST	FEWEST

Fig. 6.3 - Illustration of how the initiatives are distributed across the different change potentials - inspired by City of Vancouver (2020) and Spurling et al. (2013).

Fig. 6.3 shows the distribution of initiatives in each consumption category across the different change potentials. Three main insights were obtained from this mapping. Firstly, the limited direct formal regulatory powers of cities to change their citizens' consumption is reflected in the initiatives they are choosing to implement, as most initiatives across all the consumption categories were found to be aligned with *changing the culture*. These initiatives essentially resemble *governing through enabling* (sec. 5.2), which was also highlighted during the interviews as a main approach for governing for consumption transitions (tbl. 5.1 in sec. 5.2). However, it should be noted that even *governing through enabling,* when aimed at transitions in citizens' consumption, can be seen as controversial for cities, since governing outside formal regulatory jurisdiction can be considered a 'political hot potato", as described by Klaus Bundgaard:

> "We can never regulate private consumers. We do not have the authority to say how much meat they [citizens] are allowed to eat, but we can of course help and try to inspire, it could for instance be by recipes, it could be through knowledge, it could be through influencers, and all sorts of other things. This is what we have to figure out. [...] It is a 'hot potato' politically, because there will always be someone who will say 'should the municipality even begin to place some responsibility on the citizens in relation to what foods they eat, should we decide that? Should we even try to push for less meat consumption and towards a more plant-based diet?'. [...] There is going to be a big challenge for the politicians on how much they dare to take responsibility for this, because it is a field where you can argue whether we should even work on this, as an authority, and whether it is our responsibility"[2] (Bundgaard, 2021, personal interview).

While his comment was specifically related to *food*, regulating citizens' consumption of *consumer goods* can be equally controversial in that sense. Especially because consumption can be considered deeply personal, since people feel like their identity is associated with what they consume and because consumption is only one part of a meaningful practice, not the practice itself (sec. 3.2.1). The limits to regulatory powers is also reflected in fewest initiatives being aligned with *changing the rules* for *cross category* and *food* (and second fewest for *consumer goods*).

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2 Original quote in Danish: "Vi kan jo aldrig regulerer på det i det private, vi kan jo aldrig tillade os at sige hvor meget kød de må spise, men vi kan selvfølgelig være med til at prøve at inspirere, det kunne f.eks. være ved opskrifter, det kunne være gennem viden, det kunne være gennem influencers, og alle mulige andre ting. Det er ligesom det vi skal til at finde ud af. [...] Der vil altid være en vis politisk, altså det er en 'hot potato' politisk ikke, for der vil altid være nogen der vil sige 'skal kommunen overhovedet begynde og lægge noget ansvar over på borgerne i forhold til hvilke fødevarer de spiser, skal vi bestemme det, skal vi overhovedet prøve at skubbe væk fra kød og over til noget mere plantebaseret kost?', det kunne man godt se kunne blive en udfordring,. [...] Det bliver den store udfordring, altså hvor meget tør politikerne at tage ansvar for det her, fordi det er et felt, hvor man godt kan argumentere for skal vi overho vedet som myndighed begynde at arbejde med noget her, og er det vores ansvar." (Bundgaard, 2021, personal interview)

The second insight drawn from this mapping is that the strategy of stimulating the market for sustainable goods and services with public procurement powers is also reflected in the initiatives that cities are currently implementing. The second highest number of initiatives across all the consumption categories were found to be aligned with *changing the market*. In this context, changing the market thus resembles *self-governing* (sec. 5.2) which, like *governing through enabling*, was highlighted in the interviews as key to transitions in consumption (tbl. 5.1 in sec. 5.2).

A third insight drawn from this mapping is that, generally, only a few initiatives were found to be aligned with *changing the context*, i.e. aligned with other city plans, strategies, goals and thereby with a potentially broader sustainability definition. This essentially indicates a lacking acknowledgment of the need to understand and address consumption from other perspectives than climate alone.

6.1.2 BUNDLES OF AFFINITY

AFFINITY BUNDLES

City / business agreements	Awareness campaigns	City as a buyer / public procurement	Financial support for new business models
Tax	Education	Lobbying	Investigate possible new markets
Spatial planning	Encouragement / motivation	Demands	Supplanting new material consumption
Logistics & infrastructure	Support for community-based initiatives	Investigating possibilities in legislation	Partnerships & networks
Technical support / advise for citizens	Unspecified support for new businesses	Stranded asset support	Equality / just transition
Metrics	ABC approach vs. practice approach	Events	The limits of city power
City owned experiments / niches	Labels / certificates	Technical support for businesses	

Fig. 6.4 - Illustrating all of the affinity bundles created

All of the 168 initiatives were, after the first step, grouped together according to affinity (as described in fig. 6.1 and sec. 2.4). In order to make sense of the affinity mapping, some initiatives had to be split into two or more. The bundles were named, according to their themes, as illustrated above in fig. 6.4. The bundles were not made specifically for each consumption category, but across all three categories. The bundles revealed more specifically, the types of initiatives that cities are implementing, on the issue of consumption. The bundles containing the most initiatives were the following:

- *Partnerships & networks* (with other public organizations, authorities, businesses, civic society and knowledge institutions)
- *Awareness campaigns* (to inform about opportunities for giving away goods and for proper waste sorting, and to encourage shifts in citizens' choices of consumption)

- *Logistics & infrastructure* (e.g. provide and facilitate the infrastructure for circular business models, collecting and recirculating different resource streams)
- *Metrics* (e.g. develop metrics to measure and monitor the transition)
- *City as a buyer / public procurement* (to stimulate the market by driving the demand for sustainable foods and consumer goods, as mentioned earlier in this chapter)
- *Lobbying* (since there are limits to the degree to which cities can *govern by authority* cities can lobby national and international governing bodies for changes beyond city jurisdiction)

The lack of alignment between the city climate plans and other city plans and broader sustainability definitions warrants further remarks. On this subject, the bundle *equality / just transition* must be addressed, and it must be criticised that no initiatives on the subject of global inequalities were identified. It could be argued that global injustices are better addressed at the international level, and that it is not necessarily an issue that individual cities can address sufficiently. It is nonetheless a crucial aspect of the impacts that consumption in cities have, and tools such as the Doughnut City Portrait give preliminary inputs as to how this perspective can be incorporated (sec. 4.1.1). However, what is even more striking, is the lack of addressing local inequalities. The Cities of Portland and Vancouver were the only cities with initiatives that were directly addressing these. The lack of addressing local inequalities could be due to a number of reasons, such as; a lack in understanding of local inequalities, lack of acknowledgement of local inequalities or lack of political will to address local inequalities. This could, however, also simply be a tragic result of the silo structure of cities which creates a division between addressing local inequalities and addressing consumption transition, by tying these issues to separate administrative silos.

6.1.3 CONVENTIONAL PROBLEM FRAMINGS

Following the affinity mapping of the initiatives, the bundles and the initiatives included in them were discussed, interpreted and rephrased as ‘ambitions’ that we understand the cities to be aiming towards. 1-3 initiatives were chosen (with some exceptions) from each bundle for each consumption category, as long as these were still deemed relevant, and not too repetitive or too incremental. This means that some initiatives were taken out, and a remaining total of 139 initiatives were reviewed in this step. The ambitions will be further presented in ch. 7.0 of this report, and this chapter will instead focus on the initiatives.

As illustrated in fig. 6.5 most initiatives for this mapping were in *cross category* (67 initiatives), second most were in *food* (43 initiatives), and the fewest initiatives were in the category of *consumer goods* (29 initiatives). The larger amount of *consumer good* initiatives in this mapping, compared to the first, is due to some of the initiatives being split up into multiples during the affinity mapping.

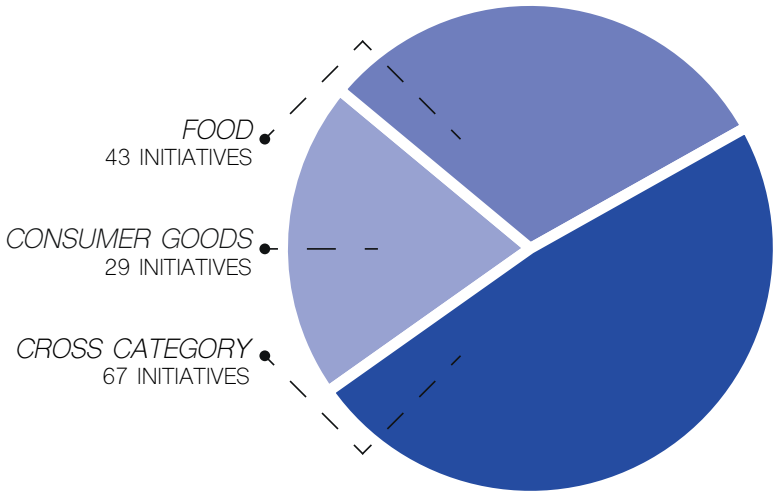


Fig. 6.5 - Illustrating the distribution of initiatives - across the different categories - that were reviewed in the third step of the analysis

All of the 139 initiatives across the different consumption categories were labelled based on a discussion of their tendencies in problem framings (as inspired by Spurling et al., 2013, and presented in sec. 3.2.2). The initiatives that were included under each ambition were discussed, and an interpretation was made with regards to which conventional problem framing they represented, if any.

	CROSS CATEGORY	FOOD	CONSUMER GOODS
INNOVATING TECHNOLOGY	SECOND MOST	FEWEST	SECOND MOST
SHIFTING CONSUMER CHOICE	MOST	MOST	FEWEST
CHANGING BEHAVIOUR	FEWEST	SECOND MOST	MOST

Fig. 6.6 - Illustration of how the initiatives are distributed across the different conventional problem framings - inspired by Spurling et al., (2013)

From the distribution of initiatives across the different conventional problem framings in each consumption category, as illustrated in fig. 6.6, the following insights have been drawn. For *cross category,* the initiatives were assessed to be almost equally distributed across the different conventional problem framings (as illustrated by the similar tone of colour in fig. 6.6 across the problem framings in the category). Thus it is not possible to draw any conclusion based on the distribution in this category, except that the investigated cities seem to apply each conventional problem framing almost equally in *cross category* initiatives. For the categories *food* and *consumer goods* more specific conclusions can, however, be drawn.

The cities are generally focusing most efforts in the category *food* on *shifting consumer choice*. This means cities are generally attempting to influence what the citizens buy, and the point of entry for intervention can thereby be said to be at the acquisition phase (as illustrated in fig. 6.7). These types of initiatives typically involve different

forms of awareness campaigns. A close second focus for cities is on changing behaviour in the *food* category. This is mainly attempted through providing inspiration and education for more climate friendly food preparation and through different forms of partnerships with businesses and civic society. This is then a second point of entry for intervention for cities. Additionally, cities are also focusing behaviour changing efforts on reducing food waste, and the disposal phase thus becomes a third point of entry for intervening with food consumption. Finally, the fewest initiatives were focused on *innovating technology*. This could be a reflection of the generally minimal food production in cities, which provides less incentives to direct efforts on innovating production technology for this.

In *consumer goods,* the biggest focus by far is on *changing behaviour*. This is primarily related to the disposal phase, which is the primary point of entry for interventions with regards to consumption of *consumer goods* (fig. 6.7). The cities are largely focusing efforts on changing how their citizens dispose of consumer goods, either by correct waste sorting to ensure recycling, or by facilitating sharing and opportunities to give away goods to ensure reuse. This indicates that the cities are generally attempting to ensure circularity. This disproportionate focus on the disposal phase indicates a tendency to take consumption patterns for granted, and an optimism to deal with consumption issues largely through circulation, rather than reduction. This means that the cities' current efforts on implementing circularity reflects the problematic pitfalls of circular economy (discussed in sec. 4.1.2).

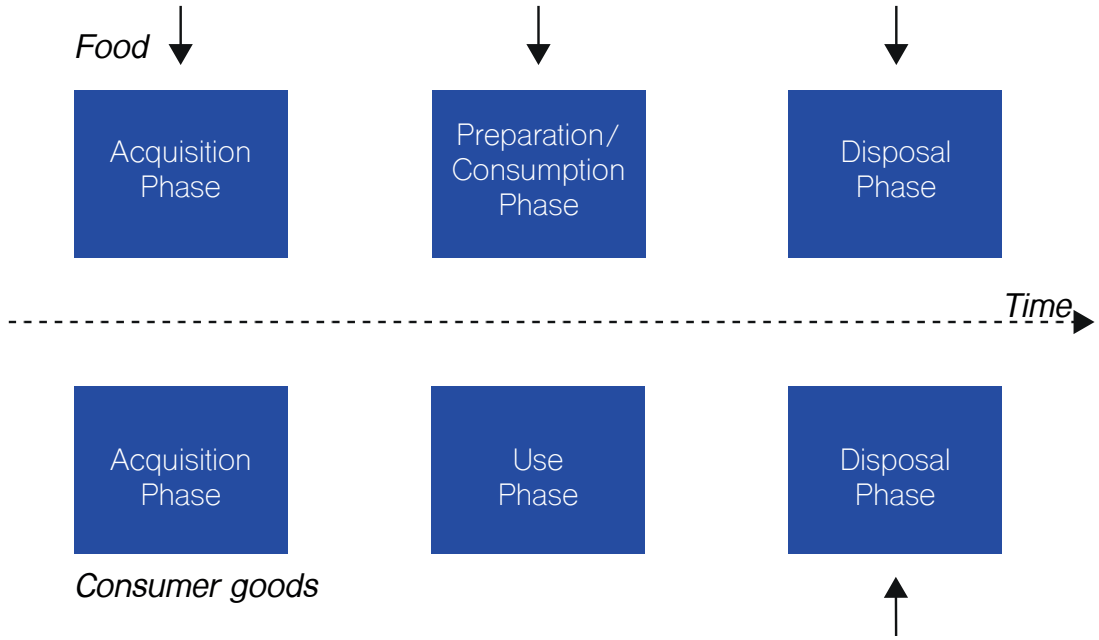


Fig. 6.7 - Illustration of the different points of entry for intervention for the categories food and consumer goods.

Most initiatives address consumption by targeting single phases (and primarily the disposal phase for *consumer goods* as illustrated in fig. 6.7). This indicates a rather vague understanding of the complete practices that *consumer goods* and *food* perform in.

6.1.4 POTENTIAL PROBLEM FRAMINGS

As mentioned in the introduction to the section above, the initiatives have been interpreted for potential practice theoretical problem framings. This section will investigate the findings from this.

	CROSS CATEGORY	FOOD	CONSUMER GOODS
RE-CRAFTING PRACTICES	MOST	MOST	MOST
SUBSTITUTING PRACTICES	SECOND MOST	SECOND MOST	FEWEST
CHANGING HOW PRACTICES INTERLOCK	FEWEST	FEWEST	SECOND MOST

Fig. 6.8 - illustration of how the initiatives are distributed across the different potential practice theoretical problem framings - inspired by Spurling et al., (2013)

The most initiatives, by far, were found to have potential for *re-crafting practices* across all consumption categories. As discussed in sec. 3.2.2, *re-crafting practices* is somewhat aligned with the conventional problem framings, but represents a more systematic approach to changing the elements that make up a practice. This approach acknowledges the socially shared practice elements, instead of only changing elements at the individual's level. The most substantial finding from this assessment of potentials is, however, that few initiatives were generally found to have potential for *substituting practices* or *changing how practices interlock*. This illustrates that the cities' current approaches do not align with a practice theory approach for transitions in consumption. Through the analysis, descriptions or understandings of practices have generally not been detected in the material. This indicates a fragmented understanding of consumption, and thus explains why very few of the initiatives seem to have the potential to substitute practices or change how practices interlock. This limited understanding of citizens' consumer practices is also reflected in the surveys, reviewed below, that are conducted to understand different aspects of the citizens' consumption. The surveys reviewed primarily concern *consumer goods*.

It should be noted that the conclusions drawn here are based on quantity, i.e. the number of initiatives that align with each type of problem framing, and not the quality of individual initiatives. Some initiatives differ from these patterns by representing more comprehensive and less fragmented understandings of consumption patterns. The patterns illustrated in the figures, (based on quantity), do however generally represent the insights from the review.

6.2 REVIEW OF CITIZEN SURVEYS

Due to the demanding nature of studying practices through ethnographic fieldwork,

surveys could potentially offer a less demanding approach to collecting practice related insights from a broad group of people. This section will explore this idea by reviewing four citizen surveys and the types of knowledge they produce and potentially could produce. Examples of questions from these have been extracted and are discussed in this section.

The following citizen surveys have been reviewed:

- Climate Action Readiness Study (Rambøll, 2020). Based on approximately 1,000 responses from citizens of the City of Copenhagen in 2019.
- Norstat at a Glance, Electronics (Norstat, 2020-a). Based on approximately 1,000 responses from citizens of the City of Copenhagen in 2020.
- Citizen survey on experiences with repair and reuse of electric and electronic products, clothes, shoes and furniture, (Norstat, 2020-b, [Unpublished data]). Based on approximately 1,000 responses from citizens of the Capital Region of Denmark in 2020.
- Public Engagement Report for the Climate Emergency Action Plan (City of Vancouver, 2020-b). Based on approximately 2,200 responses from citizens of the City of Vancouver.

6.2.1 THE CLIMATE ACTION READINESS STUDY

The survey set out to elucidate the opinions of the citizens of Copenhagen in order to uncover: i) whether Copenhageners are concerned about climate change; ii) whether Copenhageners engage in 'climate friendly' activities; iii) whether they find many or few obstacles to doing so; iv) whether they believe they themselves play a role in abating climate change; v) whether the city administration could and should be doing more, and; vi) whether they, the respondents, are willing to pay more to enable the city administration and businesses to do more.

The survey listed predefined 'climate friendly' actions, of which citizens were asked to what degree they engage in, along with predefined obstacles as to why citizens might not engage in these actions to a high degree (Rambøll, 2020, p. 14-15). The survey also asked whether 'climate friendly' behaviour was considered easy and whether information on the subject was easily accessible. Options given for why 'climate friendly' actions were engaged in to a low degree were: 'it is too troublesome/too time demanding', 'it is too expensive', 'it would not make a difference anyway', 'it is not interesting to me', 'I do not know enough about it', and 'do not know' (p. 15). Such answers can potentially give an indication of whether citizens experience a lack of skills or knowledge required to perform certain practices. However, the survey produces no knowledge on the types of skills or knowledge lacking.

These types of questions do not allow for a perspective on the collective or the shared experiences of practices and the related knowledge, skills or meaning, i.e. whether

certain practices and behaviours are considered normal, expected or part of a social identity. Furthermore, the survey might imply that if only citizens have access to said knowledge, they would act accordingly. However, it is not likely to be so simple, since knowledge and values do not necessarily translate into actions (Shove, 2010, p. 1276), and thus this implication could create a false hope for information policies that do not consider interconnected obstacles. Likewise, the survey explored whether Copenhageners are of the opinion that businesses should sell more 'climate friendly' products, and whether the citizens are willing to pay (more) for such products (Rambøll, 2020, p. 26). While such a question is easy to ask as well as to answer yes to, these responses provide little in terms of explanation when people do not buy the products. It furthermore indicates a very limited understanding of sustainable consumption, as pertaining to the product level and 'climate friendly' products. The knowledge obtained from the survey is thus insufficient for the purpose of understanding the actual practices that people engage in, as well as for the purpose of changing them.

6.2.2 NORSTAT AT A GLANCE, ELECTRONICS

This survey set out to elucidate Copenhageners' different consumption preferences, and among other things, to what degree personal portable electronics devices (mobile phones and computers, hereinafter referred to as PED) and other electronic household appliances are purchased new or used, and to what degree Copenhageners' opt for repair when the electronics break. In this review we will highlight some insights obtained specifically on PEDs, as PEDs are a special kind of consumer good and the range of practices they perform in can be overwhelming to grasp.

