Exploring the challenges of expressing climate friendliness of food through a food label

How to make a public concern tangible for consumers and businesses

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Abstract

This thesis has explored how to express climate friendliness of food through a food label and the challenges which are associated with trying to do so. First a general investigation of food labels and similar solutions were conducted, which revealed that although there were plenty of different market devices and heuristics, which could guide the consumer's choice, however these can be misleading due to a discrepancy between what is inscribed in the label and how the consumers describe the very same label. The potential for a different market device, which could express climate intensity of a specific product, was identified.

This thesis relies on the theories of actor network-theories, valuation frames and semi-structured interviews, which in turn was used to employ a translation approach, an analysis of the journey from public issue towards market opportunities and a coding and analysis of the conducted interviews.

The translation strategy was partially successful through its problematization, which showed that the actors in the proposed network each had their own specific problems and that an obligatory passage point could possibly be designed to mitigate these through the usage of a CO2e food label.

The valuation frame perspective gave an insight into the constellation of valuation frame, value architecture and the business model. It revealed, that the revenue stream of this concept would be carried by consumers, and therefore those very consumers were crucial for the success of such a label.

Through the interviews, it was learned that consumers orient themselves using heuristics, such as a label, gathered knowledge, packaging and that these consumers already tried to select climate friendly food using their available knowledge as best as possible. All the interviewed consumers responded positively towards the design concept, however it was also noted that climate friendliness was a supplementary quality and not the determining factor in selection, which rather was price and taste.

Based the findings, a design solution for expressing climate friendliness through CO2 equivalence was developed, which aims to affords consumers with an easily understood relative *green-red* scale based on product grouping in addition to the absolute CO2 equivalence. The quality of CO2e is intended to act as a boundary object between business, so that the can both communicate and compete on this new parameter of climate friendliness. A network is proposed to handle and implement the CO2e label.

Finally, the major barriers for implementing such as food label were found to be

- Stabilizing the quality of CO2e
- Cost of producing numbers
- Assembling and maintaining the network

There must be consensus of the framing of this new quality, i.e. what is inscribed in the CO2e, which is best achieved by agreeing on a framework for calculating the CO2e, which is fair, transparent and comparable between different products. The cost of producing the numbers will be carried by the consumers and thus must be justifiable, and it may be reasonable to lower the degree of accuracy to achieve this. Finally, it is essentially that a network is established and maintained to collaborate around this concept to build trustworthiness for the label and share the workload amongst themselves.

Pre-face

I would like to thank the people who helped me through the process of writing this thesis, without whom the project may never have been completed. First and foremost, special thanks go to my supervisor Christian Clausen for his ability to patiently explain a, for me, previous unknown world of sociology and its applications in relation to my project. By refuting my initial conception of “Of course it can be done, someone should just do it”, he challenged me to consider more exactly how it could be done and which elements were required to do so and I believe I gained something valuable in that process – a humility of my own ideas and respect for the knowledge of others. This allowed me to put myself and my own convictions aside, even if only momentarily, and consider the theories and interviews in more depth, for which I am grateful.

I would also like to thank Signe D. Frese for meeting up with me and delivering a dose of reality, by being very honest regarding her perceptions of the concept I brought to the table. The meeting changed the direction of the project and for the better. If all the time had been spent on developing a framework as initially imagined instead of mapping challenges, the framework developed would most likely have been useless due to the uncovered challenges.

My interviews with Sten Jensen, Pernille Lundquist and Michael Minter all provided interesting points of view and helped to shape and better my understanding of the actors, which I imagined participating in the network.

Finally, I would like to thank my friends and family for taking time to do an interview with me and sharing their thoughts on food, qualities, decision making and climate friendliness.

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1. Introduction

This thesis is concerned with possibility of communicating the climate intensity of food products through a market device, such as a food label. While writing this report, the author assumes the role of *the innovator,* who seeks to bring an innovation to be. The reason for concern regarding climate intensity is due to the increasing greenhouse gas (GHG) emissions caused by food production combined with World Resource Institutes predicted food gap (Hansson et al., 2013), which defined as the difference between the expected production and consumption of food in 2050. As nations become wealthier, which they generally are (Worldbank, 2017), the diet of the average citizen changes toward more animal-based products, such as diary, eggs and meat, which exacerbates the problem further as these products are more resource intensive to produce and thus also generate more GHG than plant based food (Ranganathan et al., 2016). In Denmark food consumption is responsible for a quarter of our total emissions.

"Actually, the food consumption is responsible for 20 – 25 % of the average Danes CO_2 account"
(Salomonsen, 2010)

"On average a Dane emits 3 tons of CO_2 a year solely through their diet. In comparison Danes emit 2.5 ton of CO_2 through car transport, household heating and electricity usage – combined" (Lorenzen, 2016)

Furthermore, the total population of the earth is still rising and is expected to peak around 9-11 billion people in approximately 2050. To satisfy the expected demand, the food production must be scaled up, however this will have massive climate and environmental repercussions, if business as usual continues. The main concern is the increased need for cultivating more land for both animals, crops and fodder and the climate changes relating to this. These facts hold together are problematic when considering how to achieve the Sustainable Development goals of the United Nations

"To end hunger, achieve food security and improved nutrition and promote sustainable agriculture"
(United Nations, 2012, p. 1)

To fulfil that goal, several strategies can be pursued on different levels – regulation, awareness, prohibition, sponsorship – however to be truly successful, a combination of those strategies may be needed. The awareness strategy is chosen in this approach, as there was a notion with the innovator, that consumers had no mal intent with their consumption, but simply had difficulties in understanding the impact of their collective consumption. This notion was supported by the literature, which states

"Much of the information (on foods) available is superficial, conflicting, or partial, and it is hard for consumers seeking to make informed food choices to know which information to trust."(Coff, Barling, Korthals, & Nielsen, 2008, p. 32)

A Danish survey performed by Concito further cements this idea, with 25% finding it very difficult and 45% finding it difficult to determine the most climate friendly product in 2015, as shown in figure 1 below. (Minter & Chrintz, 2015, p. 20)

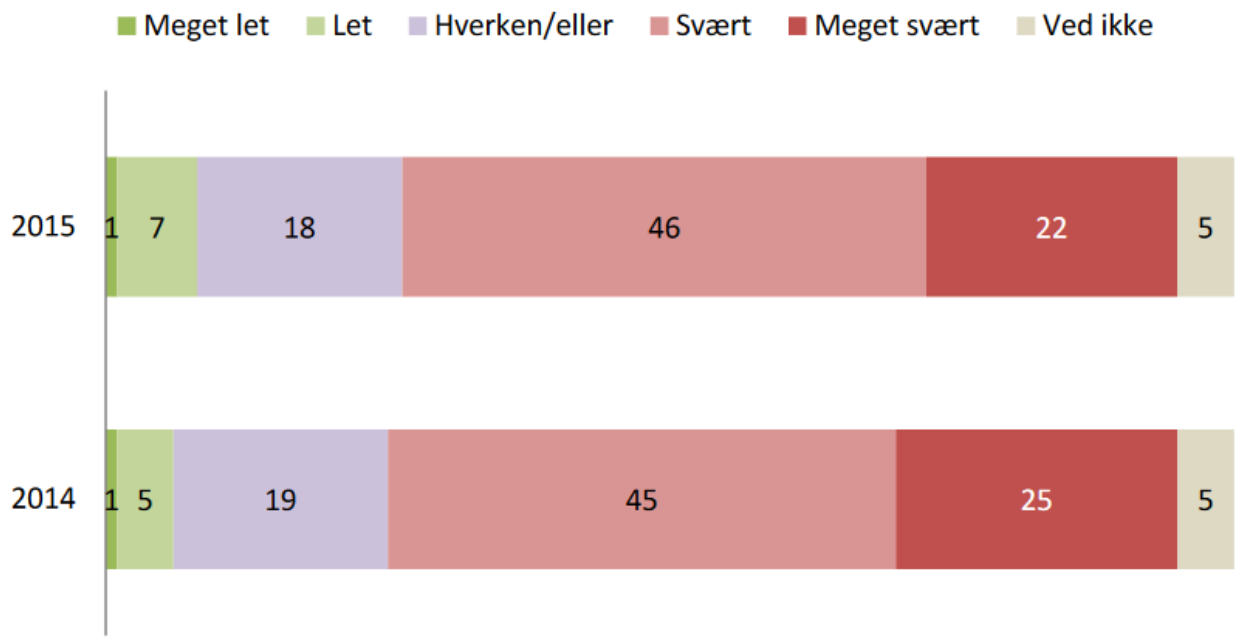


Figure 1 "How easy or difficult do you find it to determine if food is climate friendly?" (Minter & Chrintz, 2015, p. 20)

This notion of lack of knowledge was the beginning of the thesis, and kick started the investigation of what can be done to guide the consumer into taking an ethical and informed choice regarding their choice of food.