The survey listed predefined consumer preferences in relation to the purchasing of the PEDs: 'low price', 'new model', 'looks', 'brand', 'longevity', 'repairability', 'resale potential', 'made from recycled materials', 'potential for recycling', 'second hand availability', 'minimal packaging', 'take-back program when purchasing new electronics', 'other', and 'don't know' (Norstat, 2020-a, p. 7). This was supplemented by a question on the reasons for exchanging PEDs with new, also with predefined answers: 'wanting a bigger screen', 'the previous one broke', 'wanting a newer design', 'wanting more 'functions'', 'wanting a product that interacts better with my other PEDs', 'the battery did not hold power', 'the previous device had gotten too slow', 'other' and 'do not remember' (p. 16).

The question regarding the preferences for purchasing new PEDs is interesting from the perspective of practice theory. Some of the listed preferences for purchasing 'new' resembles the practice element of *meanings* - such as the value of a certain 'brand', 'model' and 'looks' which could be examples of socially shared meanings and expectations. In addition, the listed reasons for exchanging PEDs with new ones can potentially open up questions on how different practices interlock. For instance, the option 'wanting more functions' opens up the question of what such functions could be, their

purpose, and what practices they perform in. With regards to battery power, slow devices and the like, questions regarding interlinking consumer and producer practices arise; what are socially expected levels of technological development (e.g. updates), since PEDs become too slow too fast? The knowledge gained from this survey does, like the first reviewed survey, provide some insights on a few aspects of consumption practices. However, this is still insufficient to understand the actual practices.

The survey also set out to find to what degree respondents chose to repair their PEDs, and what (predefined) obstacles they experienced when choosing not to repair. The options were 'too expensive', 'too troublesome', 'preferred purchasing a new one', 'other', and 'do not know' (Norstat, 2020-a, p. 12). It is noteworthy in this regard that the most common response was "other", indicating the predefined answers did not cover the experiences of the respondents to a significant degree.

6.2.3 SURVEY ON EXPERIENCES WITH REPAIR AND REUSE OF ELECTRIC AND ELECTRONIC PRODUCTS, CLOTHES, SHOES AND FURNITURE

This survey, similarly to the previous one, aims to explore to what degree *consumer goods* were repaired, attempted repaired, acquired from new or second hand, and the reasons behind answers to these questions. The survey provides slightly more detail as to why respondents chose to purchase used or new products respectively, while covering a much broader range of *consumer goods* than just electronics. Some of the predefined answers for acquiring used were: 'used is cheaper', 'used satisfies my needs sufficiently', 'used is more environmentally friendly', 'the used product was given to me' (Norstat, 2020-b, p. 20-27; p. 91-96; p. 147-152). Predefined answers for acquiring new products were: 'I wanted the newest model', 'I am worried a used product would not last long', 'I am unsure about the warranty on used products', 'it is too time consuming to buy used', 'I did not consider it' (p. 28-35; p. 97-102; p. 153-158).

The survey aims to elucidate why respondents chose to have or not have defective products repaired, similarly to the previous survey, with some differing predefined answers for having a defective product repaired being: 'in order to avoid creating waste by discarding the product', 'because I care about the product' (Norstat, 2020-b, p. 60-67; p. 122-127; p. 177-182).

The insights related to the reasons why respondents chose to either have or not have defective products repaired, could offer insights into how practices of repairing products can substitute the practice of acquiring new. Potential practice insight could be gained from exploring the different aspects related to values, such as whether the respondents 'cared' about certain products of theirs, whether they bought used products due to environmental concerns or for the purpose of following certain fashions. These questions allow for interesting comparisons between types of consumer goods, since value related questions can elucidate to what degree certain products are, or are not,

part of identity shaping practices etc. It can potentially reveal learnings about the types of relationships respondents have with their products, and general tendencies to 'care' more about certain types of products could indicate collective meanings regarding material identity creation.

6.2.4 PUBLIC ENGAGEMENT REPORT IN THE CLIMATE EMERGENCY ACTION PLAN

The City of Vancouver completed one public online survey, which received 2,200 responses from citizens of Vancouver. The survey asked citizens how 'comfortable' they were with a number of different perspectives on the Climate Emergency Action Plan. These perspectives were the goals and targets of the plan, the proposed initiatives, and the types of actions that the citizens thought the city administration should focus on (City of Vancouver, 2020-b).

With regards to consumption practices, a series of questions were asked in the survey that provided insight on the subject of *food*, food waste, meat and dairy. On *consumer goods*, the survey provided intsights on repair and secondhand products. The questions and responses on repair and reuse of *consumer goods* were similar to the previous survey. The questions related to meat and dairy consumption are more relevant to highlight in this review, as this was the only survey covering the consumption category of *food*.

On the question of why citizens sometimes have no meat or dairy, the predetermined responses were: 'health', 'environmental', 'taste', 'cost', 'cultural', 'social', and 'other' (City of Vancouver, 2020-b, p. 88). On the questions on what would be needed to encourage the citizens to reduce their consumption of meat and dairy, the predetermined responses were: 'taste', 'availability', 'better understanding of ways to reduce consumption', 'cost savings', 'better understanding of personal and planetary health impacts', 'assistance in food preparation', 'nothing would change my diet', and 'other' (p. 89). 'Taste' was one of the most frequent responses in both questions, which indicates a need to better understand what 'taste' implies. For instance, does a meal taste better if it is home-cooked or supplied by specific stores, restaurants or brands, if it is prepared and eaten in social settings? Or if it is simply familiar? Thus, to more successfully encourage the citizens that have not already reduced the consumption of meat and dairy, it is necessary to understand the practices revolving around 'tasty' meals. Furthermore, it is relevant to consider that some of the predefined responses are likely to be more conscious choices, and that factors like 'culture' could be much more influencing at a subconscious level. This is one reason that studying the practices is more revealing than a survey.

6.2.5 HOW CAN CITIZEN SURVEYS CONTRIBUTE?

The surveys investigate different points of entry for intervention on the consumption categories that they each cover. What is most striking are the questions that are asked with the aim of understanding aspects of acquisition and the phase prior to acquisition, and the predetermined answers for these questions. The answers focus on the individuals and their personal values and preferences, and what the individuals deem necessary for them to change their ways. Thereby, the answers from these questions can primarily provide arguments for awareness campaigns and for facilitating infrastructure for *repairing* and giving away used consumer goods.

One major issue with giving citizens a list of predetermined answers as to what would make them change their personal ways, is that this provides no explanation when people do not change. Even if all of the things on the list are 'fixed' or provided, so that by all logic, they should change. This is reflected in the general difference between what people reply in surveys or interviews and what can be observed ethnographically (Blomberg et al., 2017, p. 130). As such, the most valuable contribution from the surveys is that the questions on personal values and preferences provide a foundation for and opens up the kinds of questions that need to be investigated in order to understand collective meanings and values, to finally enable cities to support and facilitate the transition to more sustainable consumption practice.

7.0 DESIGNING AN INSPIRATION CATALOGUE

7.0 DESIGNING AN INSPIRATION CATALOGUE

An inspiration catalogue will be one of the products of this project, the content of which will be dealt with in this chapter. The catalogue is not fully developed, as of the submission date of this report. Thus, the chapter will describe some of the elements that the catalogue will contain[1]. The chapter consists of the following four overarching sections which will present: i) why an inspiration catalogue is the choice of design product, and what the recipients of the catalogue should have in mind when reviewing it; ii) suggestions for *cross category*; iii) suggestions for *food*; and iv) suggestions for *consumer goods*.

7.1 CONSIDERATIONS FOR DESIGNING A CATALOGUE

During the initial meetings to scope the project with Klaus Bundgaard of the Climate Secretariat in the City of Copenhagen, a general inspiration catalogue for cities was determined as a desirable outcome of this collaboration. To strengthen the potential influence of this project and its findings, the project has thus been conducted with exactly this type inspiration catalogue in mind. Aspiring to be generally inspirational, the catalogue is not made with a specific city context in mind. The inspiration catalogue is however mainly relevant for Global North, democratic, high-income, consumer cites that consume more than they produce, as the empirical data that has fed into the development of the catalogue stems from cities of this type of city. The relevance of an inspiration approach has also been emphasized during the interviews with both Julia Lipton and Mette Skovbjerg:

> "We work on peer-to-peer exchange of knowledge. So there's research and technical assistance in that, and also advocacy. But more than anything, this influence that one city is doing something is the best way that another city can see that it's practical and feasible" (Lipton, 2021, personal interview).

> "Seeing the actual steps being taken, and not just focussing on the end result. That is, seeing what elements have been present here [in the process]. I think that's what we are looking for in these case examples [...] you sort of scan them to see whether you have the same preconditions in your local

1 It should be noted, that changes may occur on the elements of the catalogue after the submission of this report.

context in order to do what has been done in the cases"[2] (Skovbjerg, 2021, personal interview).

As Julia Lipton states, influencing cities by showing what other cities are doing can be powerful. However, because of the amount of initiatives that have been studied in this project, a detailed understanding of each was not possible to obtain or provide. This catalogue can therefore be considered as a research-based approach to influence cities, by drawing on a general review of what cities are currently doing. Mette Skovbjerg states, as quoted above, that it is useful to be able to scan case examples for local preconditions. That will not be possible in this catalogue, because of the lack of detailed presentation of the specific initiatives and their specific city contexts. However, the catalogue will present the process behind the development of the suggestions. So while this catalogue will provide examples of initiatives that cities can implement, this catalogue will also serve as inspiration on how the subject of consumption can be approached by cities, by advocating for a social practice theoretical approach. In addition, the catalogue in its final form, will address the different concerns raised throughout this report regarding the narrow climate perspective on consumption and desirable consumption levels, and the disproportionate focus on recycling and reusing materials in a circular economy perspective instead of reducing material consumption.

7.2 CROSS CATEGORY

This section concerns suggestions and principles that are relevant across consumption categories. First, the section will present the prioritised ambitions based on the mapping (mentioned in sec. 6.1.2). These ambitions are generally aligned with a stronger and broader understanding of sustainability. Second, suggestions for methods for envisioning sustainable futures are presented. This is relevant across categories.

7.2.1 AMBITIONS

The prioritised ambitions relevant across categories are illustrated in the structure of an objective tree below in fig. 7.1. As described in sec. 2.5, the purpose of the objective tree is to illustrate how, in this case the ambitions, are interconnected. Thus, the tree illustrates how the overarching a*mbition to transition to a sustainable future with reduced consumption and monitor the transition along the way* is connected to a set of supporting ambitions. The table (tbl. 7.1) that follows the illustration provides arguments for why each ambition has been prioritised. The initiatives, on the basis of which the ambitions are interpreted, are presented in appx. 5.

2 Original quote in Danish: "Det der med ikke bare slutresultatet, men faktisk at se det er på vej derhen. Altså hvad er det for nogle elementer der har været til stede. Det tænker jeg at man tit sidder og kigger ind i med den der case. […] Man sidder og scanner lidt for om man har de samme forudsætninger i ens nærområde for at gør som i casen." (Skovbjerg, 2021, personal interview)

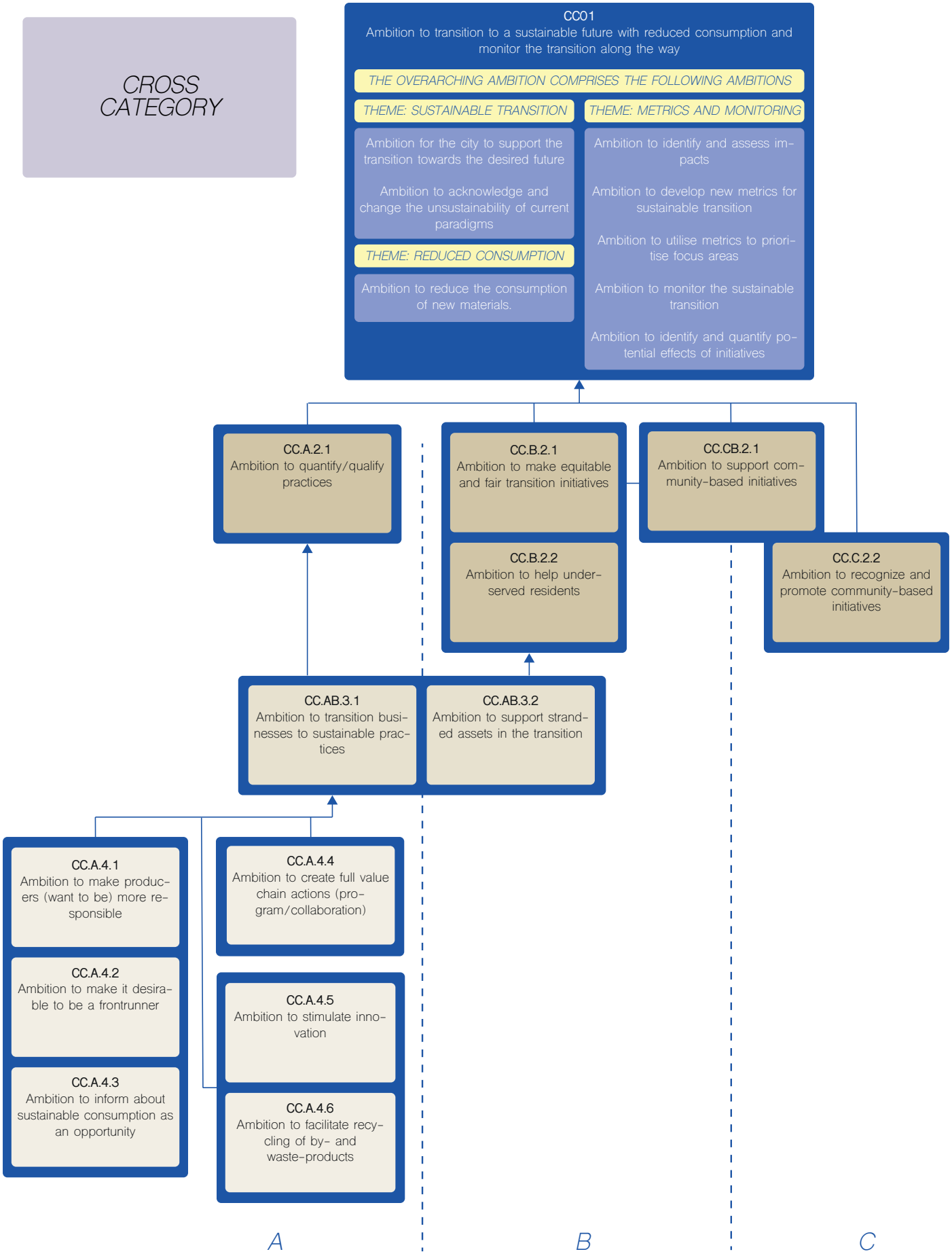


Fig. 7.1 - The ambitions structured as an objective tree. The main ambition is supported by the 2nd tier ambition which is supported by the 3rd tier ambition and so on. Ambitions are furthermore structured as branches (A, B, C) according to theme. The tree is not exhaustive and the ambitions are not the only preconditions for higher ambitions to be successful. Ambition ID indicates[Category].[Branch].[Tier].[Ambition]

Ambition	ID	Reason for including in catalogue
Ambition to transition to a sustainable future with reduced consumption and monitor the transition along the way	CC01	*Main overarching ambition* This ambition was chosen as the guiding ambition across consumption categories. The overarching ambition highlights the need for a sustainable transition, which is to be understood in alignment with the definitions in ch. 4.0. It points to the need for a (near) future state of affairs where consumption is reduced to a sustainable level, rather than increased. Lastly, the ambition includes the aim to monitor and understand the transition as it is effectuated, since this is a need underlined by many of the identified city initiatives. This overarching ambition outlines a three fold focus, and attempts to encompass the following sub-ambitions; • i) on the theme *sustainable transition: Ambition for the city to support the transition towards the desired future;* and *Ambition to acknowledge and change the unsustainability of current paradigms* ii) on the theme *metrics and monitoring*: *Ambition to identify and assess impacts; Ambition to develop new metrics for sustainable transition; Ambition to utilise metrics to prioritise focus areas; Ambition to monitor the sustainable transition;* and *Ambition to identify and quantify potential effects of initiatives* • iii) on the theme *reduced consumption*: *Ambition to reduce the consumption of new materials* The last sub-ambition regarding the reduction of consumption, will also be repeated in the section on consumer goods with recommendations relating to that consumption category specifically.
Ambition to quantify/qualify practices	CC.A.2.1	This ambition is prioritised due to the need, identified in this report, for understanding practices of consumption. The ambition rests on one specific initiative from the Portland Climate Action Plan (appx. 5), that highlights the need to make transition metrics (and related initiatives) culturally appropriate to the local context, and use neighbourhoods as their level of reference. Transition initiatives should reflect socially shared, cultural values at the local context, for the purpose of equitable and successful implementation, as also noted by Julia Lipton: “if you don’t meet people where they’re at, you won’t make that shift” (2021, personal interview). As this report highlights the benefits of using practice theory to understand such cultural values and meanings, this ambition aims to incorporate such values into transition metrics and initiatives.
Ambition to transition businesses to sustainable practices	CC.AB.3.1	This ambition highlights the need to transition business and producer practices, since these are in critical interaction with consumption practices. Though practice theory is commonly used to study household practices, the approach is equally relevant in other areas such as business or policy practices (ch. 3.0). The approach can potentially reveal interlocking practices between supply and demand sides in new and illuminating ways.
Ambition to support stranded assets in the transition	CC.AB.3.2	This ambition has been formulated based on an initiative identified in C40 Cities (2018) that emphasises the need for new skills development for industry, communities and the labour market in order to provide support for those that need help readjusting to new conditions in the economic landscape (appx. 5). This is furthermore in line with the practice theory recognition that developing new practices requires the development of skills to match the task. Lastly, there is a significant risk of unnecessary resistance to transition initiatives if stranded assets (both financial, professional and otherwise) are not dealt with.
Ambition to make producers (want to be) more responsible	CC.A.4.1	This ambition primarily rests on initiatives from the City of Amsterdam (appx. 5), but responsibility agreements are also mentioned in relation to the *consumer goods* (sec. 7.4.1). The ambition is prioritised based on the assumption that cities have the opportunity to create close collaborations with local businesses, as mentioned in the interview with among others Mette Skovbjerg and Martin Kaae Riis (sec. 5.2).

Tbl. 7.1 - The ambitions have been prioritised as illustrated, based on the conviction that a broad and strong sustainability perspective is necessary (as discussed in ch. 3.0)

Ambition to make it desirable to be a frontrunner	CC.A.4.2	This ambition relates to ambition CC.A.4.1 since city and business collaboration should ultimately be aimed at making as many as possible active and engaged in the transition. The ambition can be achieved through many avenues such as financial support, removing obstacles, general appreciation and reinforcement among others.
Ambition to inform about sustainable consumption as an opportunity	CC.A.4.3	Highlighting the accompanying benefits of transition initiatives is something practiced by C40 et al. (2019-a) and C40 Cities (2018). Examples in the city climate plans connected climate initiatives with health benefits or financial savings. This approach could, however, in many places, be incorporated with a broader perspective and to an even higher degree, in creating future city visions, where sustainable transition becomes an opportunity to create safe, equitable, and fulfilling lives for all (discussed in sec. 7.2.2). Furthermore, this ambition ties in with the importance of "meeting people where they're at" (Lipton, 2021, personal interview) since the "immediate lived experiences" (Lipton, 2021, personal interview) of people might not prompt them to see the sustainable transition as the main priority in their personal lives. Therefore, highlighting how sustainable transition can lead to benefits closer to their priorities is an important way of engaging people.
Ambition to create full value chain actions (program/ collaboration)	CC.A.4.4	This ambition is prioritised because collaboration across boards is necessary for successful transition. Concerning consumption, there are multiple points of entry for intervention across the entire value chain and lifespan of goods and services, and comprehensive initiatives and actions are therefore important. An overview of full value chains can furthermore give planners more of a chance to foresee potential undesired side effects or rebound effects of initiatives (sec. 4.2.1). As discussed in sec. 4.1.2, circularity is not in itself going to be enough in terms of making the transition to sustainable consumption. It is vital to look at what drives people to consume excessively: "People feel like their identity is associated so much with the product that they consume, and there's so much about society that tells us that we need to upgrade. That's marketing. That is years and years of conditioning telling us that we are a better person if we wear better clothes or better make-up. That we are inadequate as human-beings as we are, and therefore we need to change in materialistic ways in order to be accepted into society" (Lipton, 2021, personal interview). Julia Lipton stresses the fact that even though it might seem like knowledge is limited with regards to why people buy what they do, i.e. "where the damage is done" (Lipton, 2021, personal interview), corporations do in fact possess and develop this type of knowledge to a very high degree. "Corporations have done a lot of work in terms of looking at who wants their product, where's the new market, how do people use it and then discard it. They have an astronomical amount of information in regards to [this]" (Lipton, 2021, personal interview). She stresses the value of city-business partnerships in this regard, with the aim of making businesses recognise that such information needs to be used in making more sustainable and ethical products, rather than to sell more "which is the current premise and construct of what that analysis is about" (Lipton, 2021, personal interview). Essentially, what is needed is a dialogue and reconfiguration of what a business' role is in the 21st century.
Ambition to stimulate innovation	CC.A.4.5	Cities can play an active role in supporting, stimulating, enabling and encouraging innovation. Though focus is often on supporting new innovative business models and technology, the scope can be broadened to encompass innovation in practices..
Ambition to facilitate recycling of by- and waste-products	CC.A.4.6	This ambition is prioritised because eliminating waste is an important focus in circular economy frameworks (sec. 4.1.2). It is, however, important that the value and sustainability of products, whether from virgin or recycled resources, is always assessed and considered, since creating new products from waste-streams does not guarantee the sustainability or ethicality of those products (Lipton, 2021, personal interview).
Ambition to make equitable and fair transition initiatives	CC.B.2.1	This ambition is included because, based on prominent sustainability frameworks, equitability and fairness are considered fundamental aspects of sustainability (ch. 3.0), to the degree that without these values, the transition cannot be considered sustainable. Furthermore, it has, during the climate plan and circular strategy review become clear that such aspects are often insufficiently addressed (sec. 6.1)

Tbl. 7.1 - Continued

Ambition to help underserved residents	CC.B.2.2	This ambition is prioritised due to the importance of acknowledging differences in citizens' abilities and possibilities in changing practices, behaviour and consumer choices. Knowledge of different communities' and groups' challenges and obstacles to change should actively be developed with the aim of providing the help to overcome these.
Ambition to support community-based initiatives	CC.CB.2.1	Primarily, this and the following ambition are prioritised because it is important to involve and engage people in the creation of our shared futures. Supporting blooming and innovative initiatives already embedded in communities is a valuable approach.
Ambition to recognize and promote community-based initiatives	CC.C.2.2	This ambition relates to the preceding ambition.

Tbl. 7.1 - Continued

7.2.2 ENVISIONING THE FUTURE

Envisioning the future is relevant across consumption categories. Envisioning and bringing about radically new ways of life require creativity and active efforts to open up to new opportunities. Drawing on the field of Design for Sustainability (related to sustainability science, system innovation and transition theory) (Gaziulusoy, 2019, p. 67), the following sections will present different methods for the design of sustainability transitions. Schröder et al. (2019) argues for the employment of such methods for combining consumption and production-based approaches to reducing cities' ecological footprints. Long-term and systemic perspectives to sustainable transition in urban contexts require the right methods, transdisciplinary research and engagement: "There is a range of scenario methods like visioning (Vergragt, 2013), backcasting (Quist and Vergragt (2006)), and transition management (Loorbach et al., 2017)" (Schröder et al., 2019, p. 118). They furthermore point to the combination of "co-creation, participatory visioning processes and back-casting methods, participatory urban governance and institutional change, and higher-order learning from small-scale community initiatives that enables active involvement of stakeholders in change processes" (Schröder et al., 2019, p. 123).

There are different kinds of visions, and cities are generally good (in the sense that they develop and make use of them) at creating technical scenarios with and for specific targets. What seems to be lacking is the creation of scenarios and visions for radically different ways of urban living. Sustainability scientist and design researcher, Idil Gaziulusoy, deals with the imagining of sustainable, equitable and resilient future systems by developing various design methods and interventions, with and for various actors. Gaziulusoy & Ryan (2017) emphasise the need for creative imagination in order to generate target and transformation knowledge. Since radically different, sustainable futures cannot be generated through established knowledge based on the well-known, creativity must be employed to generate pathways "that can link unsustainable present states of the systems to (imagined) sustainable future states" (Gaziulusoy & Ryan, 2017, p. 1917). For these purposes, actors can use methods for futures[3] inquiry, such as participatory design visioning. Such methods allow actors to "demonstrate the spectrum of (conflicting) values within the [...] group, to articulate the signs of emerging alternative futures, and to conceptualise innovations that would not have been conceived otherwise" (Gaziulusoy & Ryan, 2017, p. 1917). As criteria for the future scenarios, cities can appropriately find inspiration in the consumption levels outlined by (C40 Cities et al., 2019-

3 Futures in plural to indicate that radically different futures can be envisioned. These envisioned futures can be different from one another and of course from the current state of affairs

a), for imagining futures where good lives are obtained through less resource-intense means, and less impactful avenues, that live up to the 1.5° of the Paris Agreement.

Especially within the strategic, management and policy-oriented areas of sustainability transition research, visions have long played an important role as a way of identifying transition pathways and policy steps. Furthermore, geographically oriented facets of transition research highlight the relevance of locally specific (e.g. city or regional) visions and related policies since "they mobilize a range of different actors and provide collective direction [...]" (Köhler et al. 2019, p. 27). Furthermore, it is often possible for formal and informal visions to exist simultaneously within and across geographic regions, and differences in these may result in conflicts and contestation. However, collective and locally shared visions can be formed as outcomes of such contestation across different groups and scales, as well as of consensus, and should therefore be brought to the table (Köhler et al. 2019). Examples of good current practices can also feed into the method, as sources of inspiration, where visions and scenarios can "give a better understanding of what the benefits, implications and conditions of upscaling good practices could be, which may have significant policy relevance" (Schröder et al., 2019, p. 118). It is essential that cities address the question of future consumption through the perspective of being open to radicality - to radically different futures. Futures inquiry is challenging because it poses the design dilemma that while radical transition is necessary it is impossible to manage the entire transition. What futures designers can do is 'open up' to the targeted future (as mentioned in sec. 1.3). This can be done by considering what can be done now and in the intervals between now and the targeted future, in order to open up to that future.

On the subject of future visions, Julia Lipton affirms that most of C40 cities have visions and related climate action plans, which have been developed over the last four years. The visions make a big difference in clarifying how cities will reach ambitious targets, and the true value of a vision is that it creates a platform for collaboration across different entities. A vision, a clear action plan created in a consultative and collaborative way, "that resonates with people" (Lipton, 2021, personal interview) is extremely valuable and important. The collaborative characteristic is important because a city does not have full control and cannot do it all on its own. It can, nonetheless, be challenging and conflicting to build a robust vision and implementable climate plan, while balancing this with the urgency and interest in doing it all immediately.

Tobias Johan Sørensen, from CONCITO, likewise agrees on the strengths of working with future images and conceptualisations, and reckons that such visions can "maybe cognitively and culturally, help conceptualise that the future we are facing will not be horrible"[4] (Sørensen, 2021, personal interview). He expresses concern however, that working with visions can be dangerous in case; "what if you don't see yourself

4 Original quote in Danish: "måske kognitivt og kulturelt kan det hjælpe at sætte et billede på at det ikke bliver en forfærdelig fremtid vi går i møde." (Sørensen, 2021, personal interview)

in that future?"[5] (Sørensen, 2021, personal interview), which aligns with the strong inclination, by researchers and practitioners, to emphasise the need for collaborations, trans-diciplinarity, participation and bringing not only consensus but also conflicts to the table.

FUTURE SCENARIOS

A future scenario is a story that gains credibility by being logically consistent and based on well-informed guesses. But although credible scenarios are important in design visioning, they are not the most important outcomes of the process. It is the *conversations* they prompt "which enable understanding of associated uncertainties, different perspectives, range of options and strategies to move forward (Milestad, Sevnfelt & Dreborg, 2014)" (Gaziulusoy & Ryan, 2017, p. 1922). Design visioning is used in order to generate three types of knowledge (Pohl and Hirsch-Hadorn, 2007 in Gaziulusoy & Ryan 2017):

System knowledge

- "[F]ocuses on present states of systems to understand what needs to change" (Gaziulusoy & Ryan, 2017, p. 1916)
- Identifies "present actors and emerging innovations that might assist in transitioning and which can be parts of new socio-technical systems" (p. 1922)
- Articulates "interrelationships between different scales and layers of city systems" (p. 1922)

Target knowledge

- "[G]enerates alternative future proposals for those systems that are desirable and plausible" (p. 1916)
- Produces "future glimpses and scenarios" (p. 1922)

Transformation knowledge

- "[B]uilding the potential paths between the current - undesirable, unsustainable - and future - desirable, sustainable - states of the systems that are subject to transformation" (p. 1916)
- Through the scenarios it "provide[s] hints on pathways" (p. 1923)

The interaction, ressonation and consistency between these three types of knowledge is important in order to make future scenarios seem credible and plausible, which can be methodologically challenging.

BACKCASTING

Another useful transition method is backcasting, which simply means "looking back from the future" and involves the generation of desirable futures followed by processes of ""[...] *looking backwards from that future to the present in order to strategise and to plan how it could be achieved*" (Vergragt & Quist 2011: 747)" (Quist & Leising, 2016, p 9). An interesting, and recent example of backcasting is the "EU-funded Glamurs project in which a backcasting methodology for sustainable lifestyles and a

5 Original quote in Danish: "for hvad hvis man ikke ser sig selv i den fremtid?" (Sørensen, 2021, personal interview)

green economy was developed and applied in seven European countries. A distinction between a green growth context and a sufficiency or de-growth context was systematically used to develop visions of how sustainable consumption and sustainable lifestyles could look in the future" (Schröder et al., 2019, p. 118). This very interesting project took a two fold approach to sustainable lifestyles and consumption, much in line with the discussion of sec. 4.3, by creating a distinction between sufficiency based societies (with focus on degrowth and moderation of consumption) and innovation based future societies (with focus on environmental innovation and circular economy), in order to generate diverse visions during the workshops (Quist & Leising, 2016). "Other examples of citizen involvement in vision development and backcasting include sustainable urban planning (Carlsson-Kanyama et al., 2007), sustainable household consumption domains (Doyle and Davies, 2013), and the use of transition management in urban districts (Wittmayer et al., 2014)" (Schröder et al., 2019, p. 118). These explorative methods of design visioning, development of future scenarios and backcasting scenarios can be integrated in many ways, to link present reality with future aspirations.

EXPERIMENTATION

Experimentation is a central approach to transitions and experiments can also play an important role in the development of new practices, since the experimental facilitation of changing practices can enable new practices to grow from the new configurations of practice elements. Though small-scale innovations are often met with pessimism around their scaleability and extended opportunities, transition theory tends to see experiments, small-scale initiatives and innovations in an optimistic perspective, since the theory allows for the identification of the role of such developments in the grand scheme of change and transitions (Geels, 2002; Geels & Schot, 2007; Schot & Geels, 2008; Smith, 2007). Such small scale developments work "as incubators of innovations which will become engines of change when a 'window of opportunity' opens up" (Schröder et al., 2019, p. 119). Ceschin (2014) stresses, as a crucial aspect of socio-technical experiments, that these are "not only aimed at testing and improving the innovation, but also at stimulating changes in the socio-technical context, in order to create the most favourable conditions for the innovation" (p. 3).

Even though the transition community has emphasised the role and necessity of new kinds of methods and tools for governing, it is also important to "investigate the role of more traditional policy instruments such as economic instruments (taxes, subsidies, capital grants, loans, exemptions) and regulations in transitions" (Köhler et al., 2019, p. 16). The idea of new innovations, small-scale developments and radical elements of sustainable futures is, after all, to upscale and establish these at higher levels.

7.3 FOOD

This section of the report will focus on the consumption category of *food*. The section is outlined differently from the section of *cross category*. The prioritised ambitions for this category will first be presented, just as for the presentation of ambitions in *cross category*. This will be followed by our recommendations on how specific initiatives can be coordinated, in order to strengthen the potential for either re-crafting or substituting practice, or for changing how practices interlock. These recommendations focus specifically on acquiring *new skills and knowledge*, *shifting shared meanings* and *facilitating new opportunities*.

7.3.1 AMBITIONS

The prioritised ambitions relevant for the consumption category food are illustrated below, in fig. 7.2, in an objective tree as with the ambitions for cross category, to show how the ambitions are interconnected and support the overarching ambition to encourage and facilitate a (fair and equitable) transition to sustainable food practices and culture. This is followed by a table (tbl. 7.2) that provides arguments for why the ambitions have been prioritised. The initiatives, on the basis of which the ambitions are interpreted, are presented in appx. 6, as is the case of cross category.

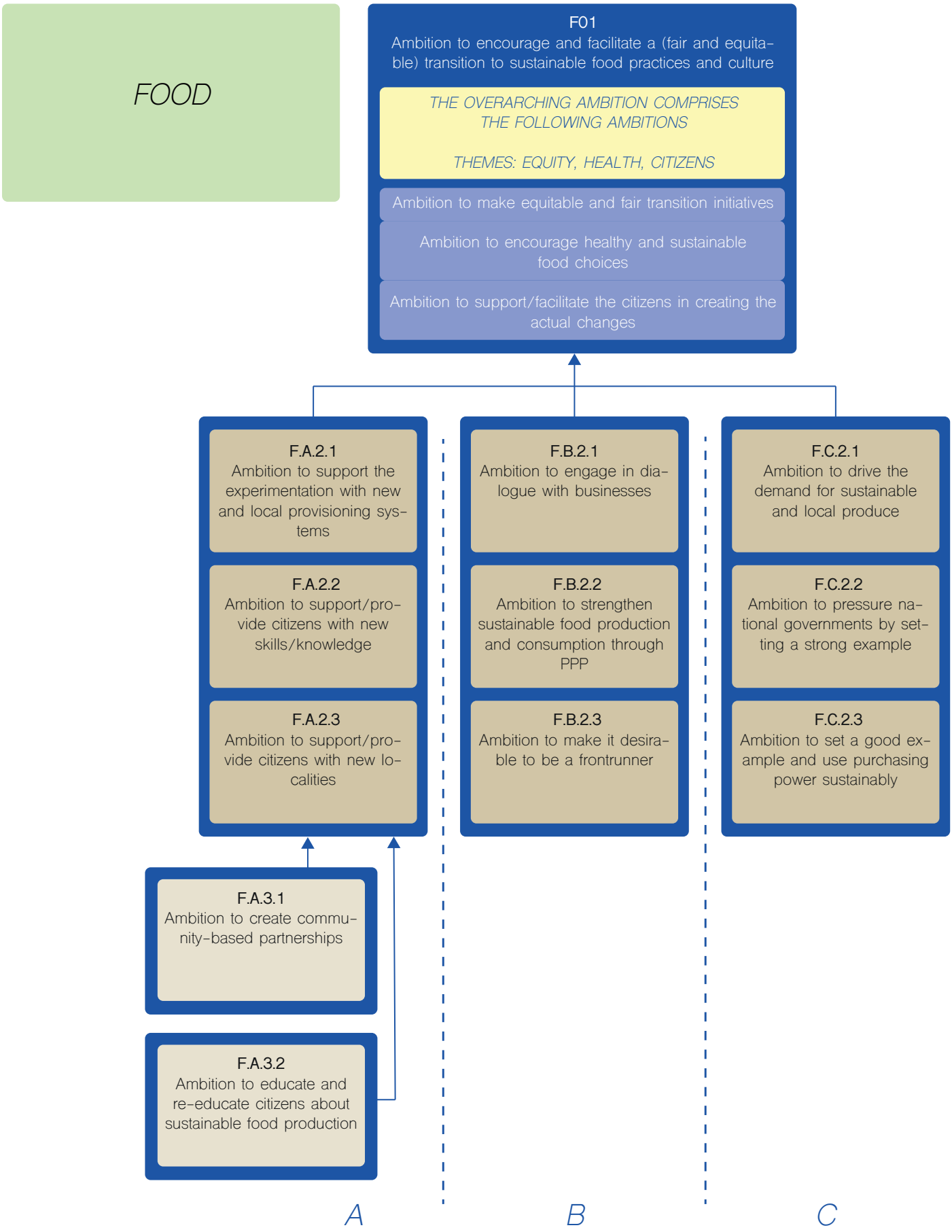


Fig. 7.2 - Similarly to fig. 7.1, the main ambition is supported by the 2nd tier ambition which is supported by the 3rd tier ambition and so on

Ambition	ID	Reason for including in catalogue
Ambition to encourage and facilitate a (fair and equitable) transition to sustainable food practices and culture	F01	*Main overarching ambition* This ambition was chosen as the overarching ambition, since a transition of food practices and culture implies dietary changes which C40 et al. (2019-a; 2019-b) highlight as key for the transition, and reducing household- and supply chain waste, which is also suggested by C40 et al. (2019-a; 2019-b) and Ellen MacArthur Foundation (2019). And while it is not the focus of this report and project, this ambition also holds potential to transition food production practices, as food production is part of food practices and culture. This ambition is an attempt to encompass the following ambitions; *Ambition to make equitable and fair transition initiatives*, *Ambition to encourage healthy and sustainable food choices*, and *Ambition to support/facilitate the citizens in creating the actual changes*. To achieve this overarching ambition it needs to be connected with other ambitions, divided into three themes: A. focusing on the citizen level B. focusing on the business level C. focusing on public procurement
Ambition to support the experimentation with new and local provisioning systems	F.A.2.1	The 2nd tier ambitions (F.A.2.1, F.A.2.2 and F.A.2.3) are chosen due to the practice theory perspective (sec. 3.2.1) highlighting that knowledge, skills, infrastructure (here in terms of new localities) are essential for working with recrafting practices, substituting practice, or changing how practice interlock. There is an element of meaning missing, but experiments (here with new and local provisioning systems) can enable and facilitate new shared meanings to flourish.
Ambition to support/provide citizens with new skills/knowledge	F.A.2.2	
Ambition to support/provide citizens with new localities	F.A.2.3	
Ambition to create community-based partnerships	F.A.3.1	This 3rd tier ambition is chosen due to the potential of community-based initiatives being more democratic and focused on local shared values, meanings, needs, concerns etc. The 2nd tier supporting ambition F.A.2.A can be achieved through community-based partnerships.
Ambition to educate and re-educate citizens about sustainable food production	F.A.3.2	This 3rd tier ambition is chosen because of the importance of new knowledge development for new practices (sec. 3.2.1). If education is only about providing citizens with the knowledge on what sustainable food is, it will not be enough to provide the necessary changes. If education on the other hand provides insights on the unsustainabilities of the current food production practices, and the food system in general, it holds potential to support shifts in meaning and values.
Ambition to engage in dialogue with businesses	F.B.2.1	These 2nd tier ambitions are chosen due to the possibility for cities to govern through enabling (sec. 5.2), which points to the importance of partnerships, collaborations, dialogue etc. with business, as cities do not necessarily have the mandate to directly regulate them, and it is not necessarily desirable to directly impose regulations (ch. 5.0). The potential for businesses are two-fold: 1) Businesses in general have the opportunity to change their own consumption practices, and through that, influence and inspire their employees and inspire other businesses. And 2) food production businesses, on the other hand, have the opportunity to directly influence their customers and consumers through what they produce and supply.
Ambition to strengthen sustainable food production and consumption through PPP	F.B.2.2	
Ambition to make it desirable to be a frontrunner	F.B.2.3	

Tbl. 7.2 - The ambitions of primary priority in the inspiration catalogue section for food. A set of ambitions that are of secondary focus are presented in appx. 7 including argumentations for making them secondary.