"Environmentally conscious decision making requires information about environmental consequences of alternative products, processes or activities" (Joshi, 1999, p. 96)

Several recent trends within food had already been observed, which indicated a rising consciousness of sustainability among consumers, such as local food, sustainable packaging, ecology, no food waste, single serving meals, corporate social responsibility just to name a few. However, all of these qualities of food also make it a jungle to navigate in a super market and compare different products with different qualities (Minter & Chrintz, 2016).

To summarize the problem at hand, the world has a rising population, which is changing towards a more resource intensive diet, these two trends combined causes increasing amount of GHG emissions contributing to climate change. The conscious consumer has insufficient information pertaining to food to make a qualified decision to mitigate climate effects derived because of their dietary choices and there is no way to validate their choices empirically with the current qualities used to describe products.

This investigation pointed in the direction of market devices, such as labels, as a solution to enable the consumer to take an informed choice. The trick is to convey a complex message, the total impact of the product, in simple, relatable terms. An idea started to take shape. Inspired by the principles in life cycle analysis and MEKA analysis, the journey of a product can be mapped from cradle to grave. With data from every phase from extraction of raw material, transport, processing, packaging, usage, and disposal aggregated together it would be possible to give a more holistic picture of the impact of the product, including the localization of the most significant process improvements. A LCA approach holds the potential to open new areas of competition in the value chain, such as efficient/low emission resource

extraction, transport, packaging, and distribution - if the consumers demand climate friendly food and thus are willing to pay a premium for it. This purposely omits the final phases of the life cycle, the transport from the supermarket to home, the preparation, the consumption, the waste generated and the disposal of said waste – the reason for this is that the CO2e associated to those processes cannot be known in advance, therefore it cannot be included in the CO2e label and thus the consumer cannot choose based on it. The original idea was to map the energy usage of all process in joules (J), which is the SI unit for energy usage, so that everything can be added together in a single unit. However, this idea had some major flaws, as it could not distinguish between different types of energy – e.g. renewable and fossil – nor could it capture and represent the externalities generated through different types of emissions. The idea of mapping and aggregating energy usage remained, but the unit was changed to CO2 equivalence (CO2e) to distinguish the impact of different sources of energy as well as their corresponding emissions, although this pick is by no means flawless either.

It is important to note that the focal point of this thesis is the climate, rather than the environment and that a climate friendly product, is not guaranteed to be an environmentally friendly product.

Having this – in the innovators perspective – great idea, contact was established to Signe D. Frese, the CSR director of COOP, to share the concept and receive feedback from her position. She was personally sympathetic to the idea and endorsed the possibility of using such a concept to empower users to make an informed choice and thus mitigate externalities of food production in the future, however in her capacity as CSR director for COOP, she was very sceptical about the concept's current feasibility. Her concerns about the concept extended to several aspects

- Low consumer demand for climate impact analysis
- Lack of standards to frame the process, i.e. low legitimacy
- Slow and expensive mapping of products

Although, the concept of CO2e had a rough collision with reality, there was still incentive to push on in exploring the concept. Though, the existing consumer demand is low, Signe D. Frese confirmed that interest in climate friendliness has grown steadily in the recent years and that the trend seems to proliferate, which in time might overcome one of the above-mentioned barriers.

Therefore, a time may come where consumers – in volume – desire to purchase more climate friendly product. This thesis will consider the challenges, which must be addressed to realize the concept, when the time is mature for such a concept. This influenced the course of the project from developing and fine tuning a design concept towards a mapping of challenges associated with introducing CO2e as new quality for consumers through a food label and creating a supporting actor network around said label.

1.1 Problem statement

Ideally, consumers have full transparency and perfect information available to make their choice of what to purchase and consume. Those who are interested in and value sustainability (i.e. climate friendliness measured in CO2e), should be able to base their choice of products on this quality and "vote with their feet" by purchasing products, who are more climate friendly than others. With sufficient demand, this can create a ripple effect of competition throughout the supply chain. When consumers demand sustainable products from the retail business, they can then start to source their product selection based on this demand. This will put pressure on manufacturers to create more climate friendly product to compete and position themselves in the market. Given that the entire supply chain is included in the frame of calculating the CO2e of product, then both retail and production have an incentive to choose responsible sub-suppliers and service providers, based on the efficiency of their process and their ability to document this efficiency through quality assurance systems and traceability programs. This traceability should work to ensure, that numbers carry over from each link throughout the supply chain and can be aggregated.

However, currently the companies along the supply chain work in silos and suffer from departmentalization and have no or little incentive to change that. They deliver on their core competence, i.e. distribution distributes and packaging packages, and they are more concerned with financial costs and less concerned with externalities of this behaviour. This makes it difficult for the consumer to know if the product they are looking at has been produced and handled in a sustainable manner in *every* link of the supply chain. The result of this is that a product may be far more harmful to the climate, than the consumer is led to believe. To exemplify this, fish may be labelled and sold as locally caught, which is true, however they mentioned nothing about the fact that they are shipped to China for processing and packaging and shipped back again (Yeong, 2005).

Another perspective on the same problem is that the different actors on the market have not yet found a way to collaborate and internalize their climate externalities (i.e. energy use and emissions) and express these for the both businesses and consumers to make qualified choice. This leads to the combined research question and problem statements of the thesis, which states:

What challenges are associated with designing a food label to enable consumers to select their products based on the CO2e of the product?

1.2 Examples of non-transparent problems

To clarify the problem at hand, it is chosen to provide a few examples which puts a strain on normal reasoning and shows that the difficulty in choosing an environmentally friendly product. These statements are controversial, as they depend on how you frame the setup, however they serve to illuminate the difficulty in knowing which products *really* are more climate friendly

1. The climate impact of importing sheep from New Zealand to Denmark, can be less than raising sheep in Denmark as the sheep in New Zealand has grassed on natural areas instead of being fed fodder (which Danish sheep would). The climate impact is lower because the transport around the world requires less energy, than it would take to grow the fodder (Frese, 2016).
2. The choice between Danish and Spanish tomatoes, would intuitively be the Danish, however since Danish tomatoes are grown using heating in the greenhouses in winter. The result is higher GHG emissions from Danish tomatoes (Frese, 2016)
3. There is also a clash between conventional food and ecological food, where the ecological food puts a higher strain on the environment due to lower yields. This means, if conventional food converted to ecological, that more land would have to be cultivated, which in turn would require a higher energy input (Minter & Chrintz, 2016).
4. Although, red meat is associated with higher GHG emissions than e.g. chicken, the total GHG related emission is also dependent on quantity consumed. Eating climate friendly is not about deselecting “bad” product, but rather about moderating their consumption. (Frese, 2016)
5. Common-sense would tell that national products are preferable; however, this is a questionable heuristic and should be translated into products which have been transported a short distance with a corresponding low emission are preferred. i.e. when buying food in Copenhagen, it is worth to note that Malmö is closer to Copenhagen than Skagen.
6. The packaging of a product adds to the total emission generated through its life cycle, and two otherwise comparable products may be distinguished through their packaging.
7. Depending on the framing of the life cycle, the food waste may be included. Thus, buying products, which have a high fraction of food waste will increase the climate impact of each consumed products. This pertains to products with short shelf time, low turnover, or easily damaged goods (e.g. fruits).