Ambition to drive the demand for sustainable and local produce	F.C.2.1	These 2nd tier ambitions are chosen due to the importance of city administrations changing their own consumption practices (tbl. 5.1 in sec. 5.2). As public spendings can account for a large share of overall consumption, there is a large potential in driving the demand for sustainable (and local) produce.
Ambition to pressure national governments by setting a strong example	F.C.2.2	
Ambition to set a good example and use purchasing power sustainably	F.C.2.3	

Tbl. 7.2 - Continued

7.3.2 RECOMMENDATIONS

The ambitions of focus supports the overarching ambition of achieving an equitable transition to sustainable food practices and culture. This section will provide recommendations for coordinating initiatives from different ambitions to support the *acquisition of new skills and knowledge*, *shifting shared meanings* and *facilitating new opportunities* in this regard. These elements can ultimately feed into *re-crafting, substituting* or *changing how practices interlock*.

Equity is central to the overarching ambitions. However, working with equity requires an understanding of the equity problems in specific local contexts, as the *cross category* ambition CC.B.2.1 illustrates. The empirical material collected for this project does not provide such insights, which is why initiatives focusing on equity will not be coordinated with other initiatives in this catalogue. It must further be disclaimed that this coordination of initiatives can only serve as inspiration - and not as concrete recommendation - for ways to coordinate initiatives, since the coordinations are not based on a detailed understanding of each initiative. Furthermore, the specific cities these initiatives stem from have not been regarded in the coordination, which can result in combinations of initiatives from different cities and thereby different city contexts.

NEW SKILLS AND KNOWLEDGE

For the development of new skills and knowledge, the initiatives F01.7, F.A.2.2.1, F.A.2.2.2 and F.A.2.3.1 could be coordinated (fig. 7.3). First and foremost F01.7 acknowledges that material facilitation through access to affordable fresh fruits and vegetables cannot stand alone, and must be combined with knowledge and skills to make healthy consumption choices. However, knowledge and skills to make healthy consumption choices do not necessarily mean knowledge and skills to prepare meals with the fresh fruits and vegetables. It could merely mean the ability and capacity to change consumer choice (i.e. what is being acquired). F.A.2.2.1 on the other hand acknowledges the importance of educating on both production, preservation and cooking. However, such educational opportunities might have an economic cost, and initiative F.A.2.2.2 acknowledges that such training has to be available to low-income

residents. And finally, while access to healthy and sustainable foods, knowledge and skills to make sustainable acquisitions, and knowledge and skills to prepare healthy and sustainable meals is important, it is also important to ensure access to facilities where these meals can be prepared. This is acknowledged by the initiative F.A.2.3.1, which suggests facilitating collective kitchens for people without their own.

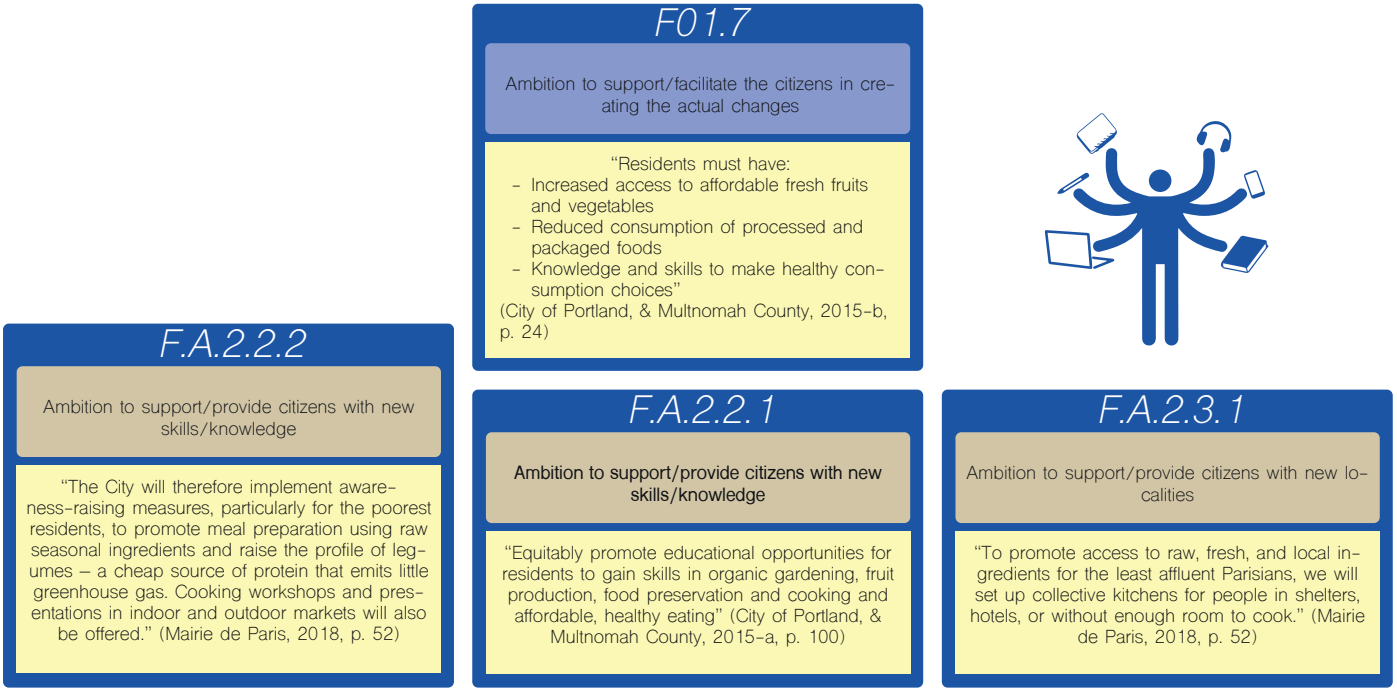
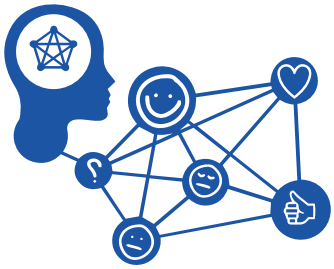


Fig. 7.3 - Coordination of initiatives for acquiring new skills and knowledge in regards to food

SHIFTING SHARED MEANINGS

New skills and knowledge cannot stand alone, and there is therefore a need for shifting shared meanings and tastes too. Both the UK Food 2030 Strategy and Inclusive Food System In the Netherlands cases stress the importance of taste and sociability among other factors (sec. 3.3.1). Campaigning to create awareness on the opportunities for making tasty, healthy and sustainable food can contribute to a shift in socially shared meanings. Coordinating and combining the initiatives F01.4, F.A.2.1.2 and F.B.2.1.1 creates an opportunity to further strengthen the process of shifting shared meanings (fig. 7.4). By providing tasty, low-carbon and healthy meals at public meetings, events, facilities, at employment sites and at community-oriented food markets, citizens will be regularly exposed to these, and the citizens can share the meals and experiences with others such as coworkers, family members, friends, etc. in social settings, which can support a shift in shared meanings.



F.A.2.1.2

Ambition to support experimentation with new and local provisioning systems

The City will evaluate ongoing experiments to establish sustainable and community-oriented food markets and will examine opportunities to create new ones (Mairie de Paris, 2018, p. 50)

F01.4

Ambition to encourage healthy and sustainable food choices

"Develop policy and equitably provide programmatic resources to [...]: b) create policies and practices to encourage the purchase of healthy, low-carbon and minimally processed foods for public meetings, events and facilities" (City of Portland, & Multnomah County, 2015-a, p. 100)

F.B.2.1.1

Ambition to engage in dialogue with businesses

"City government can engage businesses on what foods they offer at their employment sites in order to prioritise healthy plant-based food. This could be championed in parallel with a broader environmental agenda that mayors are discussing with business leaders (e.g. energy efficiency, skills, climate smart investment)" (C40 Cities, Arup, & University of Leeds, 2019-b, p. 48)

Fig. 7.4 - Coordination of initiatives for shifting shared meanings in regards to food

FACILITATING NEW OPPORTUNITIES

Finally, new opportunities need to be established. As suggested in the UK Food 2030 case, the main meal of the day could be returned to lunch-time (sec. 3.3.1). Coordinating the initiatives F.A.2.1.1, F.B.2.2.1, F.B.2.2.2 and F.C.2.3.1 (fig. 7.5) creates an opportunity for this, by providing the main meal at schools, workplaces, etc. (as suggested by the initiatives F.B.2.1.1 and F.C.2.3.1). If these workplaces and schools are public, then combining this with the initiative F.B.2.2.2 strengthens the opportunity for local food production as initiative F.A.2.1.1 works towards promoting local produce by partnering with local farms and food producers.

F.A.2.1.1

Ambition to support experimentation with new and local provisioning systems

São Paulo: Re-localised food production. Investigate potential for a more resilient, socially inclusive urban food system (Ellen MacArthur Foundation, 2019, p. 49)

F.B.2.2.1

Ambition to strengthen sustainable food production and consumption through PPP

"Mayors have a unique role as conveners. A mayor can typically convene representatives from all stages of the food supply chain to work together on a response to dietary change. Mayors can engage retailers and restaurants to promote reduced-meat diets and meal options" (C40 Cities, Arup, & University of Leeds, 2019-b, p. 48)

F.B.2.2.2

Ambition to strengthen sustainable food production and consumption through PPP

"Short supply chains and local production [...] the City will create partnerships between our institutional catering services and farmers" (Mairie de Paris, 2018, p. 50)

F.C.2.3.1

Ambition to set a good example and use purchasing power sustainably

"City governments can change the menus in school and public buildings, encouraging large city employers to follow suit in their canteens" (C40 Cities, Arup, & University of Leeds, 2019-a, p. 108)

Fig. 7.5 - Coordination of initiatives for facilitating new opportunities in regards to food

7.4 CONSUMER GOODS

This section will focus on the consumption category of *consumer goods*. The section is also outlined differently from the section of *cross category*, but structured similarly to the previous section on *food*. The prioritised ambitions for this category will be presented first, followed by our recommendations on how specific initiatives can be coordinated, in order to strengthen the potential for either *re-crafting* or *substituting practice*, or for *changing how practices interlock*. These recommendations likewise focus specifically on acquiring *new skills and knowledge*, *shifting shared meanings* and *facilitating new opportunities.*

7.4.1 AMBITIONS

The prioritised ambitions relevant for the consumption category of *consumer goods* are illustrated below in fig. 7.6, in the structure of an objective tree to show how the ambitions are interconnected and support the overarching *ambition to reduce the consumption of new materials*. This is followed by a table (tbl. 7.3) that provides arguments for why the ambitions are prioritised. The initiatives that the ambitions interpretations are based upon are presented in appx. 8.

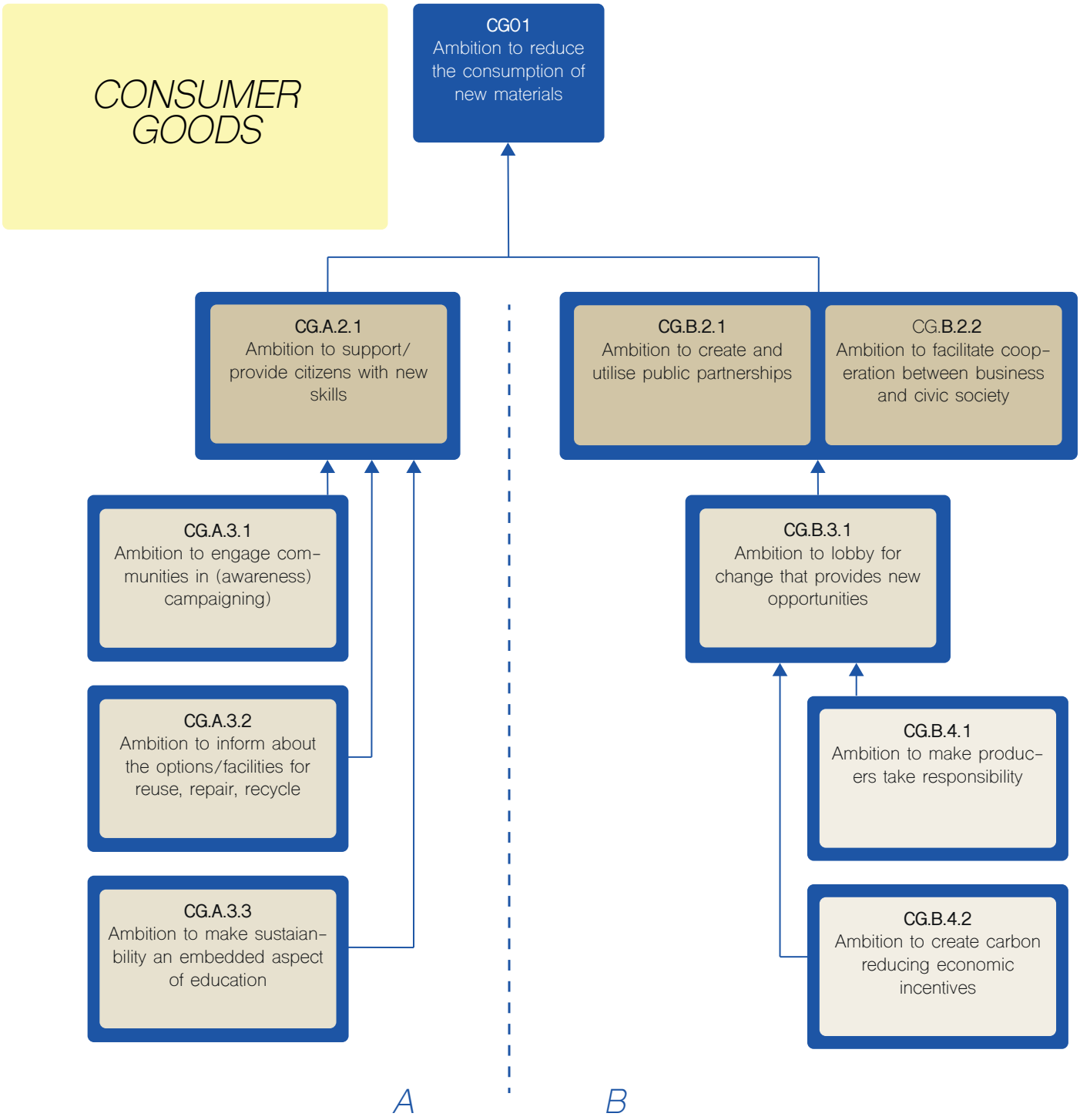


Fig. 7.6 - Similarly to fig. 7.1 and 7.2, the main ambition is supported by the 2nd tier ambition which is supported by the 3rd tier ambition and so on

Ambitions	ID	Reasoning for including this in the catalogue
Ambition to reduce the consumption of new materials	CG01	This ambition was chosen as the overarching ambition, as current initiatives insufficiently address that a total reduction of the consumption of new materials is necessary (sec. 4.1.2; sec. 6.1). The ambition builds on one initiative from Vancouver (appx. 8) which emphasises reducing consumption through share, re-use and repair, though there are several other potential approaches to reducing consumption. The chosen additional ambitions are therefore connected in a manner that ultimately is focused on absolute reduction. The supporting ambitions are divided into two groups for clarity: A. focusing on the citizens level B. focusing on the structural level
Ambition to support/provide citizens with new skills/knowledge	CG.A.2.1	This 2nd tier ambition is chosen due to the practice theory approach asserting that the development of new skills and knowledge is essential to working with recrafting practices, substituting practice, or working with how practices interlock. Particularly with consumer goods, there is a lack of understanding of the practices. Most available knowledge deals with the *acquisition* and *disposal* practices, whereas *use* practices are very complex and not well-understood. The ambition builds on a proposed initiative from Boulder to provide the citizens with space and know-how, to develop new repair practices and skills (appx. 8).
Ambition to engage communities in (awareness) campaigning	CG.A.3.1	This ambition represents the aim of engaging citizen communities in the campaigning targeted towards citizens. The ambition builds on one ambition from Boulder, to create an intergenerational knowledge sharing platform (appx. 8), but the ambition could be supported through various different approaches.
Ambition to inform about the options/ facilities for reuse, repair, recycle	CG.A.3.2	This ambition is chosen since material facilitation through objects and infrastructure is essential for creating and allowing new practices to develop (sec. 3.2.1; sec 3.2.2). The initiative this ambition was built from focuses on gradually informing about the options available and encouraging citizens to shift behaviour to use these options. Many facilities already exist, and encouragement and information will not be sufficient to make citizens change practices unless they can bring together the three elements of practice in a meaningful way. Facilities need to be established alongside the process of increasing the use of the facilities, so that they are developed in a way that ensures usability and relevance to the citizens.
Ambition to make sustainability an embedded aspect of education	CG.A.3.3	This ambition targets education at all levels, and builds on initiatives from different cities targeting education - from children in school to universities. This is chosen with the aim of providing citizens with essential knowledge (early on) in order to increase capability of acting sustainably and instilling sustainability values.
Ambition to create and utilise public partnerships	CG.B.2.1	These ambitions are chosen due to the recognition of the importance of partnerships and strategic networks (sec. 5.2). Partnerships between public, private and civic groups are all relevant and necessary..
Ambition to facilitate cooperation between business and civic society	CG.B.2.2	
Ambition to lobby for change that provides new opportunities	CG.B.3.1	As cities have limited regulatory powers, this ambition is prioritised and considered essential to facilitating opportunities for practices to be changed. Legislations at the national and international levels (such as EU's Extended Producer Responsibility (Danish Environmental Protection Agency (2020)) are necessary. Missing and problematic elements in EU and global level legislations that result in unsustainable lock-ins of exploitative dynamics need to be addressed and changed. Such legislative issues create serious obstacles to the development of sustainable consumption and production practices. For these reasons, legislation and regulation obviously play an important role, and lobbying is thus an essential tool when changes are deemed necessary in areas outside city jurisdiction.

Tbl. 7.3 - The ambitions of primary priority in the inspiration catalogue for consumer goods. A set of ambitions that are of secondary focus are presented in appx. 9 including argumentations for making them secondary.

Ambition to make producers take responsibility	CG.B.4.1	This ambition is included because responsibility is shared, and businesses add to overconsumption and resulting impacts and emissions in especially three ways: 1) through unclean and unfair production practices; 2) through advertising and pushing increased consumption of goods and services; and 3) through focusing on a strategy of increased purchasing rather than prolonging the lifespan of goods. There are two approaches to promoting producer responsibility: 1) through voluntary agreements and measures; and 2) through placing demands and penalties on business practice. The second approach relates back to the previous ambition on lobbying, as this, depending on the specific context, might be outside city jurisdiction. It is very important, however, that an understanding is developed of how consumption/purchasing and production/marketing practices interact.
Ambitions to create carbon reducing economic incentives	CG.B.4.2	This ambition is included because such incentives are often highlighted as essential and effective tools. This is true especially due to the fact that real prices are currently not reflected in consumer goods, products, materials, energy etc. which leads to excessive, disproportionate and destructive consumption patterns. “If we are, as citizens, to have a sustainable level of consumption, then prices need to reflect the pollution of the products, which is far from the case today on nearly every product”[1] (Sørensen, 2021, personal interview). However, introducing and implementing economic incentives is very complex and it is also often outside city scope to implement such.