With these examples in mind, it becomes evident that the problem is confusingly complex and sometimes straight up counterintuitive to determine what is a climate friendly product. Therefore, the aggregation of data seems like a good way to “even out” the differences among products and rank them accordingly. The current situation is comparable to economic theory of the “tragedy of the commons”, where a group share a common area for grassing their cattle, but each have an own interest in feeding their cattle the most. However, with everyone thinking like this the result becomes that the grassing area is worn down

The analogy to GHG emissions is that there is no individual price associated with emitting the greenhouse gases, but everybody pays as a society. The society pays economically through monitoring and clean-up costs, more importantly society also pays through decreased air quality, climate changes and other derived effects occurring later. There is a lack of incentive to act in accordance with the groups best interest and maintain the common, shared good, which in terms of climate is the atmosphere.

1.3 Methodology & theories

The report will investigate the possibilities for a creating a new label for food products, which communicates how energy intensive the process of making the product was. First COOP was engaged as they are a large actor and can wield a lot of power to make changes, if they choose to do so. The contact with COOP was the beginning of "pointing out the actor" and they led to other actors, such as the ministry of food administration, Concito, manufacturers, which were also interviewed and continued to point out new actors.

The interviews were not scripted, but aimed to obtain an understanding, by letting the interviewee explain themselves and testing the received understanding by asking follow up questions. These interviews seek to better understand the current values of the actors imagined to participate in the network around the food label. The learning outcome of the interviews was used to improve the concept accordingly, where potential improvements were discovered.

Simultaneously, the search of literature starts off considering other labels, similar solutions, quantitative ways of measuring climate impact and existing databases of knowledge. The labels investigated are mapped in regards to their historical introduction, support network, quality assurance and financing to draw inspiration for creating a new label. Applying the theory proposed by Madelaine Akrich, the existing labels will be analysed for their inscribed and described values. Following this, a brief description is given of similar solutions to show different ways to approach to problem at hand.

With the empirical work conducted, the thesis moves onto analysing using academic theories. The actor network-theory is introduced, explained and the concept of moments of translations is applied to show how a network around a food label could be founded.

The next phase in the analysis is the valuation frame, which is used to first described generally. The approach of the valuation frame theory is first applied to the "innovation" (i.e. food label CO_2e), to reveal what strategies may be best suited to implement it. This analysis continues to describe the valuation frames of the actors imagined to participate in the network and how the stakes and holders could be assembled.

1.3.1 Actor network-theory

Actor network-theory (ANT) was applied, which allowed the innovator to hypothesize about a potential network of stakeholders as a starting point for the investigation. Furthermore, ANT provides a strategy for translation (Callon, 1986), which was used to understand the process of building a network. In conjunction to this the term of marketization (Çalışkan & Callon, 2010) was used to understand to markets as malleable sociotechnical arrangements. Finally, the paper Economy of Qualities (Callon & Méadel, 2002) provides an understanding of the market mechanisms for competition with the concepts of attachment and de-attachment through qualification and requalification.

The main inspiration for this section is derived from Callon' article "Domestication of the scallops and fishermen of St. Brieuic bay" (Callon, 1986), which introduces the notion of moments of translation to describe the process of network building.

"These moments constitute the different phases of a general process called translation, during which the identity of the actors, the possibility of interaction, and the margins of manoeuvre are negotiated and delimited" (Callon, 1986, p. 68)

The moments of translation mentioned above is constituted of *problematization, interessement, enrolment* and *mobilization.* The problematization consists of determining a set of actor and defining their identities to ensure the innovator becomes an obligatory passage point. Callon explains this as a double movement, where actor and innovator negotiate who they are. Through this setup, the innovator becomes indispensable in the network, which concludes the *problematization phase.*

The next phase of translation is the *interessement* phase, which is plainly derived from the word *interess,* which is synonymous with interpose meaning to be in-between something or to insert something in-between something else. In this phase the innovator must raise the attention of the actors imagined to participate in the innovators network, which can be done through an array of devices.

"Each entity enlisted by the problematization can submit to being integrated into the initial plan, or inversely, refuse the transaction by defining its identity, its goals, projects, orientations, motivations, or interests in another manner." (Callon, 1986, p. 71)

The solidity of the network is tested through these interessement devices, to see if they managed to make the actor submit to the initial plan or if it makes the actor refuse the transaction.

The next phase translation, *enrolment*, is a bit quirky, as it can be considered as a state rather than a phase. When the *interessement* has succeeded, actors are enrolled. Finally, the *mobilization* phase is where the actors have entered an alliance and *"only those voices speaking in unison will be heard"* (Callon, 1986, p. 81)

1.3.2 Valuation frame theory

The concept of valuation frame (Doganova & Karnøe, 2012) elaborates on what counts and for whom it counts, which is used to consider how to compose the actor network and considering the value architecture.

Through this approach, the thesis tries to take the environmental concern of GHG emissions from food production and transform it into a fact through proper framing and quantification and finally explain how it potentially can transform further into a quality, which holds economical worth for the consumer. This thesis will investigate if it is possible to conceive and establish new rules on the market by introducing a new food label.

The theory of valuation frame is compatible with actor network theory and builds further upon that foundation. This theory has its outset from the academic paper "The innovators struggle to assemble environmental concern to economic worth" (Doganova & Karnøe, 2012) which provides a vocabulary to describe and work with the issues of assembling a network and having that network valuate something hitherto not valuated. The valuation frame theory builds upon the creation perspective, which sees the world through representation of the innovators work.

"The "creation" perspective portrays opportunities as the outcome of entrepreneurs' work to enact and create their environment." (Doganova & Karnøe, 2012, p. 5)

This entails, that to give life to a business case it is required to create the conditions under which the consumers are willing to pay for the product. The external environment and the market are not seen as pre-given, but rather as created through work of representation.

"When it comes to innovation of new products, both stakes and their holders are emergent; hence, assembling the stakes and holders is a critical job for the innovator." (Doganova & Karnøe, 2012, p. 6)

What is meant by the above is that there are no stakeholders in the innovation, before they too are created, by the means of assembling the stake, i.e. the concern, and the holder, i.e. the actor and making the actor claim ownership of the concern.

"The market environment can be seen as a space where the bundle of qualities which define a good makes it comparable with a finite list of other goods." (Doganova & Karnøe, 2012, p. 6)

This theory is chosen as it seems well suited to facilitate an understanding of what is required to implement e.g. a new food label expressing climate friendliness. It extends the work of the actor network-theory and guides towards network building. The notion of valuation frame is defined as

"The notion of "valuation frame" helps to understand how market actors qualify goods and calculate their worth. It refers to the boundary established between the qualities of a product or service that will be taken into account in the calculation of its worth, and those that will be left unconsidered (Callon 1998)" Cited from (Doganova & Karnøe, 2012, p. 18)

The paper argues, that adding new qualities into the valuation frame requires adding new partners in to the valuation network, and that the combination of doing this is business model innovation.

"Adding new qualities (that is, qualities of a product that are currently not taken into account in the calculation of its value) calls for adding new partners (e.g., alliances with user associations, governmental and non-governmental organizations); in other words, renewing valuation frames entails recomposing valuation" (Doganova & Karnøe, 2012, p. 17)

1.3.3 Interview theory

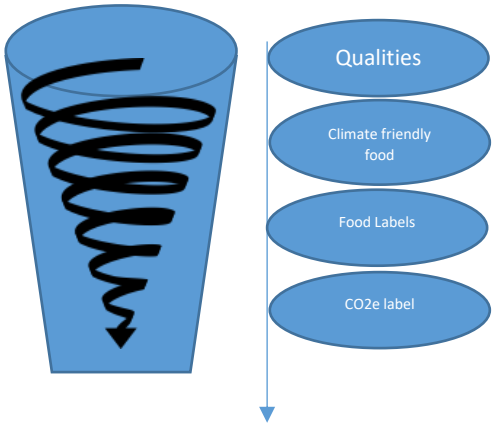
At first, four interviews were conducted with different actors in the network, which were intended to answer a few specific questions and gain general knowledge and the actors point of view. These were not aided by any specific theory.

The method of working with the interviews is inspired from the book "*Doing interviews"* (Kvale, 2007), which suggest to apply seven stages of interview inquiry. These are stages are thematising, designing, interviewing, transcribing, analysing, verifying and reporting.

This study conducted several interviews to better understand parts of the imagined network and the embedded life world of the actors in that network. A farmer, a retail organization, a think tank and the ministry of food administration was approached for the first interviews. Later, the focus changed towards consumers primarily, as they are the most difficult and elusive participant in the network to understand, yet perhaps the most vital for the success of a label.

"The customer is king, but of an empire whose boundaries are poorly defined and whose laws are vague. It is an enigmatic entity." (Madeleine Akrich, Callon, & Latour, 2002, p. 200)

The focus on the conscious consumer is justified as their existence is essential for the concept to thrive, as their willingness to pay for climate friendly food is the revenue in the network. The interviews were semi-structured, with a focus on the life world of the consumer, when shopping.



Structure of lead consumer interviews

The structure of the lead consumer interviews is shown in figure one above. To open the conversation, a range of food qualities were presented and the interviewee was asked to select the five most important qualities to them and then asked why the selected quality was important to them. The list below was synthesized at first from qualities most often encountered in the literature, but expanded during the interviews, as the interviewee could add new qualities to the list.

- Animal welfare
- Brands
- Climate
- Climate friendliness
- Convenience
- Ecology
- Environment
- Transport
- Food labels
- Freshness
- Health
- Locally produced
- Natural content
- Nutrition
- Packaging
- Price
- Processing
- Sensual appeal
- Social conditions
- Story telling
- Taste

The next step of the interview was to ask the interviewee regarding their perception of climate friendly food, what they considered climate friendly and if it held any value to them that a product was climate friendly. Then the interviewee was asked about their usages of food labels and their understanding of them and the importance it held to them. Finally, a design concept of a CO2e food label was shown to them to test their reaction and thoughts regarding the concepts.

To see a complete list of interviews conducted during the writing of the thesis, consult appendix 2.

2. Review of existing knowledge

2.1 Search of literature

To firmly grasp the problem at hand, theories from the sustainable design curriculum has been applied, to illuminate the possibilities from different points of view. The thesis mainly draws it theoretically foundation from actor network-theory, valuation frames, qualities, market devices, framing/overflow and actor interviews. To supplement these considerations a randomized searching approach was applied through a combination of google searches for reports and news articles about food labels, consumer behaviour, sustainability and climate friendliness. The findings deemed relevant was included in the project library and the references of those findings was investigated. This snowballing method became the basis of the non-curricular knowledge of the report. Finally, a structured search was used to find peer-reviewed articles. This search initiated using the keywords above in the AUB Primo.

Searching for "climate friendliness food labels" in AUB Primo using a full text search yielded more than 4.000 results, though browsing through the titles of the first few pages, the search was deemed off-topic. Narrowing the search from full text to abstract based, only a single result remained – "Finnish consumer perceptions of carbon footprints and carbon labelling of food products", which stated

"The study showed that the term 'product carbon footprint' is familiar to many, but there is substantial misunderstanding of its meaning." (Hartikainen, Roininen, Katajajuuri, & Pulkkinen, 2014, p. 1)

"There are positive attitudes towards carbon labels, 90% stated that a carbon footprint would have at least a little impact on their buying decision, but the information became meaningful only when many other purchasing criteria (such as price and taste) were satisfied." (Hartikainen et al., 2014, p. 1)

To widen the search the keywords were changed to "climate friendl* food label*", which yielded 26 results, one of which looked interesting - Testing for the Best Instrument to Generate Sustainable Food Consumption (Panzone, Perino, Swanson, & Leung, 2011, p. 250)

"Labelling remains a very viable approach. Improving the informational content of a product helps consumers with environmental concerns to act according to their interests, learning about the different environmental impact of products and favouring competition on GHG emissions." (Panzone et al., 2011)

Another result was (Tan, Tan, & Khoo, 2014), which stated that

"A standardized approach would definitely be a useful GHG accounting tool to provide an indicator for carbon labelling schemes….In order to encourage people to make more informed choices when making grocery purchases, it is imperative that they have access to environmental performance information of products. Carbon labels serve the purpose of informing consumers about how purchasing different products within a substitutable range would have differing impacts on the environment." (Tan et al., 2014, p. 87)

By contrast searching for the same keywords in EBSCOhost yield no direct results, even from a full text search. The general picture is that there are thousands of articles pertaining to consumer behaviour, food labels carbon footprint, sustainability and greenhouse gas emissions, but very few, if any, of those which have all those topics integrated in one point of view i.e. the impact of carbon footprint as food label on consumer behaviour. The structured search was successful in showing, there is a knowledge gap regarding using CO2e as an indicator of climate friendliness for consumers.

2.2 Climate friendliness

Climate friendliness is used to express the impact on the environment from the production, transportation, processing and cooling of products. There is no definition of what constitute climate friendliness nor any threshold values for when a product is climate friendly. In that sense, it is a very relative term, as a product can be more or less climate friendly than another product, but not climate friendly in its own right. The focus of climate friendliness lies within the scope, as the name suggest, climate. This is a strong delimitation, as environmental concerns, animal and human welfare is neglected. The primary outlook of climate friendliness is concerned with emissions to the atmosphere.

"Agricultural production causes emissions of methane (CH_4) and nitrous oxide (N_2O) from animals and farming the land as well as carbon dioxide (CO_2) from agricultural machinery, which contribute to the human made greenhouse effect." Translated from (Minter & Chrintz, 2016, p. 2)

There are many ways to go about promoting climate friendliness, some suggest pricing as the most effective means.

" The most effective means is to make a price regulation, so you pay per how much the climate impact of the consumption is." Translated from (Salomonsen, 2010)

Although, that may be the most efficient way and intuitively seems fair per the polluter pays principle, it does have a social broadside to it. There is already a rather large price gap between stable foods and meat, which would be further extended, so that low-income groups such as, unemployed, students and retired people may no longer have the same access to meat, due to inhibitory cost.

"Isolating problems and solutions that could be considered purely economic would lead to socially illegitimate solutions." (Callon & Méadel, 2002, p. 195)

Perhaps this method would be effective, but it will not be investigated further in this report.

Another way to go about promoting climate friendly diets, is through regulation, by simply taking the most polluting goods and products of the shelves of the super markets. The following quote is from a paper investigating the best option for generating sustainable consumption, where five options (labelling, tax, ban, exogenous price change and exogenous product removal) were analyzed

"Results indicate that the most effective policies are those that completely remove the polluting alternative." (Panzone et al., 2011, p. 250)

However, this approach is not desirable for the innovator as it restricts peoples action, rather than empowering them. The authors of the study also remarked that

"Albeit this approach may be difficult to implement in real life.." (Panzone et al., 2011, p. 250)

Personally, the innovator enjoys meat and would be sad to see that joy taken away from him, thus he is reluctant to take it away from others. The innovator recognizes the climate and environmental impact of producing meat, but he hopes that information and free will, rather than economics and banning can solve the problem. It is the innovators belief that climate challenge should be carried by all the all-in unison, not by those unable to pay for increasing costs or by forbidding the cultivation of natural products.

The question then becomes, well is that even possible? And the short answer is; yes.

When looking at how much GHG every human can emit on an individual basis, worldwide, to ensure that the atmospheric CO_2 content remains around 450 ppm and thus avoiding more than 2 degrees global temperature change, each human may emit 4 tonnes of CO_2e annually (Carlsson-Kanyama, 1998, p. 290). The article estimates 75% is set aside for consumptions of goods and services, where the final 25% is used for food (Carlsson-Kanyama, 1998, p. 290). This yields an allotted emission quote of approximately 1 tonne of CO_2e per person per year. The average Dane food related emissions of approximately 3 tonnes (Minter & Chrintz, 2016, p. 3) and comparing that to the estimated possible savings of 50-66%

"I would think it is possible to make a reduction between half and two thirds of the climate impact of food." Translated from (Salomonsen, 2010)

These pieces of information put together holds the promise of an ability to change our dietary lifestyle to live within the proposed limit of emission to avoid exacerbating climate change further due to the climate impact of food production.

"If all the energy intake during 1 year is supplied by food as in meal a or d, the emissions of greenhouse gases would be 420 and 830 kg of CO2 equivalents, respectively, which is well within the limits of the estimated greenhouse gas emission space." (Carlsson-Kanyama, 1998, p. 290)

The meals referred to above is a, vegetarian and d, omnivorous, both which have an emphasis on eating locally produced food.