Tbl. 7.3 - Continued

1 Original quote in Danish: “Hvis vi i sidste ende som borgere skal have et bæredygtig forbrug, så skal prisen også afspejle forureningen på produkterne, hvilket jo langt fra er tilfældet i dag på nærmest alt.” (Sørensen, 2021, personal interview)

7.4.2 RECOMMENDATIONS

The ambitions of focus support the overarching ambition (ambition CG01) of achieving reductions in the consumption of new materials. This section will provide recommendations for coordinating initiatives from different ambitions to support the *acquisition of new skills and knowledge*, *shifting shared meanings* and *facilitating new opportunities* in this regard. These elements can ultimately feed into *re-crafting practices, substituting practices* or *changing how practices interlock*.

As with the previous section with recommendations for the consumption category *foods*, equity is not addressed, as understandings of local equity issues are needed, and the recommended ambitions from this section can likewise only serve as inspiration.

NEW SKILLS AND KNOWLEDGE

Ambition CG01 could be combined with the initiatives CG.A.2.1.1, CG.A.3.1.1, CG.B.2.2.1 (fig. 7.7) for the development of new skills and knowledge in citizens along with the communal material facilitation for new practice development. CG.A.2.1.1 acknowledges that repair is currently an expensive and complicated approach to lifespan extension, which calls for changes in the facilitation of repair opportunities. Among such changes is the development of repair skills among the citizens (CG.A.3.1.1). The facilitation of opportunities and development of skills for product lifespan extension should be seen as the primary goal, to make this a real option for citizens. “That you can go somewhere and repair or share. Because if you have the experience that there is a place for this, and others come here, and this is something to participate in, these activities might end up as [...] practices that grow from that. [...] After that, it will make sense to inform people of the [...] facilitation regarding recycling. If you can no longer [...] extend the lifespan, then it makes sense to recycle” (Jensen, 2021, personal interview).

Substituting unsustainable practices with more sustainable ones is very important. Replacing acquisition practices of shopping for new purchases with acquisition practices of buying used or renting is one example. Such practice substitution can be achieved by ensuring that such alternatives are in direct competition with the unsustainable practices. The alternative practices must be facilitated and created in a way that they directly compete for the same people, their time and their money (Spurling et al., 2013, p. 32). This can only be achieved if i) the material configuration and infrastructure of the alternative practices are easily available and supportive; ii) citizens master the required skills and knowledge to perform the practices; or iii) the practices are meaningful to the citizens (which could be achieved by creating changes in meanings and minds shifts, or by tapping into existing meanings in new ways). Julia Lipton points to the importance of developing new skills and knowledge in relation to the subject of product labelling. Product labelling in itself will be inefficient since everyone is busy and has different priorities, so “until people actually have the capac-

ity to interpret what that label means, and also the value base, and say 'I'm going to prioritise that product, that has been ethically and sustainably produced', what it needs to be is accessible, easy and affordable, in order for people to make those choices on a voluntary basis." (Lipton, 2021, personal interview). It is important to know "what makes people tick, [...] there is more to it than that [labelling]" (Lipton, 2021, personal interview).

CG.A.2.1.1	CG.A.3.1.1	CG.B.2.2.1
Ambition to support/provide citizens with new skills	Ambition to engage communities in (awareness) campaigning	Ambition to facilitate cooperation between business and civic society
"Set up a fixed u-fix-it location with full-time staff for repair support" (Metabolic, 2020, p 25)	"Community knowledge platform to facilitate intergenerational knowledge transfer on production and repair" (Metabolic, 2020, p 25)	"Building a strong circular network: establishing networking events, connecting people with extra space or specific skills with those in need, and enabling the sharing of best practices." (Metabolic, 2020, p 23)

Fig. 7.7 - *Coordination of initiatives for the acquisition of new skills and knowledge in regards to consumer goods*

SHIFTING SHARED MEANINGS

Shifting the shared meanings and tastes of citizens is also a necessity. Campaigning and community engagement can contribute to this shift, as suggested by the initiatives CG.A.3.1.1, CG.A.3.2.1, CG.B.2.2.2 (fig. 7.8). CG.A.3.1.1 promotes the sharing of knowledge and skills among citizens that can benefit one another, but might not normally engage (e.g. different generations). CG.A.3.2.1 highlights that, since facilities for sharing, repairing and reusing are already established and underway in many places, there is a need to communicate about these, and additionally and importantly, to make the options attractive as an opportunity for acquisition of goods, as an alternative to acquiring new goods.

Focus on the element of meanings is very important, and it raises the questions of how cities can contribute to changes in meanings. How can cities influence that citizens "stop thinking of clothes as [...] something linear? 'Now I have it, in a moment I won't want it anymore, and then it just needs to be *gone*.' Influencing this directly can be difficult, since cities usually do not have a mandate to influence it directly, and because it will often be seen as compromising personal freedom" (Jensen, 2021, personal interview). However, indirect influence of socially shared meanings and culture is within the realm of cities by *governing through enabling* sec. 5.2.

CG.A.3.2.1

Ambition to inform about the options/facilities for reuse, repair, recycle

"The City will gradually establish awareness-raising campaigns and policies using advertising in the public space to encourage people to share, repair and reuse textiles, electronics and furniture." (Gemeente Amsterdam, 2020, p 57)

CG.A.3.1.1

Ambition to engage communities in (awareness) campaigning

"Community knowledge platform to facilitate intergenerational knowledge transfer on production and repair" (Metabolic, 2020, p 25)

CG.B.2.2.2

Ambition to facilitate cooperation between business and civic society

"The municipality will invite relevant actors in the textile industry and charity organisations to collaborate", in order to to create awareness of the types of waste and the amony, and test of new ways to collect and reuse/recycle (Københavns Kommune, 2019, p 25)

Fig. 7.8 - Coordination of initiatives for shifting shared meanings in regards to consumer goods

Education can also be a way to instill new tastes and meanings and develop new skills and knowledge in a social manner, indicated by the initiatives (CG.A.3.3.1, CG.A.3.3.2, CG.A.3.3.3, CG.A.3.3.4 (fig. 7.9). While it is important to teach students about circularity, it will also be necessary to understand and acknowledge the meanings and tastes that influence current practices, since the facilitation of new practices will not be sufficient if there is a conflict of meanings.

CG.A.3.3.1

Ambition to make sustainability an embedded aspect of education

"Amsterdam can collaborate with knowledge institutions to stimulate circular product designs, so that more and better products and services are produced – a kind of Dutch Design 2.0 – or stimulate business models based on circular principles." (Gemeente Amsterdam, 2020, p 57)

CG.A.3.3.2

Ambition to make sustainability an embedded aspect of education

"Advocate for school funding to circular education programs" (Metabolic, 2020, p 25)

CG.A.3.3.3

Ambition to make sustainability an embedded aspect of education

"Help create school curriculum that includes circularity (production, repair, sustainability)" (Metabolic, 2020, p 25)

CG.A.3.3.4

Ambition to make sustainability an embedded aspect of education

"The goal is to make all children and youths in the city schools and institutions a fundamentally resource conscious. This will happen through educational programs about waste sorting and circular economy" (Københavns Kommune, 2019, p 36)

Fig. 7.9 - Coordination of initiatives for shifting shared meanings, with a focus on education, in regards to consumer goods

FACILITATING NEW OPPORTUNITIES

New opportunities need to be established. Practices are always dynamically evolving, but radical transformation in practices and deliberate change making will require that the changes are effectively facilitated. Partnerships across the public, the private and civic society organisations along with lobbying at the national level, are ways of ena-

bling such facilitation. To this end, the initiatives CG.B.2.1.1, CG.B.2.1.2, CG.B.2.2.1, CG.B.2.2.2, CG.B.2.2.3, CG.B.3.1.1, CG.B.3.1.2, CG.B.4.1.1, CG.B.4.1.2, CG.B.4.2.1 can be coordinated (fig. 7.10).

Collaborative partnerships with businesses can facilitate product lifespan extension, whether that be through extending producer responsibility, enabling repair, changing customer relations from encouraging excessive spending and numerous purchases to creating long-lasting customer satisfaction through other avenues such as repair or renting. Lasting relationships between customers and businesses can also allow for the development of valuable knowledge on user needs and the obstacles that lead to users discarding products untimely (Jørgensen, 2021, personal interview).The development

Fig. 7.10 - Coordination of initiatives for facilitating new opportunities, with a focus on partnerships, in regards to consumer goods

of new business models and markets will also be necessary in order to facilitate new practices. One example of this need is on the subject of household appliances. Some Danish waste handling companies are concerned with the large number of household appliances (specifically white goods) coming to the recycling station, despite many of them still functioning. Creating a new business model based on these goods is not technically afforded within the current legislative framework (Jørgensen, 2021, personal interview). Much of such legislation will need changing at the national level, but cities have an important role to play since the practical experiences are obtained at city level, along with local knowledge on how national legislation undermines the transition.

8.0 DISCUSSION

8.0 DISCUSSION

This chapter comprises discussions on three elements of the project. Firstly, the project scoping will be discussed, along with the consequences the scoping had for the project. Secondly, the project process, in terms of empirical material collection and theoretical approach, will be discussed along with suggestions for further research. Lastly, reflections on our role as sustainable design engineers will be made.

PROJECT SCOPE

First and foremost, the project scoping needs to be addressed. As sustainable designers, we have faced - in the past, in this project, and we will going forward - the dilemma of recognising the severity and complexity of systemic issues related to sustainability, while having to restrict the scoping and design outcome of the project to make it relevant to the context in which it is conceived. Specifically with regards to this project, this dilemma has meant that we made an initial decision to align with a climate centered focus on sustainability, by building upon the work of C40 Cities et al. (2019-a) and by collaborating with the Climate Secretariat of the City of Copenhagen. While we address the problems of applying a limited sustainability definition in ch. 4.0, we have consequently had to restrict our own scoping to a climate perspective to some degree. This decision poses the question of whether we thereby contribute to the reproduction of defining sustainability in terms of climate and emissions? While the answer is affirmative to some degree, we have not left out broader understandings of sustainability, and have included these in our chapter on the subject as well as in the design of the catalogue.

Major climate action and reducing emissions is absolutely vital and the urgency of such efforts cannot be understated. Meanwhile, consumption cannot be considered sustainable unless it ensures *good lives*, while not compromising the safe state of the planet and other peoples' ability to lead *good lives*. While it is important to outline limits and impacts in terms of GHG-emissions and climate impacts, the social aspects are also deeply important. If these aspects are missing, the visions and understandings of sustainable consumption and sustainable lifestyles will potentially only be seen as forfeiting, rather than fulfilling. While it therefore might be tempting to outline and define a universal standard for sustainable level and composition of consumption at the individual level, this would be impossible, since differences in cultures, values, abilities and priorities makes such a task endlessly complex.

While we stand by our findings that the climate action plans and circular strategies

represent a fragmented understanding of sustainability, such conclusions could have been nuanced by investigating and including initiatives that cities are initiating in relation to other sustainability issues. This would require the inclusion of other empirical materials such as other plans and strategies (for instance on health, social services, employment and culture) and engagement with actors from fields outside of academia, climate and circularity.

Another aspect of the scope that must be addressed in relation to these issues, is the focus on Global North cities and actors. It was not explored in this project, how Global North cities can get inspired and learn from Global South, in addition to or as opposed to Global North cities. Of course there are more initiatives and approaches that are more directly implementable and relatable between Global North cities, but since Global South cities tend to have significantly lower consumption levels, it could lead to interesting learnings. This would of course require a distinction between low-impact consumption patterns that are only environmentally sustainable on the one hand and practices that are both socially and environmentally sustainable on the other hand, ensuring *good lives*. Examples of such could be the increasing instances of "lifestyle leap-frogging" that are occuring (Schröder et al., 2019, p. 115). Furthermore, there is a risk of applying an elitist and narrow scope that reproduces the status quo and perpetuates the divide between Global North and South, by focusing primarily on these Global North consumer cities.

Furthermore, as mentioned in sec. 4.2.1, there are essentially two angles to consumption transitions: one angle within the scope of what people earn, with a focus on changing the consumption composition. The other with a focus on lowering consumption by lowering income (specifically in high-income and high-consumption societies). This scope is incredibly important with regards to reducing consumption and increasing equity and equality. This discussion was beyond the scope of the project, which relates to a central difficulty of this discussion - that it is not directly within the scope of any single perspective. Global equity and the work-spend-cycle is beyond the direct action scope of cities, but what cities can do is contribute to normalising new narratives and ways of living. Cities can contribute to highlighting low-emission and low-impact lifestyles of healthy life-work balance, where free time is spent engaging in meaningful activities not hinged on high resource consumption. Cities can encourage citizens to spend income on less resource intensive goods and services, such as cultural events or through renting goods rather than purchasing. These are all discussions that we wish to engage in going forward - in the finalisation of the catalogue design and onwards - though it is still unclear how best to bring these discussions into catalogue.

CHOICE OF EMPIRICAL MATERIAL

The project presented a difficult balance of how much and what empirical data to collect and study. The amount of empirical material collected and analysed in this project

is not enough to make over encompassing conclusions on how cities are approaching consumption. At the same time there has been too much empirical data for the purpose of making detailed analyses and recommendations. How to approach this balance should be discussed if a similar project is to be conducted.

The conclusions drawn based on the analysis of the city climate action plans and circular strategies cannot be generalised and interpreted as being representative for all cities. While the chosen cities are all characterised by being Global North, democratic, high-income, consumer cities, the investigated plans are only a fraction of the plans that exist and are being implemented. An analysis of those through the same theoretical framework could potentially lead to conclusions that are contradicting with the ones found in this study. The cities investigated in this study were however, (as mentioned in ch. 3.0) chosen due to relevance for our collaborator in the Climate Secretariat of the City of Copenhagen, and thereby a way of strengthening the potential impact of the project.

PROJECT APPROACH

Throughout the report the general lack in understanding consumer practices is pointed out. Aligning with established consumption categorisations made sense for providing a starting point for the project. However, it is questionable whether such a grouping of products will be practical going forward. For the sake of comprehensive consumption transitions, these practices and the consumer goods that are part of them, need to be investigated and understood, which can be accomplished through ethnographically sound approaches. Such investigations should be approached from the perspective of understanding the ways of living and practices that products and consumption play a part in, in order to create sustainable ways of living that are not highly material dependent and hinged on impactful consumption. Essentially, a practice theory and ethnographically based approach should not be seen as a prerequisite for creating sustainable consumption transitions. Rather, what is illustrated in this project, is that such an approach can contribute highly valuable insights that can support a much broader understanding of consumption practices and thereby of factors that prohibit changes in these, and of factors needed for the transition.

Similarly to the case example by Spurling et al. (2013) (see sec. 3.3.1) this project has been conducted with a distance from the field, with the focus of understanding and investigating the plans and strategies of different cities. It would be relevant and interesting to conduct an ethnographically grounded project in a specific city's context. This would allow for interviews with city planners regarding their experiences with implementing specific and concrete initiatives aimed at changing consumption practices in cities. This would also allow for a bigger focus on, and ultimately engagement, of the specific citizens of the specific city – and even to differentiate between citizens of different neighbourhoods in a city if relevant.

THEORETICAL FRAMEWORKS

As explained in ch. 3.0 different frameworks were considered for this project. This is still highly relevant, as we, in line with Schulz, Hjaltadóttir & Hild's (2019) critique of practice theory, have found that our analysis points to an "overwhelming demand for time-consuming research tools, e.g. observation" (Schulz, Hjaltadóttir & Hild, 2019, p. 3). For that reason, other theoretical frameworks are also of interest. For instance, a combination of sociotechnical transition theories (such as the Multi-Level-Perspective) and strategic niche management (as mentioned in ch. 3.0), could provide insights into what different regime and landscape elements are preventing niche initiatives from gaining ground. This could give indications as to how niche initiatives can be managed, without necessarily pointing to the need for ethnographic studies to the same degree. Yet another theoretical approach that would have been interesting to explore is that of systems thinking with regards to consumption. Such an approach, drawing on Meadows (2008), could help identify causal loops and the self-enforcing and self-preserving behaviour of systems related to consumption in cities. This could have been an entirely different approach to discovering and unfolding relevant points for intervention. Essentially, the complexity of consumption and consumption transitions implies that the transition can only be facilitated by embracing a multiple of insights from a diverse field of disciplines and theoretical frameworks.

OUR ROLE

As discussed in the beginning of this chapter, one facet of the role of sustainable design engineers is walking the balance of pushing the sustainability agenda on the one hand and taking pragmatic and restrictive decisions on the other. This also relates to the conundrum mentioned in sec. 1.3: that we are approaching this issue through the path of opening up the discussions and providing inspiration for the steps that should be taken on the subject, and not through the path of giving detailed descriptions of how the process could be managed or controlled. However, going forward, our role as sustainable designers can be extended to taking part in the process of detailing the initiatives and in the transdisciplinary processes of creating future visions and engaging citizens and various actors.

9.0 CONCLUSION

9.0 CONCLUSION

This project took its point of departure in the deep concern about the generally unsustainability of current consumption compositions and levels in Global North, democratic, high-income, consumer countries, cities and regions, and the inadequate level and ways in which these issues are addressed. The Climate Secretariat of the City of Copenhagen are in the early stages of investigating how the currently unsustainable consumption can be addressed at the city level, and what initiatives cities can implement to transition towards sustainable consumption. Based on a collaboration with the Climate Secretariat, this project has therefore set out to answer the research question:

> *What initiatives and actions can cities initiate in order to transition citizens' and administrations' consumption to sustainable levels and thereby mitigate the impacts and emissions of the consumption of food and consumer goods?*

Based on the research and analysis conducted with the perspective of social practice theory, the following can be concluded. Firstly, outlining sustainable levels of consumption is inevitably complex. C40 Cities et al. (2019-a) have sketched out sustainable emission levels for a variety of consumption categories, herein also for *food* and *consumer goods*. These levels are only sustainable from a strictly climate perspective, and a broader understanding of what sustainability is, is not reflected in their sketched out consumption levels. As discussed throughout, we are taking our point of departure in these outlined consumption levels, but the lack of a broader and stronger sustainability perspective has not and cannot be left unaddressed. Therefore, recommendations for broader perspectives and methods for envisioning radically different futures and ways of living, have been included.

Secondly, cities as governing actors, can more or less directly mitigate their own administrations' consumption and change their own consumption practices, and thereby mitigate the impact of consumption. However, to change the consumption practices of citizens in consumer cities (as opposed to producer cities), cities do not have the same direct control. To this end, cities mainly *govern through enabling*. This means that cities can, among other things, facilitate new opportunities, encourage sustainable consumption patterns, advocate for change, and establish and engage in partnerships across public and private sectors and with civic organizations.

The analysis conducted on initiatives that cities are already implementing in this en-

deavour reflects that cities can primarily *govern through enabling*. What the study also indicated is a lack of either acknowledgment or understanding of citizens' consumption practices as being determined by *knowledge, competences, material infrastructure* and *socially shared meaning*. Cities are largely focusing on efforts that fit within conventional framings to transition *attitudes, behaviour* and *choice*, as pertaining to the individual rather than the collective and socially shared. The lack of understanding consumption practices becomes even clearer on the subject of *consumer goods*. For these goods, cities are largely focusing efforts on correct waste handling to ensure recirculation and recycling of waste, instead of initiatives on reducing the total amount of waste and consumption. A better understanding of the practices and lives that *consumer goods* and *foods* take part in should be applied in order to elucidate the possibilities for cities to engage in efforts that much more directly reduce the consumption of consumer goods and create sustainable lifestyles.