IDA's 2050 climate plan also states that it is possible to lower the emissions associated with food production to 900 kg CO2e per Dane per year (The Danish Society of Engineers & IDA, 2009, p. 83). This is uplifting, as it promises the possibility of attaining a climate friendly diet and thus may motivate the consumer to attempt to live within their limits.

2.3 Food quality

This sections will introduce the classification of types of qualities is borrowed from "Consumers food choice and quality perception", which will be used throughout the report.

> *"While many attempts have been made to clarify and define the concept [Food quality, red] (Bremner, 2000), there is still no general agreement on what the term food quality covers, and how it can be measured (Acebrón & Dopico, 2000; Lawless, 1995)" cited from* (Brunsø, Ahle, & Klaus, 2002)

Food quality, for the sake of this report, refers to the mix of qualities which the purchasing consumer emphasized to make their decision. There may be some latent qualities, which does not surface, however the most important ones will and these will be attributed as the of qualities constituting food quality.

The product oriented quality, as the name suggest directly pertains to the products as an intrinsic quality, this is exemplified in Nøglehulsmærket. The process oriented quality pertains to the process and thus is an extrinsic quality, which is exemplified in Ø-Mark. Both labels are subject to a quality control system setup to ensure compliance with the regulations as it is shown in figure 2, where both product oriented qualities as well as process oriented qualities are subject to quality control.

"Product-oriented quality, process-oriented quality and quality control can also be said to constitute objective quality, since they can be ascertained by measuring and documenting aspects of the product and the production process, and several such measurements of the same product or production process will be identical within the limits of measurement error." (Brunsø et al., 2002, p. 7)

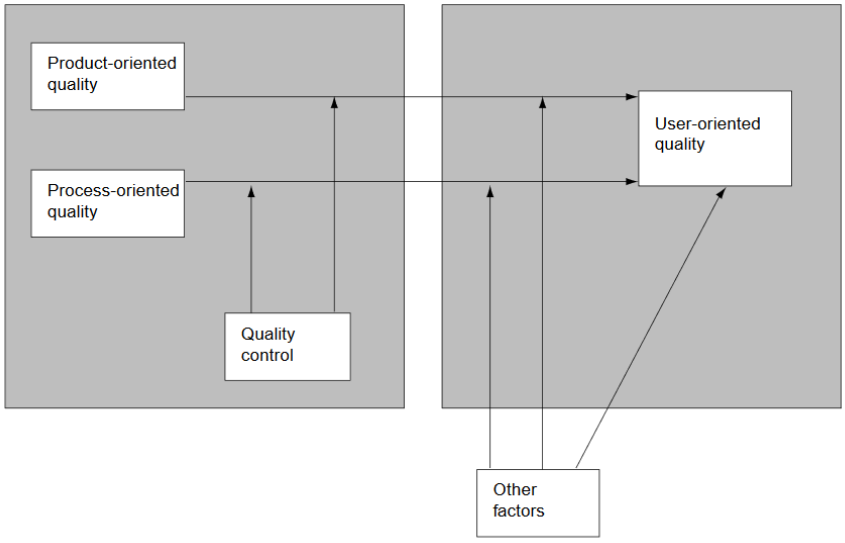


Figure 2 Types of food quality (Brunsø et al., 2002, p. 6)

Finally, the fourth quality is user-oriented quality, which on the contrary is a subjective quality, which can only be determined by the consumer and may differ between different consumers. The model is extended with a fifth box named "other factors", which refers to any exogenous influences that may affect any of the qualities. In terms of food, this could be ideological fixations, such as ecology, which have an impact on the consumer's perception of qualities.

This view on qualities is interesting, because it offers an explanation as of why the consumer is willing to pay for a given product.

The amount a consumer is willing to pay for a product depends on this subjectively perceived quality, which is related to, but not the same as, objective quality. (Brunsø et al., 2002, p. 7)

Consider the following, a product is objectively produced in the best, most efficient and most ethical way possibly imaginable and thus the product becomes healthy and nutritious. The product is also consistent in quality due to an impeccable quality assurance system. It holds all three types objective quality. It is the *perfect* product. However, if these objective qualities do not translate into the consumers subjective perceived quality, the consumer may choose an objectively inferior product, which translate better into their perceived qualities.

"Improvements in objective quality, which have no effect on consumers' perceived quality will have no commercial effect, and hence no positive effect on the producer's competitive situation." (Brunsø et al., 2002, p. 7)

Therefore, it is essential to guide consumers into how to translate the objective qualities into their own perceived qualities. This can be done in numerous ways, such as storytelling, changing the consumers' valuation frame, clarifying the objective benefits of the product etc.

"Economic theory on product quality makes a major distinction between search, experience and credence characteristics (Darby & Karni, 1973; Nelson, 1970, 1974)." Cited from (Brunsø et al., 2002, p. 7)

Briefly summarized, search characteristics can be ascertained before the purchase, experience characteristics can be ascertained after consumption and credence characteristics cannot be ascertained by the regular consumer.

"Credence characteristics are thus a matter of credibility and trust, and today credence characteristics are becoming more and more important for consumers." (Brunsø et al., 2002, p. 7)

In regards to the food label, the *search* and *credence* characteristics are of main interest, as it is the combination of these, which constitutes the food label. The label should afford the *search* and selection of products based on *credence*, which is to say that the *credence* of CO2e is made visible as a *search* characteristic, an extrinsic cue, through a market device, such as a food label.

"Extrinsic cues can assist imperfectly informed consumers in their decision processes, because they transform aspects of quality from credence or experience to search characteristics (van Trijp, Hoyer & Inman, 1996; Grunert, Juhl & Poulsen, 2001)." Cited from (Brunsø et al., 2002, p. 45)

It is interesting to note, that to be successful in creating and implementing a food label as intended, it is not sufficient to design the objective qualities of the label, i.e. the product- and process oriented and the quality control. In addition to this work must be undertaken to ensure that these objective qualities can translate into consumers subjectively perceived qualities. Of course, this *could* occur naturally, but it is not obliged to do so and therefore attention must be paid to see how well consumers embrace the new label.

To better understand consumer choices, multi attribute models can be applied, which tries to explain the consumer choice as an outcome perceived characteristic and an evaluation of those characteristics. However, this is not a complete description, as:

> *"Possible relationships between attributes* (intrinsic and extrinsic, red.) *are not taken into account –for example, that one attribute, such as health, can be inferred from others, eg fat content – and, most importantly, the question of why certain product characteristics contribute positively to the overall product evaluation while others do not, has not remained answered."* (Brunsø et al., 2002, p. 7)

Unfortunately, there is no certain answer as to why some product characteristic contribute positively to product evaluation, while others do not. Though, by supplementing the multi-attribute model, a qualified suggestion may be developed.

> *"A product attribute is not relevant in and by itself, but only to the extent that the consumer expects the attribute to lead to one or more desirable or undesirable consequences."* (Brunsø et al., 2002, p. 8)

Means-end chains is a term to explain the links produced by the consumer between product perception and abstract values. To relate this to the food label, the product perception could be climate friendliness and the abstract values could be sustainability.

> *"The consumer is motivated to choose a product if it gives desirable consequences, hereby contributing to the attainment of personal values (Grunert, 1995)."* Cited from (Brunsø et al., 2002, p. 8)

Such a food label could be a motivating factor for conscious consumers, which may help attainment of personal values e.g. sustainability. Finally, a hierarchical approach is considered, which aims to solve complex problems by decomposing them into minor issues, which can be solved and then combining these solutions to give a qualified answer to the original problem

> *"Hierarchical decomposition tackles complex problems by reducing them to a smaller set of interrelated problems. The smaller problems are solved separately and the results re-combined to find a solution to the original problem."* (Hengst, 2012, p. 1)

Total food quality model attempts to explain the process of purchase and the influencing factors throughout that process, its comprised of several theories merged together, namely hierarchical approaches, means-end chains and multi-attribute approaches.