Concludingly, a broader understanding of sustainability and the future sustainable ways of life needs to be developed. Practice theory can provide valuable insights into the process of identifying what needs to change and how this change can be actualised. As the discussion (ch. 8.0) reflects, this project represents a small part of a complex whole that needs to be activated in order to push the rapid and radical consumption transitions called for.

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APPENDICES

This report includes the following appendices:

Appendix 1: Literature search (*2 pages)*

Appendix 2: MURAL board (*3 pages*)

Appendix 3: Sustainability framework timeline and references (*3 pages*)

Appendix 4: Original Danish quotes for tbl. 5.1 (*1 page*)

Appendix 5: Cross category initiatives (*2 pages*)

Appendix 6: Food initiatives (*5 pages*)

Appendix 7: Secondary ambitions for food (*1 page*)

Appendix 8: Consumer good initiatives (*3 pages*)

Appendix 9: Secondary ambitions for consumer goods (*1 page*)

Theme	Search terms	Search engine	Subject area	Limits	Results (#)	Date of search	Note
Cities and consumption practices	cities or urban or city AND influenc* or impact* or effect* or affect* or change AND consumption practice*	EbscoHost	cities & towns, climate change, consumption (economics), social history, households, public spaces, ethics, food consumption, gentrification, neighborhoods, social aspects, social change, sustainability, sustainable development, urban studies, built environment, factor analysis, islam, literature reviews, qualitative research, social justice, sociocultural factors, urbanization, water supply, acculturation, acquisition of property, consciousness, content analysis, descriptive statistics, developing countries, ecology, electronics, focus groups, food, food security, fuel & the environment, global warming, great britain, human sexuality, lgbtq people -- social aspects, metals, modernity, modernization (social science), parent attitudes, psychological stress -- social aspects, social marginality, social order, sociology, sustainable design, urban agriculture, agriculture, attitude (psychology), australia, black women, capitalism, cleaning equipment -- environmental aspects, collaborative consumption, consumer attitudes, consumers, cultural capital, cultural identity, cultural imperialism, cultural property, data envelopment analysis, dietary sucrose, dominant ideologies, drinking water treatment units, economic consumption & the environment, education of parents, electricity, environmental health, environmentalism, environmentalists, equality, ethnic conflict, ethnic foods, ethnicity, farm produce, farmers, fashion, food consumption -- social aspects, food science, gatekeepers, gender, green products, group identity, habitats, hair care & hygiene, hairstyles, hand washing, health literacy, human geography, hydrologic cycle, infrastructure (economics), multiple regression analysis, nutrition education, social structure, strategic planning, taste, united states	Peer-reviewed, English	309	26.03.21	Sorted by relevance and showed about 4 pages (40 articles)
Cities and consumption	cities or urban or city AND influenc* or impact* or effect* or affect* or change AND consumption practice* or consumption	EbscoHost	[...] all were included	Peer-reviewed, English	48120	28.03.21	Too many results
Cities and consumption	cities or urban or city AND influenc* or impact* or effect* or affect* or change AND consumption practice* or consumption habits or consumption behavio*	EbscoHost	[...] all were in	viewed, English	1611	28.03.21	Sorted by relevance and showed about 5 pages (50 articles)

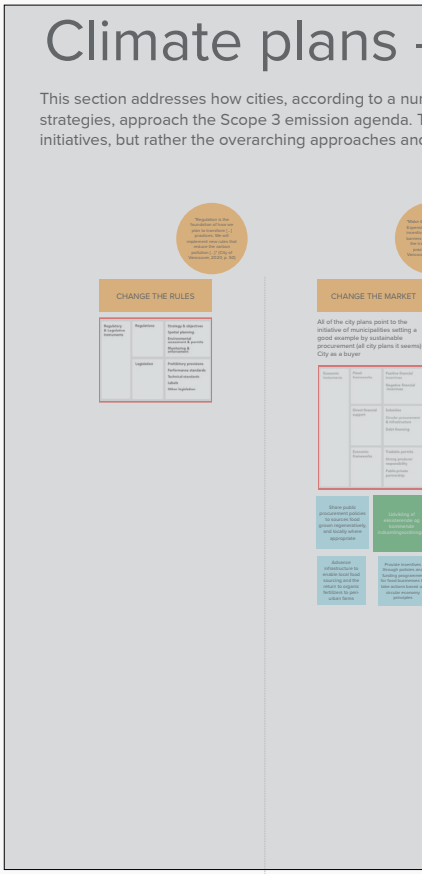
Cities and practices	city OR cities [Article title, Abstract, Keywords] AND practice [Article title, Abstract, Keywords] AND change [Article title, Abstract, Keywords] AND consumption [Article title, Abstract, Keywords]	Scopus	Agricultural and Biological Sciences; Arts and Humanities; Biochemistry, Genetics and Molecular Biology; Business, Management and Accounting; Chemical Engineering; Chemistry; Computer Science; Decision Sciences; Dentistry; Earth and Planetary Sciences; Economics, Econometrics and Finance; Energy; Engineering; Environmental Science; Health Professions; Immunology and Microbiology; Materials Science; Mathematics; Medicine; Multidisciplinary; Neuroscience; Nursing; Pharmacology, Toxicology and Pharmaceutics; Physics and Astronomy; Psychology; Social Sciences; Veterinary	None	498	27. marts 2021	First sorted by date, then relevance.. (40 articles were considered).
Cities and citizen pratices	cities or city [Article title, Abstract, Keywords] AND citizen* [Article title, Abstract, Keywords] AND consumption OR behavior OR behaviour [Article title, Abstract, Keywords]	Scopus	Agricultural and Biological Sciences; Arts and Humanities; Biochemistry, Genetics and Molecular Biology; Business, Management and Accounting; Chemical Engineering; Chemistry; Computer Science; Decision Sciences; Dentistry; Earth and Planetary Sciences; Economics, Econometrics and Finance; Energy; Engineering; Environmental Science; Health Professions; Immunology and Microbiology; Materials Science; Mathematics; Medicine; Multidisciplinary; Neuroscience; Nursing; Pharmacology, Toxicology and Pharmaceutics; Physics and Astronomy; Psychology; Social Sciences; Veterinary	None	2448	27. marts 2021	Too many results
Cities and citizen pratices	cities or city [Article title, Abstract, Keywords] AND citizen* [Article title, Abstract, Keywords] AND consumption OR behavior OR behaviour [Article title, Abstract, Keywords] AND regulat* [Article title, Abstract, Keywords]	Scopus	Agricultural and Biological Sciences; Arts and Humanities; Biochemistry, Genetics and Molecular Biology; Business, Management and Accounting; Chemical Engineering; Chemistry; Computer Science; Decision Sciences; Dentistry; Earth and Planetary Sciences; Economics, Econometrics and Finance; Energy; Engineering; Environmental Science; Health Professions; Immunology and Microbiology; Materials Science; Mathematics; Medicine; Multidisciplinary; Neuroscience; Nursing; Pharmacology, Toxicology and Pharmaceutics; Physics and Astronomy; Psychology; Social Sciences; Veterinary	None	148	27. marts 2021	First sorted by date, then relevance.. (40 articles were considered)..

1ST MAPPING - Identification

This section of the board presents the initiatives identified by reviewing city climate plans and circular cities

To do: Categorize all initiatives by "rules, market, culture and context"

C40 Cities (2019) | C40 Cities (2019b) | C40 Cities (2018) | Ellen MacArthur Foundation. (2019) | VANCOUVER | BOULDER! | AMSTERDAM | PARIS | KØBENHAVN | PORTLAND

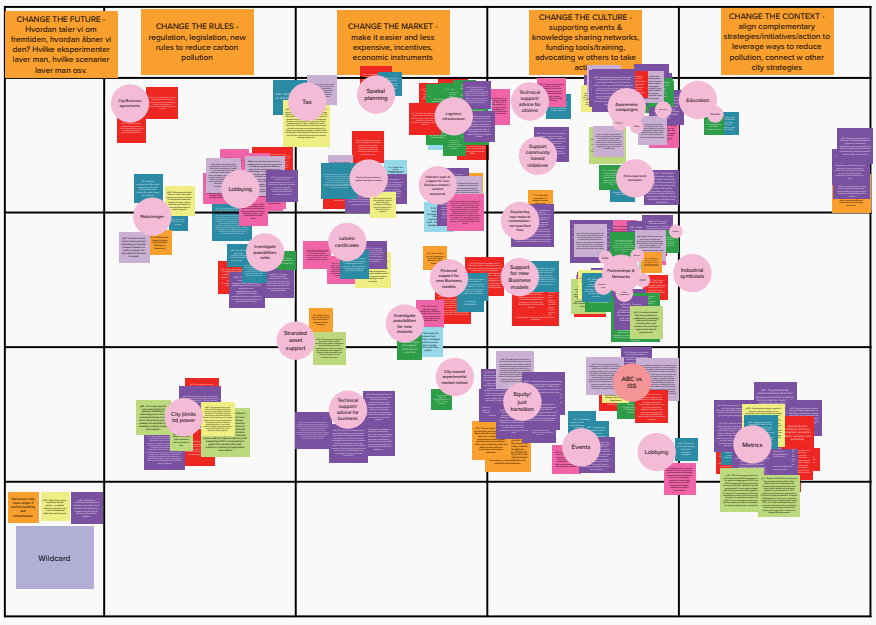


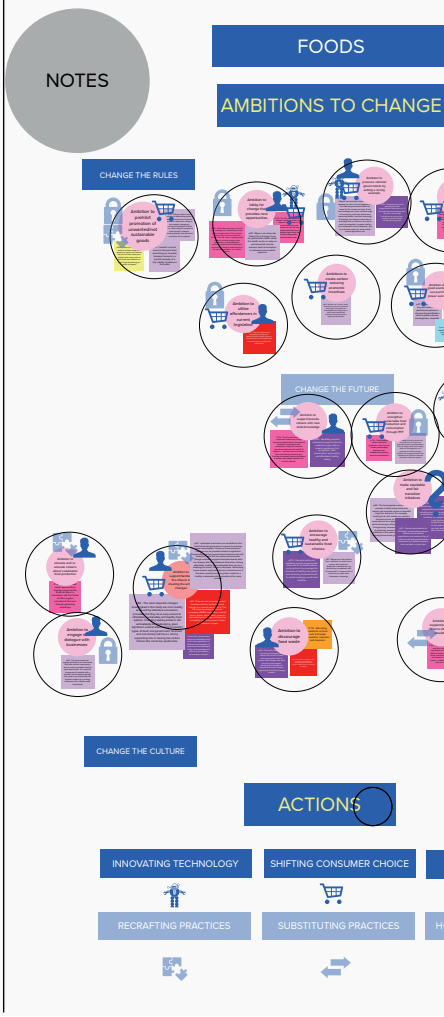
2ND MAPPING - Affinity

This section of the board presents the initiatives identified by reviewing city climate plans and circular cities

To do: Group initiatives

C40 Cities (2019) | C40 Cities (2019b) | C40 Cities (2018) | Ellen MacArthur Foundation. (2019) | VANCOUVER | BOULDER! | AMSTERDAM | PARIS | KØBENHAVN | PORTLAND



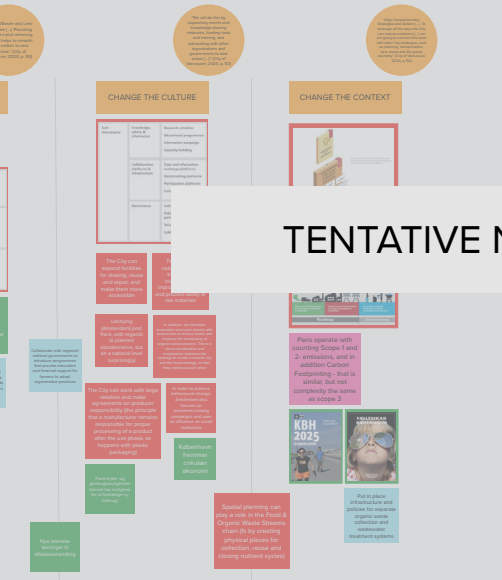


- How to Scope 3

mber of city climate plans and circular
The section will not contain the concrete
d strategies adopted by the cities.

Ellen MacArthur Foundation. (2019)

VANCOUVER | BOULDER
AMSTERDAM | PARIS
KØBENHAVN | PORTLAND



TENTATIVE NOTE BOARD

Climate plans - **Challenges**

The challenges faced by the cities and by citizens (as explicated through city climate plans and circular strategies) are presented in this section.

Challenges
We want to learn what challenges different types of actors have in working with CBE. We learn from the climate plans and add questions we need answers to, from city actors fx. .. Which initiatives can cities support, and how?

City perspective
CPH: Engaging citizens in participatory processes
They need some kind of "object" they can use to convince the politicians to give more money.
CPH Circular strategy:
Many end-of-pipe solutions. There is very little, if any, focus on avoiding waste.
How to handle stranded assets? Both in terms of knowledge, values and money.... People will resist and oppose, if we don't handle it... It is much in line with the EU's Just Transition perspective. We need to address this issue, even if no-one else wants to talk about it.
Amsterdam circular strategy: Circularity is about creating/building/designing a new infrastructure
What does the upcoming extended producer responsibility mean for us? Less planned obsolescence? Less production? More

habits.. We should make it more visible that behaviour/habits are in reality

false confidence

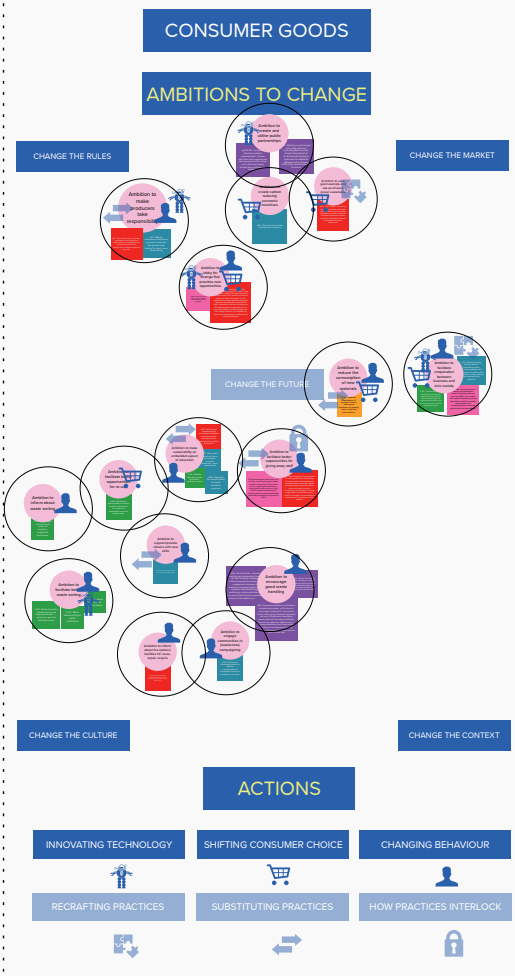
locals in the trash.

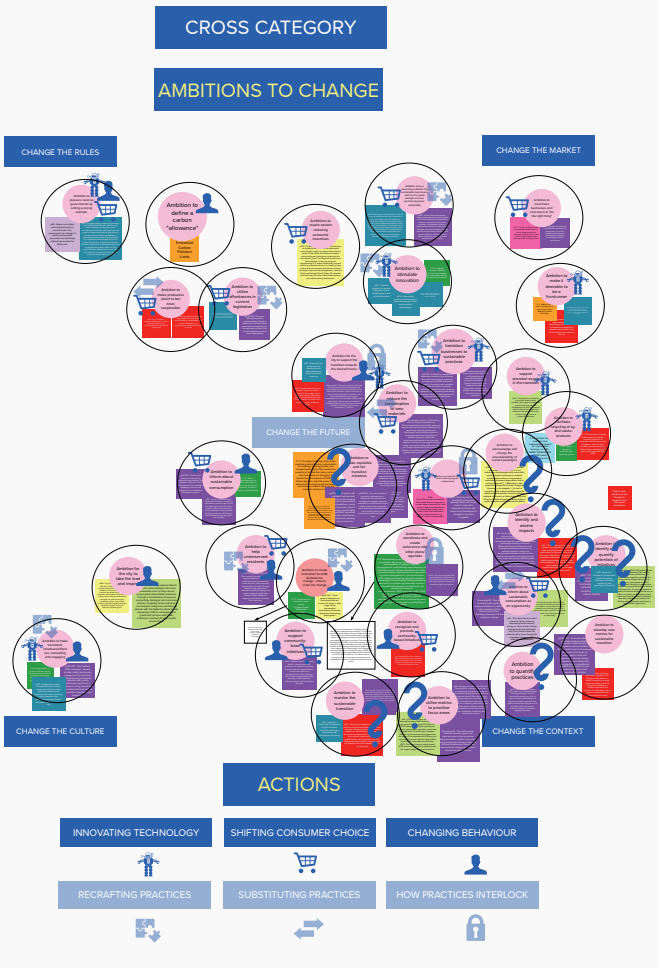
.... Consequences to/for who? There are consequences for the climate... and what about using incentives to promote decent behaviour.

Citizen perspective
"Knowledge, cost, accessibility and convenience were the most cited barriers to participating in share/reuse/repair." (Appendix P, p. 93, in City of Vancouver, 2020).
See Vancouver for citizen survey
Change in diet:

"Affalds- systemet opleves som en "black box", hvor man smider noget ud, men ikke har en klar fornemmelse af, hvad der sker efterfølgende. Det skal derfor være tydeligere for københavnerne, at de gør en forskel for miljøet, når de sorterer affald."
(Københavns Kommune, 2019, p 19)
"Motivation: Københavnerne giver udtryk for, at de sorterer deres affald pga. hensyn til miljøet og den større fælles dagsorden for en bæredygtig verden. Københavnerne skal kunne se sig selv i dagsordenen, og at de spiller en vigtig rolle.
Viden: Københavnerne skal vide, hvordan de sorterer, hvad der sker med affaldet efterfølgende, og hvordan det gavner miljøet."
(Københavns Kommune, 2019, p 17)

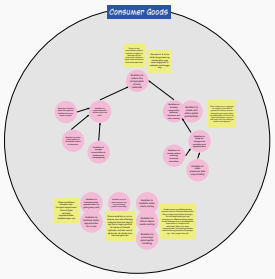
3RD MAPPING - Initial analysis



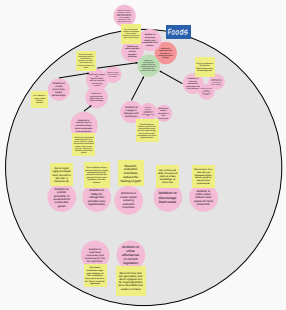


3RD MAPPING AND 4TH MAPPING - Ambitions

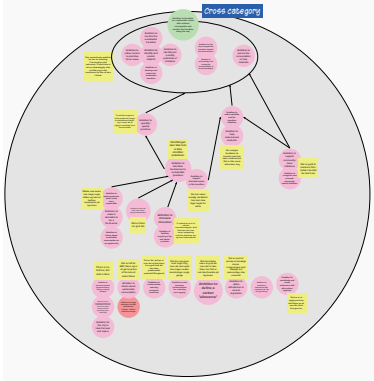
Catalogue section - CG

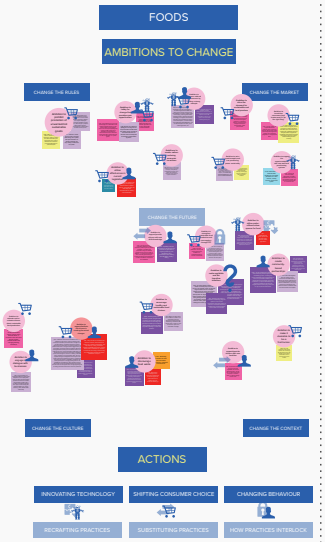


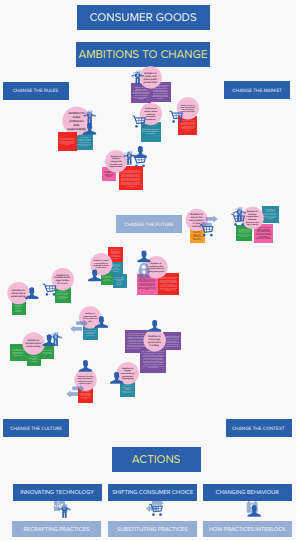
Catalogue section - F

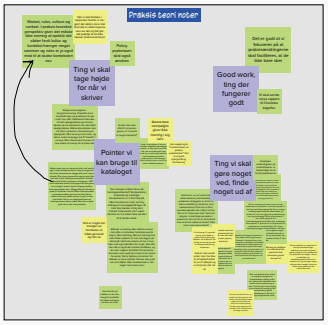


Catalogue section - CC

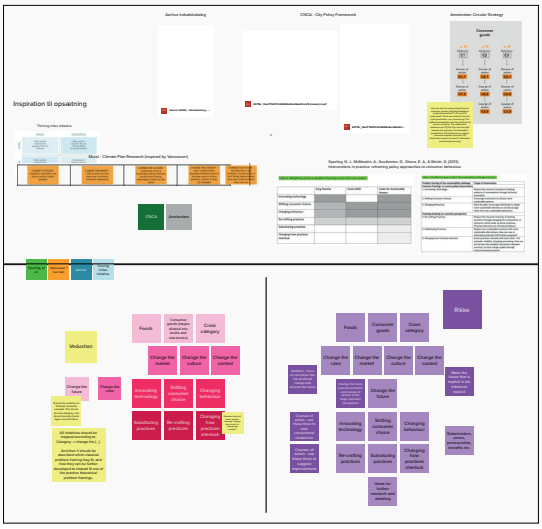








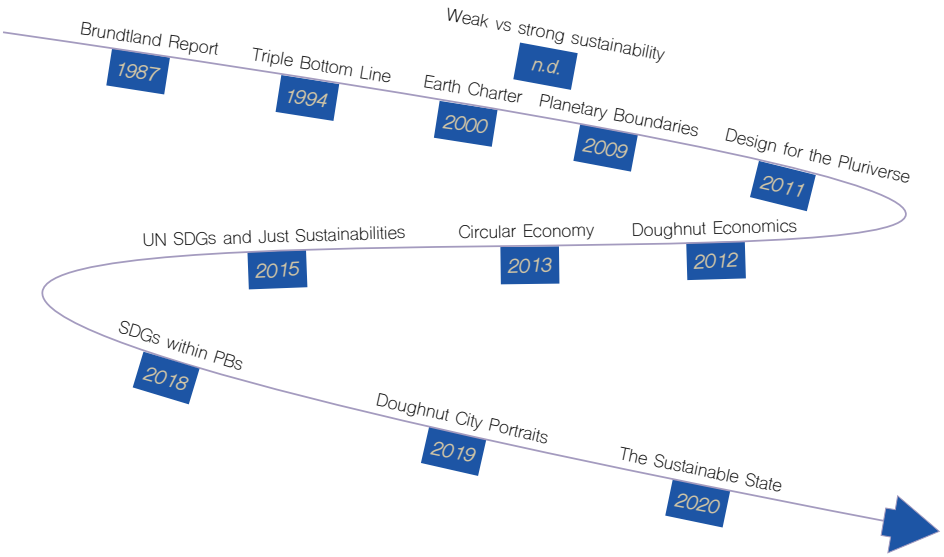
Inspiration board for catalogue structure and set-up



APPENDIX 3: SUSTAINABILITY FRAMEWORK TIMELINE AND REFERENCES

Sustainability frameworks are constantly and dynamically evolving, sometimes to stronger more comprehensive forms, and other times to reduced, simplified and compromised versions of their potential or original intentions.

It is therefore valuable to consider the historical developments of sustainability definitions and the spatial, temporal and socio-political contexts in which they were developed and are further evolving and changing. To this end, the literature review of the chosen sustainability frameworks also included the following timeline on which the frameworks were placed with consideration for and discussions of their historical contexts. This made it more clear how there are drivers that wash out frameworks and other drivers that seek to strengthen the core definition and yet others drivers that aim to contretisise the concept of sustainability.



The references for the reviewed sustainability frameworks are provided in the table below.

Framework	Reference
Brundtland Report	The World Commission on Environment and Development. (1987). Report of the world commission on environment and development: Our common future. *UN Documents*.
Triple Bottom Line	Elkington, J. (2018, September 13). *25 Years Ago I Coined the Phrase "Triple Bottom Line." Here's Why It's Time to Rethink It*. Harvard Business Review._ Kuhlman, T., & Farrington, J. (2010). What is sustainability?. Sustainability, 2(11), 3436-3448.
Earth Charter	Earth Charter Commission. (2000). The Earth Charter Cengage. (2021, January 23). Earth Charter. Encyclopedia.Com.

Weak vs. Strong Sustainability	Thompson, P. (2010). Sustainability: What It Is and What It Is Not. In The Agrarian Vision: Sustainability and Environmental Ethics (pp. 234-255). Lexington, Kentucky: University Press of Kentucky. Kuhlman, T., & Farrington, J. (2010). What is sustainability?. Sustainability, 2(11), 3436-3448.
Planetary Boundaries	Rockström, J., Steffen, W., Noone, K., Persson, Å., Chapin, F. S., Lambin, E. F., ... & Foley, J. A. (2009). A safe operating space for humanity. nature, 461(7263), 472-475. Steffen, W., Richardson, K., Rockström, J., Cornell, S. E., Fetzer, I., Bennett, E. M., ... & Sörlin, S. (2015). Planetary boundaries: Guiding human development on a changing planet. Science, 347(6223). Rockström, J. (2015). Bounding the planetary future/ why we need a great transition. Great Transition Initiative, 9, 1-13.
Design for the Pluriverse	Escobar, A. (2011). Sustainability: Design for the pluriverse. Development, 54(2), 137-140. Escobar, A. (2018). *Designs for the pluriverse: Radical interdependence, autonomy, and the making of worlds*. Duke University Press.
Doughnut Economics	Raworth, K. (2012). A Safe and Just Space for Humanity: Can We Live within the Doughnut. Oxfam. Raworth, K. (2017). *Doughnut economics: seven ways to think like a 21st-century economist*. Chelsea Green Publishing.
Circular Economy	Ellen MacArthur Foundation. (2013). Towards the Circular Economy Vol. 1: an economic and business rationale for an accelerated transition
Just Sustainabilities	Agyeman, J. (2012, September 21). *Just sustainabilities*. Julian Agyeman. https://julianagyeman.com/2012/09/21/just-sustainabilities/ Agyeman, J. (2013). Introducing just sustainabilities: Policy, planning, and practice. Zed Books Ltd.
Sustainable Development Goals	United Nations Development Programme. (n.d.-a). *Background of the Sustainable Development Goals*. UNDP. Retrieved February 18, 2021, from https://www.undp.org/content/undp/en/home/sustainable-development-goals/background.html United Nations Development Programme. (n.d.-b). *Sustainable Development Goals*. UNDP. Retrieved February 18, 2021, from https://www.undp.org/content/undp/en/home/sustainable-development-goals.html United Nations Development Programme. (n.d.-c). *Goal 11: Sustainable cities and communities*. UNDP. Retrieved February 18, 2021, from https://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-11-sustainable-cities-and-communities.html United Nations Development Programme. (n.d.-d). *Goal 12: Responsible consumption and production*. UNDP. Retrieved February 18, 2021, from https://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-12-responsible-consumption-and-production.html United Nations Department of Economic and Social Affairs. (n.d.). Transforming our world: the 2030 Agenda for Sustainable Development . Https://Sdgs.Un.Org/2030agenda. Retrieved March 15, 2021, from https://sdgs.un.org/2030agenda Sachs, J. D., Schmidt-Traub, G., Mazzucato, M., Messner, D., Nakicenovic, N., & Rockström, J. (2019). Six transformations to achieve the sustainable development goals. Nature Sustainability, 2(9), 805-814.

SDG within Planetary Boundaries	Randers, J., Rockström, J., Stoknes, P. E., Golüke, U., Collste, D., & Cornell, S. (2018). Transformation is feasible: How to achieve the sustainable development goals within planetary boundaries. A report to the Club of Rome, for its 50 years anniversary, 17.
Doughnut City Portraits	The Thriving Cities Initiative. (2021, February). Creating City Portraits. DEAL. https://doughnuteconomics.org/tools-and-stories/14
The Sustainable State	Willig, R., & Blok, A. (2020). Den bæredygtige stat. Hans Reitzels Forlag. Sociologi

APPENDIX 4: ORIGINAL DANISH QUOTES FOR TBL. 5.1

Interviewee	On self-governing	Governing through enabling
Tobias Johan Sørensen (Concito)	"Det første er kommunernes indkøb. Det er en væsentlig del og påvirkning af Danmarks globale CO2 udledning. Kommunerne står for cirka halvdelen af de offentlige indkøb. Det er ret markant, så der har de en væsentlig rolle at spille. [...] Man kan sige at kommunen som virksomhed, altså som hvad de selv kan gøre som forbillede, det er også her indkøbene ligger, adfærd generelt og påvirkning af medarbejdere og være det her forbillede. Hvis man gerne vil have borgerne til at tage del i noget, eller virksomhederne, så skal man også selv gå foran." (Sørensen, 2021, personal interview)	"Den anden del af det er i forhold til at kunne gå ind og samarbejde og påvirke deres borgere, erhvervsliv, landbrug og industri. De er den nærmeste myndighed lokalt. Så kommunerne spiller en vigtig rolle ved at gå foran og ved at være med til at facilitere dialog. [...] Det er i hvert fald ikke alene kommunernes rolle der driver det her, det er helt klart. Men vi har jo 98 kommuner i Danmark og hvis de alle ligesom er med til at italesætte det her, både i deres byråd og i deres organisation, og overfor samarbejdspartnere i erhvervslivet osv., og får engageret borgere på forskellige måder, så er det også en ret stor påvirkning man potentielt set har" (Sørensen, 2021, personal interview)
Mette Skovbjerg (Local Government Denmark)	"Hvis man kiggede bare på kommunens egen virksomhed [...]. Det vil være kommunens egne bygninger eller bilflåde eller kommunen som arbejdsgiver. Der kan man selvfølgelig have en meget stor impact fordi man selv træffer beslutninger og man kan gøre nogle ting. Man er ligesom herre i eget hus" (Skovbjerg, 2021, personal interview)	"Hvis vi befinder os nede på de forbrugsbaserede emissioner, hvor jeg ret beset må sige at rigtig mange danske kommuner nok ikke er særlig langt, så vil det jo være den værktøjskasse [partnerskaber] man griber i" (Skovbjerg, 2021, personal interview)
Martin Kaae Riis (City of Aarhus)	"Først og fremmest er der kommunens egen rolle som indkøber, hvor byen går forrest og inspirerer borgere, virksomheder og organisationer lokalt. På den måde er det en vigtig rolle at have" (Riis, 2021, personal interview)	"Vi har jo ikke hjemmel til at sige, at folk skal købe en elbil eller spise mindre kød, og det er heller ikke byrådets ønske at diktere. [...] Og man kan prøve at lave nogle projekter og ændre nogle ting, og det skal man heller ikke undervurdere.. [...] kommunen skal løfte ansvaret i samarbejde med borgerne. Det betyder, at vi skal have udviklet nye måder for samarbejde, da den sidste del af rejsen mod et klimavenligt bysamfund indebærer, at vi alle går med. Klimakrisen er global, men skal løses lokalt og her er kommunerne relevante, da vi forstår den virkelighed, som borgerne arbejder i og med" (Riis, 2021, personal interview)

Ambition	Initiative description	Note
Ambition to develop new metrics for sustainable transition	Using the Doughnut as a policy tool. Key tool of TCI: Doughnut City Portrait - a holistic snapshot of the city, serves as a starting point for big-picture thinking, co-creative innovation, and systemic transformation (rather than as a comprehensive assessment of the city) (Gemeente Amsterdam, 2020, p. 84).	Focus on quantifying and monitoring the transition
Ambition to develop new metrics for sustainable transition Ambition to monitor the sustainable transition	"Develop a framework of improved Key Performance Indicators and begin monitoring and reporting on circularity" (Metabolic, 2020, p. 25)	Focus on quantifying and monitoring the transition
Ambition to identify and assess impacts Ambition to reduce the consumption of new materials	"Performance metrics - a) Partnering with the Oregon Department of Environmental Quality to identify metrics to analyse and track the carbon intensity of the goods and materials produced in Multnomah County; b) Exploring tools/strategies/performance measures to quantify economic, equity and environmental benefits of services that displace the need for new goods through reuse, repair and sharing; c) Working with the Oregon Department of Environmental Quality on inventorying consumption-based carbon emissions for Multnomah County" (City of Portland & Multnomah County, 2015-a, p. 91)	Focus on quantifying and monitoring the transition
Ambition to identify and quantify potentials of initiatives	Placing each initiative on the Doughnut, explaining how it influences Doughnut parameters (Gemeente Amsterdam, 2020)	Focus on quantifying and monitoring the transition
Ambition to make equitable and fair transition initiatives	It is essential to addressing existing inequities that people most impacted are at the table for today's decisions. Policymakers and members of under-represented/under-served communities need to know and trust each other and collaborate (City of Portland & Multnomah County, 2015-b, p. 30)	Focus on an equitable and fair transition

Ambition to make equitable and fair transition initiatives	To ensure effective/equitable implementation - "**Staff Capacity** — Support the development of data, tools, best practices and training for innovative, effective and equitable implementation of climate-related policies and projects." (City of Portland & Multnomah County, 201-5a, p. 133)	Focus on an equitable and fair transition
Ambition to monitor the sustainable transition	"Re-examine and update the key findings and actions of the Climate Action Plan strategy every five years." And "report on progress toward implementing the actions outlined in this plan annually, and on progress toward more equitable outcomes" (City of Portland & Multnomah County, 2015-b, p. 32)	Focus on quantifying and monitoring the transition
Ambition to support community-based initiatives	"**Alignment with community efforts** - identify and seek resources to support community-based initiatives, especially from low-income areas and communities of color, that align with climate change preparation priorities, carbon emission reduction efforts and low-carbon lifestyles" (City of Portland & Multnomah County, 2015-a, p. 120)	Focus on an equitable and fair transition
Ambition to transition businesses to sustainable practices	"**Product Stewardship** — Participate actively in the process to develop state and federal product stewardship programs and legislation. Support opportunities for producers to develop responsible manufacturing, product and package design and reuse of recovered materials." (City of Portland & Multnomah County, 2015-a, p. 91)	

APPENDIX 6: FOOD INITIATIVES

Table with the initiatives that are included within the ambitions that have been prioritised in the consumption category of *food*. In the right hand column is a description of conventional problem framing (i.e., innovating technology, shifting consumer choices, changing behaviour) and potential practice-theoretical problem framing (re-crafting practices, substituting practices, changing how practices interlock).

Ambition	ID	Initiative description (For references, see appendix x)	Conventional problem framing	Potential practice-theoretical problem framing
Ambition to make equitable and fair transition initiatives (Included in the overarching ambition)	F01.1	"Create collaborative partnerships with community-based organisations and affinity groups, including low-income populations and communities of color, to: a) promote healthier, low-carbon diets; b) encourage local food production; c) support affordability and access to healthier foods through neighbourhood food buying clubs and co-ops; d) reduce food waste" (City of Portland, & Multnomah County, 2015-a, p. 100)	Focus on changing consumer choice, by focusing on promoting healthy and low-carbon diets and encouraging local food production. OR Focus on civil society, civic organisations and community engagement, citizen behaviour	Potential to transform how practices interlock (such as food purchasing practices, community engagement practices, etc.).
Ambition to make equitable and fair transition initiatives (Included in the overarching ambition)	F01.2	"Expand participation in Portland's composting program: [...] d) Ensure low-income populations and communities of color are not disproportionately burdened by localised impacts such as odor or truck trips" (City of Portland, & Multnomah County, 2015-a, p. 92)		
Ambition to make equitable and fair transition initiatives (Included in the overarching ambition)	F01.3	"The food agenda connects to a number of other policy areas and mayors can consider where co-benefits might be delivered. For example, looking at all civil society-run shelters that serve food, or where social prescriptions are supported, the mayor could encourage referrals to community food growing schemes and go further to providing relevant dissemination materials to the partner organisations running these foods growing schemes" (C40 Cities, Arup, & University of Leeds, 2019-b, p. 49)		
Ambition to encourage healthy and sustainable food choices (Included in the overarching ambition)	F01.4	"Develop policy and equitably provide programmatic resources to [...]: b) create policies and practices to encourage the purchase of healthy, low-carbon and minimally processed foods for public meetings, events and facilities" (City of Portland, & Multnomah County, 2015-a, p. 100)	Focus on affecting consumer/citizen choice	Potential to recraft citizen practices (public and private practices)

Ambition to encourage healthy and sustainable food choices (Included in the overarching ambition)	F01.5	"Mayors can help **inform their residents** on what a low-carbon diet looks like. Stockholm modelled this by distributing a cookbook with "climate smart" recipes to all its residents as a part of an information campaign"(C40 Cities, Arup, & University of Leeds, 2019-b, p. 100)	Focus on affecting consumer/citizen choice	Potential to recraft citizen practices (public and private practices)
Ambition to support/ facilitate the citizens in creating the actual changes (Included in the overarching ambition)	F01.6	"Individuals consumers are identified as the most influential group when it comes to reducing meat consumption. However, these behaviour changes are not possible without a significant supporting role from government, business and civil society to make the low carbon choice easier. [...] Though evidence suggests that plant-based diets are cheaper than the traditional alternative, finding affordable, healthy and sustainable food can be a challenge for lower- income individuals. Addressing issues around equity and barriers to food access is therefore central to ensuring that a switch to a healthy, sustainable diet is possible at the scale needed." (C40 Cities, Arup, & University of Leeds, 2019-b, p. 44)	Focus on facilitating consumer choice and behaviour changes. Focus on individuals	Potential to recraft citizen practices when focusing on facilitating, encouraging and providing knowledge/skill development in combination
Ambition to support/ facilitate the citizens in creating the actual changes (Included in the overarching ambition)	F01.7	"Residents must have: • Increased access to affordable fresh fruits and vegetables • Reduced consumption of processed and packaged foods • Knowledge and skills to make healthy consumption choices" (City of Portland, & Multnomah County, 2015-b, p. 24)	Focus on facilitating consumer choice and behaviour changes. Focus on individuals	Potential to recraft citizen practices when focusing on facilitating, encouraging and providing knowledge/skill development in combination
Ambition to support/ facilitate the citizens in creating the actual changes (Included in the overarching ambition)	F01.8	"The most impactful changes investigated in this study are most readily achieved by individual consumers, provided that they have easy access to affordable, sustainable and healthy food options. Changing dietary patterns will undoubtedly be challenging, given significant cultural attachments to specific types of food; and government, business and civil society will have a strong supporting role in making low-carbon choices the consumer preference." (C40 Cities, Arup, & University of Leeds, 2019-b, p. 56)	Focus on facilitating consumer choice and behaviour changes. Focus on individuals	Potential to recraft citizen practices when focusing on facilitating, encouraging and providing knowledge/skill development in combination