Whereas the multi-attribute approaches are focused on combining different qualities in order to understand consumer behaviour better. By combining these approaches, the Total Food quality model was developed (Brunsø et al., 2002)

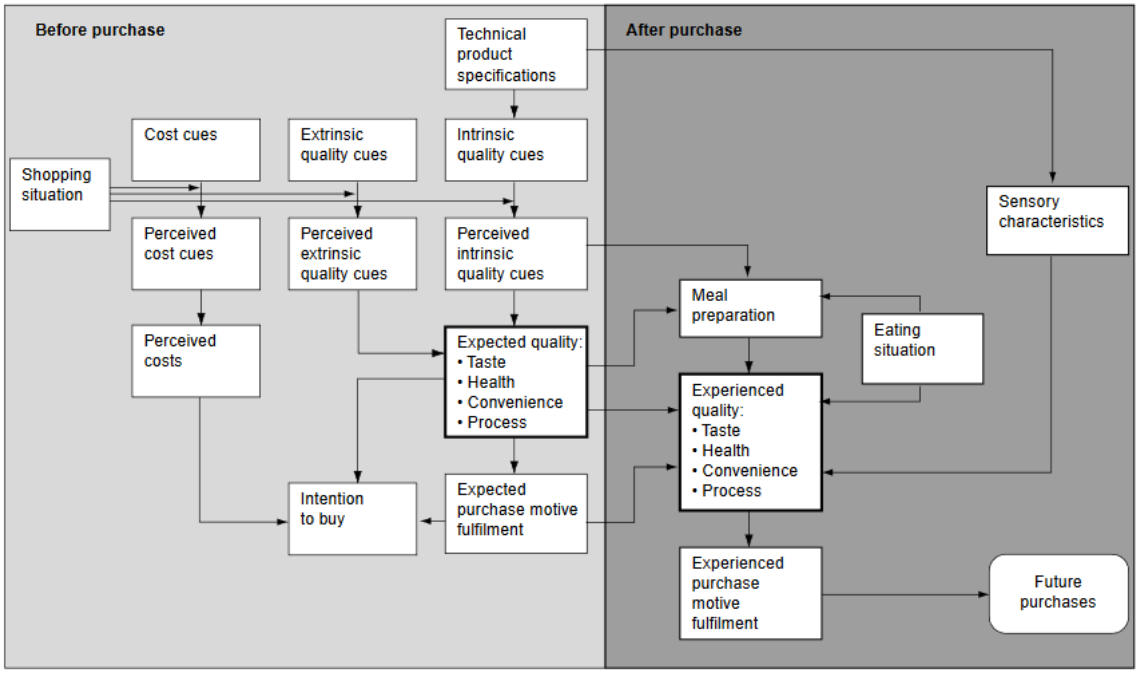


Figure 3 Total Food Quality Model. (Brunsø et al., 2002, p. 9)

The total food quality model depicted in figure 3 is presented to give an understanding of the complexity, which can be involved in simple purchases of food and as a limitation of sort, as the thesis is focused narrowly on a single part of the model above, namely the extrinsic quality cues. This model may supplement the valuation frame theory by being specific on the influences in respect to choosing food.

Sub-conclusion

This section has provided some backing to the idea of using extrinsic cues for guiding consumers in the purchase situation, and that they can turn credence characteristics into search characteristics. However, it has also shown that those very extrinsic cues are only are a part of the consumer's overall evaluation, and that they are supplementary rather than determining.

The means end chain also supports the idea of using extrinsic cues, such as a food label, to help consumers attain higher values, such as sustainability through their choice of food.

3. Analysis of existing solutions

This section contains the three analysis' of the report, which pertains to food labels, actor network and valuation frames.

3.1 Food label argument

The section serves as an extended argument for the usages of food labels, as a successful means of communicating the properties of a product and/or a good. A second part of the argument is that the communicated property may be used by the consumers to make their choice between different products and/or goods.

The most successful food labels on the Danish market, at least in terms of recognition (Konkurrence&Forbrugerstyrelsen, 2013, p. 12), is the Danish Ø-mark, which is an indicator of a process quality, namely ecological production. Consumers have a multitude of varying reasons for desiring ecological (Seges, 2016), however, the focus here is that these the consumers are unable to identify whether a product is ecological without the assistance from market devices, such as food labels. Ecology is a credence characteristic (Brunsø et al., 2002), which is made tangible through labels. Regular consumers are not able to verify the claims made by manufacturers; they can't go and visit the farm, the can't access the ecological documentation and they can't test for illegal substances. They resort to use cues such as the food label, which exclaims "ECOLOGICAL", which seems satisfying for must consumers, as the Ø-mark has an exceptional high degree of trust amongst consumers. This works to the extent that the consumers believe it works.

Another interesting quality of food is health, which consumers generally value (Brunsø et al., 2002), share some similarities with ecology.

"Both health dimensions (eating healthily versus avoiding unhealthy food) express qualities of the food that consumers cannot evaluate or judge by themselves, and are thus credence characteristics." (Brunsø et al., 2002, p. 21).

Health is similarly a credence characteristic, and is currently aided through means such as Nøglehullet, dietary advice, the food pyramid and arguably common sense. Knowing that these two qualities are of great importance to a rising number of consumers, and have successfully been aided by market devices to be made tangible, the question becomes. How can this be translated to the credence quality, which is climate friendliness?

In a an article by Sjögren (Sjögren & Helgesson, 2007), it is stated that:

"In markets, settling the qualities of an exchanged good and determining who should pay which price for what, are central activities." (Sjögren & Helgesson, 2007, p. 215)

Where, after the article explain how the Swedish healthcare system developed an arbitrary unit to express liveability through *quality adjusted life years*.

"Coined in the 1970s, but with a genealogy stretching back further, QALY embodies the idea of having a unit of measurement that allows for comparison among very different treatments (Nord 1999)." Cited from (Sjögren & Helgesson, 2007, p. 220)

The interest in this to use it as a qualifier for creating an, equally arbitrary, unit, which expresses the climate friendliness of food product. Certainly, it will not be perfect, as well as 1 is a poor expression of perfect health, however it may allow for comparison of very different *products* in terms of their climate intensity. This is done to qualify the idea of expressing something complex, i.e. as climate impact, in simple terms, such as CO_2e, which although not perfect, may be usable for consumers as a market device to infer climate friendliness on their own.

Cochoy (Cochoy, 2007) pins down two decisive mechanisms for how decisions are made when choosing between similar products: Socio-cognitive arrangements and social networks. The socio-cognitive arrangements refers to the system wherein the product is placed, which is constituted of its placements, the market devices used to highlight the product's characteristics and the affordances it offers. The second mechanism for choosing, is the social network, which often is made up of friends, family and colleges, which helps to evaluate the product. This takes place through testing the product, discussing the product and even reading other people's reviews online or in magazines.
The aim is to create a distributed cognition device in the form of a food label, which empowers people to make qualified decisions based upon the aggregated knowledge embedded in the food label.

> *"We thus see the complexity of the process of judgement through which properties are attributed to products and evaluations are made."* (Madeleine Akrich et al., 2002, p. 204)

Chamberlin (Chamberlain, 1946) noted that it is always through the comparison and explanation of differences that a property will be attributed to a product, which further gives life to the idea of ranking products based on climate friendliness so that consumers can choose from this differentiated quality.

3.2 Food label analysis

To get a firmer understanding of the mechanisms applied by food labels and the qualities they promote, this section will investigate and describe a few of the most common and successful food labels. This description will take its outset in a brief historical introduction and proceed to examine how the organization behind the food label is organized and who are supporting them to see where the label draws its legitimacy from and how strong that legitimacy is. In prolongation of determining a food labels legitimacy, it is important to discover where they draw their knowledge from. This leads to describing their quality assurance system, to see if the system is sufficient to deliver reliable, quality data. This also ties into the process of how the label is given.

Another aspect to describe is the values uphold by the food label, and which qualities they're trying to promote through their label. The financing of the food label will also be addressed, to know who pays and why they do so. Finally, a constructive critique is given to elaborate upon what's not embodied in the food label and any other shortcomings, which have been found.

After examining the four chosen food labels, a list of criteria will be crafted, which must be fulfilled to a have a successful food label. This list will be the outset for the design of a climate focused food label. Only two of the four labels analysed is presented here, as they were found to be more interesting, than the other two, which can be found in appendix 6.

Ø-mark

The red ecology label is a Danish label for ecology, created in 1989 and administrated by the Fødevareministeriet and can be seen in figure 4. The label guarantees products are compliant with EU regulations for ecological agriculture production, animal welfare and takes some environmental consideration in account as well, such as use of fertilizer and pesticides. The rules pertain mainly to fodder specifications, fertilization, and traceability.

Figure 4 Ø-Mark. 2016 [Online image] Retrieved from goo.gl/XczcFp

Organisation

FDB (currently COOP) was the largest channel for selling ecological goods and products at the time of the label's introduction, but would only help to market the label if the ecological and biodynamic producers would collective support the project. Thus, the largest actor at the time managed to enrol many others to support the label. There was a government sponsored campaign to increase the knowledge of this new brand, which was being run by a committee consisting of Landsforeningen Økologisk Jordbrug, Foreningen for Biodynamisk Jordbrug, Branchekoordineringsudvalget for økologisk og biodynamisk jordbrug, Dansk Familielandbrug og Danske Landboforeninger. The participating members in the committee were predominantly in favour of the new label, however the members of those organization they were representing had more diverse opinions regarding the label. This is a perfect example which aligns with the one given in Callon's "Domestication of scallops and fishermen in St. Brieuc bay" which states:

> *"In addition, the three researches do not intend to convince the first group as a whole. It is rather the representatives of professional organizations who are the targets of the researchers' solicitation"*
> (Callon, 1986, p. 73)

The actor network is mainly centred between the agricultural manufacturers and the government, however a lot of other private actors also have an interest in the matter. Both to promote ecology, but also to redefine what ecology is – the idealist want more stringent demands and the (previously) conventional large scale farmers desire less stringent demands. Although, there are some actors pulling in different directions, the network seems convergent and stable. The convergence is supported by the fact that is has not evolved significantly since its introduction, despite expectations to do so. Currently, the label is coherent with the Danish and EU regulation, have many private actors supporting them from both manufacturing and retail, which strengthens the network. Also, the fact that the label is controlled by the government gives legitimacy, as the government – at least in food aspects – are seen to have the consumer (citizen) at heart.

Quality assurance

The Danish government runs the quality assurance, specifically by the environment- and food administration (Miljø- og fødevarestyrelsen). The quality assurance system consists of documentation requirements as well as quad annual inspections, both announced and unannounced. The documentation required is called an ecological budget, which registers every product going in and out of the company i.e. the product stream. This ensures traceability of the ecological products origin and status. This is to ensure, among other, that no products not mentioned in the documentation can be sold as ecological. From the interviews with Buresødal, it was learned that it goes as far as to document

the number of seeds purchased and this becomes the limit of how many crops can be sold – the reasonable thought being that you cannot harvest more than you sow

The documentation extends to all ingoing products

- Date
- Origin of product
- Product name
- Complete good declaration
- Ecological status
- Quantity and usage

This seems very detailed and thorough, however when looking at an example of this, the impression fades away. By looking at the example provided by the Food administration (goo.gl/dgR3G4) which depicts the product flows for creating a two ingredients marmalade, it becomes evident that this documentation is rather malleable. It quickly becomes a numbers game, and since there is no way to further verify these numbers, they are hard to contest. Of course, it is possible to catch a cheater, with this system, however it may be difficult to catch a truly committed cheater. When the quality control is based on this Ecological account alone, then even if the ecological account looks in perfect order, that does not guarantee that it represent the reality. There must be a control on the documentation, but also on cross documentation – does the economic account coincide with the ecological account? And to further strengthen this metrological work must be conducted to verify the physical sample are indeed what they are claimed to be by the documentation.

Values

The ecological farmers have four associated principles, after which they operate per Lanbrug&Fødevarer (Seges, 2015). These principles are ecological operational values, and they are as follows:

The first principle is the caution principle, which states that ecological farming should be done in a cautious and responsible manner. Therefore, hazardous, or experimental inputs to the food chain are not acceptable.

The health principle is aimed at maintaining or improving the quality of the earth, the plants, the animals, and people. Practically, this means a ban on pesticides and a reduction in adding medication and nutrients

The ecology principle is based on circulation of resources and minimizing inputs from outside.

The justice principle states that animals should be able to live their lives in captivity, which is in accordance with their natural behaviour.

This is one aspect of the values promoted through the ecological goods, the inscribed values (M Akrich, 1992) in the label. However, different user groups have different described values of the ecological goods. To simplify it, three examples will be provided based on key learnings with representatives from the different target groups.

Consumers may describe some of the values from ecological foods as i.e. “healthy, green, sustainable, loving etc.”.

Manufacturers may describe some of the values from ecological foods as i.e. “increased revenue for their products, brand recognition, balance with nature

Retailers may describe the values differently yet again, perhaps as “social responsibility, marketing value,

In short, the ecology brand is so successful because it can generate different types of value for different actors and bring them together in a network, that all have an interest in sustaining.

Financing

There was little information available, however the general cost endured by ministry is paid for by taxes. The audits are financed also financed by the ministry and the expenses to the traceability aspects are paid by the manufacturer.

§ 16. Miljø- og fødevareministeren kan fastsætte regler om opkrævning og betaling til hel eller delvis dækning af udgifter til autorisation, tilsyn, kontrol og administration efter denne lov, efter regler udstedt i medfør af denne lov samt efter forordninger udstedt af Det Europæiske Fællesskab. (Miljø- og fødevareministeriet, 2017, p. 4)

Although legally, the ministry could charge for these services, they do not. Arguably in order to proliferate ecology and minimize the barriers. Adding to this, the state sponsors farmers who convert from conventional to ecological farming (Landbrug og fødevarer, 2016).

Acquisition

The label is voluntary and can be applied for by the manufacturers to the Ministry of Food administration. The transition to ecological production takes two years, where the manufacturer has to comply with the ecological regulation, but cannot sell their products as such before the transition period is successfully completed. The label is given because of a documentation of production practice.

Critique

Despite being the best recognized and most established food label in Denmark, there are some aspect of the label, which are questionable. Why are they standards between the Danish and the EU regulation regarding the eco label different? Especially when considering imported food merely must comply with EU regulation in their homeland and are given the Danish eco label anyway. This makes for an uneven playing field, where foreign products have an advantage of having to comply with less strict regulation. However, the phone interview with Fødevarestyrelsen, the spoke person clearly stated that the Ø-mark and the EU eco label was identical, which was conflicting information adding to the confusion.

It is not understood why the audits are limited to manufacturers who packages their own products, and manufacturers who occasionally packages other manufacturers products. It seems like a loophole to avoid unwanted audits. In theory, 12 companies could collaborate (i.e. acts as one company) throughout the year and thus avoiding audits as each company is only having to package products “occasionally”.

”We only control manufacturers, who packages their own ecological products and manufacturers who occasionally packages ecological products for others. Occasionally is defined as up to 10 times a year, and no more than approximately 30 days a year. Furthermore, the production must be limited.” Translated from (NaturErhvervstyrelsen, 2016, p. 138)

A part of its success can also be attributed to its simplicity – comply and receive, however this also have the derived effect that there is zero incentive to do better that required. As such larger farmers, can just meet the minimum requirements and thus pressure the idealistic farmer in what used to be his/her niche area. The biggest critic of the eco label is that it sets the bar too low and provides no incentive to go above and beyond in the efforts to be ecological. It is a minimum requirement, which only has to be complied with. In a way, it becomes a barrier for further ecological progress, as further progress is not rewarded.

The Ø mærke is the oldest and the most well recognized food label in Denmark according to the report from "Analyse af 21 "grønne" mærker" (Konkurrence&Forbrugerstyrelsen, 2013), which can be seen in figure 5 below.