Ambition to support/ facilitate the citizens in creating the actual changes (Included in the overarching ambition)	F01.9	They see diet as residents and business choices, but behavioural change as a shared responsibility. The City helps by raising awareness, campaigns (AIDAS: awareness, interest, desire, action, satisfaction), research into behavioural change and focusing on healthy food environment. Public institutions as buyers (Gemeente Amsterdam, 2020, p. 40)	Focus on facilitating consumer choice and behaviour changes. Focus on individuals	Potential to recraft citizen practices when focusing on facilitating, encouraging and providing knowledge/skill development in combination
Ambition to support experimentation with new and local provisioning systems	F.A.2.1.1	São Paulo: Re-localised food production. Investigate potential for a more resilient, socially inclusive urban food system (Ellen MacArthur Foundation, 2019, p. 49)	Focus on innovation	Potential to recraft citizens' practices through innovative, community experiments
Ambition to support experimentation with new and local provisioning systems	F.A.2.1.2	The City will evaluate ongoing experiments to establish sustainable and community-oriented food markets and will examine opportunities to create new ones (Mairie de Paris, 2018, p. 50)	Focus on innovation	Potential to recraft citizens' practices through innovative, community experiments
Ambition to support/ provide citizens with new skills/knowledge	F.A.2.2.1	"Equitably promote educational opportunities for residents to gain skills in organic gardening, fruit production, food preservation and cooking and affordable, healthy eating" (City of Portland, & Multnomah County, 2015-a, p. 100)		Potential to substitute citizen practices with new ones through skill development
Ambition to support/ provide citizens with new skills/knowledge	F.A.2.2.2	"The City will therefore implement awareness-raising measures, particularly for the poorest residents, to promote meal preparation using raw seasonal ingredients and raise the profile of legumes – a cheap source of protein that emits little greenhouse gas. Cooking workshops and presentations in indoor and outdoor markets will also be offered." (Mairie de Paris, 2018, p. 52)	Focus on consumer/citizen behaviour	Potential to substitute citizen practices with new ones through skill development
Ambition to support/ provide citizens with new localities	F.A.2.3.1	"To promote access to raw, fresh, and local ingredients for the least affluent Parisians, we will set up collective kitchens for people in shelters, hotels, or without enough room to cook." (Mairie de Paris, 2018, p. 52)	Focus on changing and expanding citizen/consumer behaviour	Potential to substitute citizen food provisioning practices with new ones
Ambition to create community-based partnerships	F.A.3.1.1	"Broaden and diversify community engagement, by partnering with community organisations and leveraging community-based programs such as libraries, SUN schools and health clinics" (City of Portland, & Multnomah County, 2015-a, p. 120)	Focus on civil society, civic organisations and community engagement, citizen behaviour	

Ambition to create community-based partnerships	F.A.3.1.2	"Cities often work together with civil society to raise awareness and build capacity. Mayors can directly fund planning or outreach work which is led by external stakeholders. This line of work can be extended to raise awareness about sustainable diets and reduced meat consumption" (C40 Cities, Arup, & University of Leeds, 2019-b, p. 100)	Focus on civil society, civic organisations and community engagement, citizen behaviour	
Ambition to create community-based partnerships	F.A.3.1.3	"Create collaborative partnerships with community-based organisations and affinity groups, including low-income populations and communities of color, to: a) promote healthier, low-carbon diets; b) encourage local food production; c) support affordability and access to healthier foods through neighbourhood food buying clubs and co-ops; d) reduce food waste" (City of Portland, & Multnomah County, 2015-a, p. 100)	Focus on civil society, civic organisations and community engagement, citizen behaviour	
Ambition to educate and re-educate citizens about sustainable food production	F.A.3.2.1	"By 2017, we will create permaculture training courses at the *École du Breuil*, in connection with the Ferme de Paris organic educational farm and through gardening workshops" (Mairie de Paris, 2018, p. 51)	Focus on affecting citizen/consumer behaviour	Potential to recraft citizens when providing new skills
Ambition to engage in dialogue with businesses	F.B.2.1.1	"City government can engage businesses on what foods they offer at their employment sites in order to prioritise healthy plant-based food. This could be championed in parallel with a broader environmental agenda that mayors are discussing with business leaders (e.g. energy efficiency, skills, climate smart investment)" (C40 Cities, Arup, & University of Leeds, 2019-b, p. 48)	Focus on affecting citizen/consumer behaviour	Potential to change how citizens' work and food practices interlock
Ambition to strengthen sustainable food production and consumption through PPP	F.B.2.2.1	"Mayors have a unique role as conveners. A mayor can typically convene representatives from all stages of the food supply chain to work together on a response to dietary change. Mayors can engage retailers and restaurants to promote reduced-meat diets and meal options" (C40 Cities, Arup, & University of Leeds, 2019-b, p. 48)	Focus on consumer choice	Potential to change how production and purchasing practices interlock
Ambition to strengthen sustainable food production and consumption through PPP	F.B.2.2.2	"Short supply chains and local production [...] the City will create partnerships between our institutional catering services and farmers" (Mairie de Paris, 2018, p. 50)	Focus on consumer choice	Potential to change how production and purchasing practices interlock
Ambition to make it desirable to be a frontrunner	F.B.2.3.1	"Cities and businesses alike should consider how to leverage the influencing role of early adopters of low animal-based diets so that a virtuous circle can be created" (C40 Cities, Arup, & University of Leeds, 2019-a, p. 108)	Focus on changing consumer choice and making frontrunner behaviour desirable	

Ambition to drive the demand for sustainable and local produce	F.C.2.1.1	"We will reach out to the European Union to emphasise the importance of stimulating internal demand through the use of local and organic products in institutional catering, and the need to change the European framework for public procurement" (Mairie de Paris, 2018, p. 92)	Focus on stimulating consumer demand	
Ambition to pressure national governments by setting a strong example	F.C.2.2.1	"Develop policy and equitably provide programmatic resources to: [...] f) leverage the purchasing power of public and private institutions to source low-carbon and local foods including County jails" (City of Portland, & Multnomah County, 2015-a, p. 100)	Cohesive policy strategies can target all three problem framing, however leveraging the purchasing power inevitably focuses on changing consumer choice	Cohesive strategies can potentially affect how policy practices interlock. E.g., by connecting health and climate policy. And can potentially change consumers' practices as well
Ambition to pressure national governments by setting a strong example	F.C.2.2.2	"Mayors can develop a food vision or strategy for their city and suggest that the national government does the same for the country at large. A city food strategy can cover a broad range of issues (e.g. reducing food waste, improving health, cost and inclusivity). A strategy can support interventions that align with an ambition to reduce meat consumption, increase healthy and sustainable food distribution, and can allocate space for urban, plant-based agriculture, etc" (C40 Cities, Arup, & University of Leeds, 2019-b, p. 50)	Cohesive policy strategies can target all three problem framing	Cohesive strategies can potentially affect how policy practices interlock. E.g., by connecting health and climate policy. And can potentially change consumers' practices as well
Ambition to set a good example and use purchasing power sustainably	F.C.2.3.1	"City governments can change the menus in school and public buildings, encouraging large city employers to follow suit in their canteens" (C40 Cities, Arup, & University of Leeds, 2019-a, p. 108)	Focus on affecting consumer choice	Potential to change the way citizens' work/ school practices interlock with eating practices
Ambition to set a good example and use purchasing power sustainably	F.C.2.3.2	"Mayors can also buy and serve more plant-based options in city-operated institutions such as public schools, kindergartens, hospitals" (C40 Cities, Arup, & University of Leeds, 2019-b, p. 47)	Focus on affecting consumer choice	Potential to change the way citizens' work/ school practices interlock with eating practices
Ambition to set a good example and use purchasing power sustainably	F.C.2.3.3	"Source food grown regeneratively, and locally where appropriate" (Ellen MacArthur Foundation, 2019, p. 10)	Focus on affecting consumer choice	Potential to change the way citizens' work/ school practices interlock with eating practices

APPENDIX 7: SECONDARY AMBITIONS FOR FOOD

Ambition	Reason for leaving out of the catalogue
Ambition to prohibit promotion of unwanted/not sustainable goods	While prohibiting the promotion of unwanted/unsustainable goods sends a strong signal, it is not enough to stop the consumption of them. An example of such is cigarettes in Denmark. Since 2002 it has been illegal to promote the use of cigarettes in advertisements in Denmark (Danish Cancer Society, n.d.). This legislation has been accompanied by others, such as regulations on smoking in schools, workplaces, bars, etc. Still, the share of smokers has only halved from 2002 to 2020 in Denmark (Danish Cancer Society, 2021).
Ambition to lobby for change that provides new opportunities	While lobbying for changes that provide new opportunities is important, it is of secondary focus here. This ambition can and should however be prioritised if the "new opportunities" are clearly defined, and lobbying is deemed necessary to realise them.
Ambitions to create carbon reducing economic incentives	The importance of carbon reducing economic incentives has been highlighted by Tobias Johan Sørensen (XX). However, cities hold limited power to introduce taxes on foods and other goods. Such taxes and economic incentives can often only be introduced and implemented by national governments. Therefore it could be argued that cities should prioritise their resources on other efforts.
Ambition to discourage food waste	It is acknowledged that food waste is an enormous problem, especially given that "more than 1 in 9 of the world population [...] do not get enough to eat" (UN World Food Programme, 2019). However, cities such as Copenhagen are already prioritising resources on initiatives reducing food waste. In addition, the overarching ambition implicitly includes food waste, as food waste occurs in food practices. This means that the overarching ambition can only be considered to be achieved, if food waste simultaneously is being eliminated.
Ambition to utilise under-utilised urban spaces for food production	This ambition is of secondary focus because the environmental potential is unknown. The potential is highly affected by local environmental conditions and local food production systems. However, if the citizens of a city values and prioritises local urban food production then this ambition should be included.
Ambition to incentivise consumers (and businesses) to "do the right thing"	This ambition has not been included because "do the right thing" is too unspecific. "The right thing" is a normative statement, and before it is specified it is impossible to suggest relevant incentives to achieve the goal.
Ambition to utilise affordances in current legislation	Utilising affordances in current legislations can be a necessity to achieve the desired transition and realise the overarching ambition, not just in relation to food but overall. However, ethically it is not believed to be a desired ambition on its own because legislations should reflect the values, goals and priorities of society, so that it should not be necessary to look for, what is essentially, loop-holes.

APPENDIX 8: CONSUMER GOOD INITIATIVES

Table with the initiatives that are included within the ambitions that have been prioritised in the consumption category of *consumer goods*. In the right hand column is a description of conventional problem framing (i.e., innovating technology, shifting consumer choices, changing behaviour) and potential practice-theoretical problem framing (re-crafting practices, substituting practices, changing how practices interlock).

Ambition	ID	Initiative description (For references, see appendix x)	Conventional problem framing	Potential practice-theoretical problem framing
Ambition to reduce the consumption of new materials	CG01	"Reducing consumption of products, such as clothing and electronics, by growing share, re-use and repair activities." (City of Vancouver, 2020-a, p. 70)	Focus on changing consumer choice (2nd hand) and behaviour (reuse, repair)	Potential to substitute unsust. consumer practices with more sust. ones - in terms of acquisition but also by enabling meaningful practices that require products, to be performed vie different means
Ambition to support/ provide citizens with new skills/knowledge	CG.A.2.1.1	"Set up a fixed u-fix-it location with full-time staff for repair support" (Metabolic, 2020, p. 25)	Focus on facilitating opportunities for changed consumer behaviour	Potential to substitute discarding practices with repair practices and to grow new practices out of lifespan extension practices
Ambition to engage communities in (awareness) campaigning	CG.A.3.1.1	"Community knowledge platform to facilitate intergenerational knowledge transfer on production and repair" (Metabolic, 2020, p. 25)	Focus on connecting citizens with new knowledge to change behaviour	Potential to offer citizens new skills and knowledge development that allows for new practices to grow, expounded by the social aspects of initiatives aimed at community envolvement
Ambition to inform about the options/facilities for reuse, repair, recycle	CG.A.3.2.1	"The City will gradually establish awareness-raising campaigns and policies using advertising in the public space to encourage people to share, repair and reuse textiles, electronics and furniture." (Gemeente Amsterdam, 2020, p. 57)	Focus on changing citizen behaviour through information and encouragement	Potential to lead to a change in meanings and tastes in citizens, if these opportunities are made to seem as attractive, even more attractive than the old practice
Ambition to make sustainability an embedded aspect of education	CG.A.3.3.1	"Amsterdam can collaborate with knowledge institutions to stimulate circular product designs, so that more and better products and services are produced – a kind of Dutch Design 2.0 – or stimulate business models based on circular principles." (Gemeente Amsterdam, 2020, p. 57)	Focus on changing consumer behaviour and shaping new consumers	Potential to substitute unsust. practices when new skills and knowledge is developed

Ambition to make sustainability an embedded aspect of education	CG.A.3.3.2	"Advocate for school funding to circular education programs" (Metabolic, 2020, p. 25)	Focus on changing consumer behaviour and shaping new consumers	Potential to substitute unsust. practices when new skills and knowledge is developed
Ambition to make sustainability an embedded aspect of education	CG.A.3.3.3	"Help create school curriculum that includes circularity (production, repair, sustainability)" (Metabolic, 2020, p. 25)	Focus on changing consumer behaviour and shaping new consumers	Potential to substitute unsust. practices when new skills and knowledge is developed
Ambition to make sustainability an embedded aspect of education	CG.A.3.3.4	"The goal is to make all children and youths in the city schools and institutions a fundamentally resource conscious. This will happen through educational programs about waste sorting and circular economy" (Københavns Kommune, 2019, p. 36)	Focus on changing consumer behaviour and shaping new consumers	Potential to substitute unsust. practices when new skills and knowledge is developed
Ambition to create and utilise public partnerships	CG.B.2.1.1	To ensure effective/equitable implementation "**Government Partnerships** — Partner with other local, regional and tribal governments to inform local, state and federal climate policy activities" (City of Portland & Multnomah County, 2015-a, p. 134)	Focus on implementation and policy innovation	Potential to facilitate new practices when practical, local knowledge is leveraged to push for changes at "higher" levels (national, state etc.)
Ambition to create and utilise public partnerships	CG.B.2.1.2	"**Materials Management** — Continue to work in partnership with public agencies including Metro and the Oregon Department of Environmental Quality to implement the Materials Management in Oregon: 2050 Vision and Framework for Action." (City of Portland & Multnomah County, 2015-a, p. 91)	Focus on implementation and policy innovation	
Ambition to facilitate cooperation between business and civic society	CG.B.2.2.1	"**Building a strong circular network**: establishing networking events, connecting people with extra space or specific skills with those in need, and enabling the sharing of best practices." (Metabolic, 2020, p. 23)	Focus on innovation and changing consumer choice and behaviour (reuse, recycle, skill development)	Potential to recraft consumer practices by providing new skills and opportunities and enabling new practices to grow by examples
Ambition to facilitate cooperation between business and civic society	CG.B.2.2.2	"The municipality will invite relevant actors in the textile industry and charity organisations to collaborate", in order to to create awareness of the types of waste and the amony, and test of new ways to collect and reuse/recycle (Københavns Kommune, 2019, p. 25)	Focus on innovation and changing consumer choice and behaviour (reuse, recycle, skill development)	Potential to recraft consumer practices by providing new skills and opportunities for reuse/recycle, and to recraft business practices

Ambition to facilitate cooperation between business and civic society	CG.B.2.2.3	"Paris must implement a recovery-transformation- donation scheme between now and 2030. This solution will consist of collecting unsold items that are still consumable from vendors and redistributing them through specialised local associations." (Mairie de Paris, 2018, p. 45)	Focus on innovation and changing consumer choice and behaviour (reuse, recycle, skill development)	Potential to recraft consumer practices by providing new skills and opportunities for reuse/ recycle
Ambition to lobby for change that provides new opportunities	CG.B.3.1.1	They are preparing a "circular economy" lobbying agenda. It might include "true pricing", quality assurance, the role of tax instruments. It will include: A shift from taxation on labour to taxation on raw materials and energy, Regularly tightened legislation and objectives in the field of reuse, construction and area development, Extended producer responsibility for an increasing number of product groups and/ or life stages, Room for municipalities to experiment in deviating from (obstructive) national legislation (Gemeente Amsterdam, 2020, p, 22)	Focus on providing new opportunities for innovation, choice and behaviour	Potential to facilitate new practices when practical, local knowledge is leveraged to push for changes at "higher" levels (national, state etc.)
Ambition to lobby for change that provides new opportunities	CG.B.3.1.2	"The City of Paris will be campaigning at the national level to strengthen the provisions of the 2015 Energy Transition Law (Loi de transition énergétique) [...] It is a question of strengthening the provisions of this law to oblige firms and producers to abandon the strategy of planned obsolescence. The legislation must ensure that a product cannot be marketed without a certificate of durability, recyclability and reparability." (Mairie de Paris, 2018, p. 46)	Focus on providing new opportunities for innovation, choice and behaviour	Potential to recraft business/producer practices
Ambition to make producers take responsibility	CG.B.4.1.1	"It is primarily up to the business community to extract value from end-of-life products [...] This demands producer responsibility, based on which the City can reach voluntary agreements with businesses. To ensure efficient processing, the City can connect businesses to raw material streams [...] To encourage designers and the people of Amsterdam to make better products and treat them with more respect at the end of their useful lives, the City can collaborate with design schools and carry out awareness-raising campaigns." (Gemeente Amsterdam, 2020, p. 61)	Focus on policy innovation, business innovation and behaviour change (repair, reuse, recycle)	Potential to substitute unsust. practices in businesses and consumers with more sust. ones and creating new shared meanings via agreements
Ambition to make producers take responsibility	CG.B.4.1.2	"Require companies to take back products or pay fees that provide seed funding for repair, reuse and recycling" (Metabolic, 2020, p. 27)	Focus on policy innovation, business innovation and behaviour change (repair, reuse, recycle)	Potential to substitute unsust. practices in businesses and consumers with more sust. ones
Ambitions to create carbon reducing economic incentives	CG.B.4.2.1	"Dropping local taxes on secondhand goods to incentivize reuse" (Metabolic, 2020, p. 25)	Focus on incentivising consumer choices	

APPENDIX 9: SECONDARY AMBITIONS FOR CONSUMER GOODS

Ambition	Reason for leaving out of the catalogue
Ambition to facilitate better opportunities for reuse	These ambitions are already a big focus in many cities and are facilitated through exchange centrals (in schools, workplaces, etc.), flea markets, sharing solutions, among others. Such facilitation is hugely important, but since the facilitation is already underway in many cases, it is considered a pressing ambition to inform about the facilities and opportunities already in place and underway. Furthermore, it is considered of high priority that cities address how the facilitation of re-use, gifting and sharing will ultimately lead to the reduction of new materials and goods, since an absolute reduction of consumption is necessary. It is important that the facilitation of re-use, gifting and sharing is advanced as a desirable solution for acquiring goods, and not only for discarding goods.
Ambition to facilitate better opportunities for giving away stuff	
Ambition to encourage good waste handling	The ambitions related to waste handling and sorting are important, but operate with an end-of-pipe focus, which is not a primary focus in this project. To avoid the consumption of new materials and resources, waste and resource handling is very important, since it contributes to the reuse of resources and goods already extracted, produced and in circulation. However, the primary focus of the catalogue and suggested initiatives is to address how an absolute consumption reduction can be achieved in an equitable way.
Ambition to facilitate better waste sorting	
Ambition to inform about waste sorting	
Ambition to set a good example and use purchasing power sustainably	This ambition has not been made a primary focus, even though it is undoubtedly important and necessary. Administrations naturally need to lead by example and address their own consumption, on which they have a direct influence. The ambition is however of secondary focus here, since the issue of public procurement, purchasing practices and the specific barriers and opportunities on the subject, is beyond the scope of the project.

THANK YOU FOR READING
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