Mærke	Genkendelses-grad	Mærke	Genkendelses-grad
Ø-mærket	99 %	MSC	19 %
Änglamark	93 %	AB Bio	14 %
Nøglehulsmærket	91 %	GOTS	14 %
Fairtrade-mærket	89 %	Grøn Butik	12 %
Nordisk miljømærke Svanen	88 %	Debio	11 %
Minirisk	75 %	Demeter	10 %

Figure 5 Consumer recognition of food labels. (Konkurrence&Forbrugerstyrelsen, 2013, p. 12)

It is successful due to it high degree of recognition, built up during its lifetime and due to its quality assurance system. The rules aspire to be rather idealistic, especially how they are presented in pro-ecological news through story telling (in balance with nature, animals living natural lives etc.) however their pragmatic interpretation leaves a lot to be desired. It was learned from interviews with Buresødal, that the requirements for ecological goods were set lower in the beginning to have more actors join early on, and then gradually tighten these requirements over the years to come. However, the latter never happened, and as such many of the early aspirations remain aspirations. The Ø-mark was excellent at creating story telling about what it did and how it did it both through "visit a farm day" and through story telling on the packaging, which have made a big impact for making the Ø-mark more publicly accepted, rather than limited to a narrow idealistic segment.

Nøglehulsmærket

The Nøglehulsmærke was created in 1989 in Sweden and currently it exists in Norway, Denmark, Iceland and Sweden, and it can be seen in figure 6. It states that Nøglehullet is intended to alleviate low income groups of lifestyle diseases such as diabetes and cardiovascular disease by helping consumers to identify a *healthier choice* without looking at the product declaration. The wording changes though, sometimes it is about a *healthier alternative* or *easy to choose healthy.* The purpose of the label

Figure 6 Nøglehullet logo [Online picture] Retrieved from goo.gl/kB7LjC

> *"In a shopping situation Nøglehullet must be a help for the consumer to choose the healthier alternatives with more fibers, less fat, salt and/or sugar".* (Ministeriet for fødevarer, 2010, p. 1)

It is never stated directly anywhere in "Nøglehullet's" own material, however several comments have been found regarding the impact of Nøglehullet's criteria on food development (Søndergaard, 2015), stating that the criteria will push companies towards creating healthier products in order to get them certified with Nøglehullet.

Organisation

Fødevarestyrelsen collaborate with their Nordic equivalents to run the label. It is supported by the websites www.noeglehullet.dk and www.altomkost.dk which are explaining and promoting the label. The manufacturers also have an interest in labeling their products, as it gives them an opportunity to use the label on their product for branding purposes. The food industry is supporting this initiative, as it works with positive rating and only states good characteristics or remains silent.

The Danish consumer council "Taenk" has written an article (Nielsen, 2015), where they communicate the message of the label to consumers and in doing so acknowledging it and even goes further to say that the label is origins from "trustworthy organisations; makes a real difference due to their high demands of the products; is relevant for many people; covers the market widely by accommodating health, ethics, environment and animal welfare". Furthermore, there is no criticism at all, so it would seem Taenk has made themselves an ally of Nøglehullet.

However, the changes happening in Nøglehullet are also contested by some of the participants, namely DI Fødevarer and Landbrug&Fødevarer, who are argues against tighten the demands further as they claim it would result in very few products being labeled and thus Nøglehullet would not appeal to the broad public. Further critic is giving to the "limited" amount of categories (33), which for instance does not include frozen youghurt and therefore it is claimed no one will attempt to improve on these products outside the categories.

Quality assurance

There is no information available as to how the quality assurance takes place or if it even does. However, since the criteria for awarding the Nøglehullet label is based on the nutrient value of the final product, it is reasonable to assume that the quality assurance is based on metrological work of the product. There are 33 different categories which states the nutritional criteria required to obtain the label in that category (The Danish Veterinary and Food Administration, 2012), an example of which can be seen in figure 7 below.

Fødevarer, der kan markedsføres med Nøglehulsmærket

Kriterier for de individuelle fødevaregrupper

Fødevaregrupper (med vilkår)	Kriterier
Grønsager, frugt, bær og nødder	
1. Grønsager, bælgfrugter (undtagen jordnødder), kartofler og andre rodfrugter. Produkterne kan være forarbejdede. Uforarbejdede krydderurter omfattes også.	- tilsat fedt højst 3 g/100 g - tilsat fedt kan højst indeholde 20 % mættede fedtsyrer - tilsatte sukkerarter højst 1 g/100 g - salt højst 0,5 g/100 g
2. Frugt og bær, som er uforarbejdede. Produkterne kan dog være varmebehandlet.	
3. Uforarbejdede nødder og jordnødder. Produkterne kan dog være varmebehandlet.	- mættede fedtsyrer højst 10 g/100 g

Figure 7 Nøglehullet product category. (The Danish Veterinary and Food Administration, 2012, p. 3)

Values

The values upheld by the Nøglehulsmærket are to have products with lower content of fat, sugar and salt combine with higher content of fibre and whole grain.

The value for the consumer is that they can turn off their critical thinking and worry less about what they are consuming, because someone has already vouched for it. Furthermore, it gives the consumer an impression of choosing healthy products and thus living healthy.

Financing

The food label is paid for by the companies being certified, who in turn pass on the cost to their users. Nothing further is found specified.

Acquisition

The label is based on dynamic criteria and it is stated that it is important that the criteria is set to stimulate product development. Food groups and their criteria is updated when the knowledge regarding nutrition and/or changes in the market occur.

Critique

The label is attempting to enable people to look past the product declaration, when they are purchasing their products. In this way users become more distant to the considerations of what healthy food is and

gradually rely more on a logo than their own wits. This can become critical, as it may make consumers infer healthiness in to simple terms, such as believing that a diet is healthy because the majority of it is marked Nøglehullet, however not understanding moderation may be a problem here.

In order to compensate for the lack of salt, fat and sugar it is possible for additives to take their place, which may have be unwanted. Sweeteners are not allowed, but added sugar is, sometimes. This could indicate, that solving one problem simply creates another problem – and since the new problem often occurs outside the frame of what is measured, it is not duly considered if the tradeoff was worth it.

It is stated that "only products that can contribute to a healthy and varied diet can be labelled". This is very diffuse and explains why so many products have received Nøglehullet. I would argue that chocolate can contribute to healthy and varied diet, however in moderation, which is hard to express through Nøglehullet.

It is based solely on volunteer basis and a positive rating in order to get the food industry to support it, as it can only give a positive message.

"Intra-egenskabsvildledning forklares bedst ved teorier om "feature-fraværende" slutninger (Burke, Milberg, & Moe, 1997). Forskning viser, at når et brand anprises for en egenskab, som ikke er typisk, kan forbrugerne udlede, at andre mærker i kategorien ikke besidder denne egenskab." (Mørk & Tsalis, 2016)

Nøglehullet seems to utilize confusion and lack of knowledge to promote itself as necessary. It attributes itself to selected fish, fruit and vegetables, when it could be applied to all fish, fruit and vegetables. This leaves the consumer wondering if the unlabelled food is not on pair with labelled food? By stating a non-obvious quality, it creates doubt in the consumer that the other alternatives also possess this quality. Currently, when an item does not have a Nøglehullet label consumer are not able to know if it is because it can't obtain it or just haven't obtained it. This demotes all other products not labelled, although they may be just a good or even better.

Summary

Since its inception in Denmark in 2008, there was a big commitment to spread the knowledge of the label through advertising campaigns. This was partially successful, as the % of the population of who recognized the label steadily grew. However, as time progressed people only recognized the label, but wasn't sure what it was representing anymore. In a survey from Yougov (YouGov, 2014), a conclusion was that it was required to have continuous marketing efforts to maintain the knowledge of the label. This continuous effort seems both laborious and futile, perhaps even a Sisyphus work. This is unsustainable and will eventually stop, hopefully by presenting the label in a more self-explanatory manner, which doesn't need continuous marketing efforts to be understood.

"If we take a food label, such as Nøglehullet, then we can observe that 80% of consumers easily can recognize the label, but there is only 20% who actually knows what the label means for the product and how it is produced. It seems, that people just choose what they want to put in the food label without knowing if (their assumption, red.) it true or false" Translated from (Jely, 2011)

As a consumer, "Nøglehullet" is a weak indicator of healthy food and an even weaker indicator of a healthy diet. Perhaps the sausage you like *does* have quite a lot of salt in it, but since you care about what you eat, you *know that* and can compensate for that in your diet. Perhaps there is less salt in your

bread and the meal overall could be labelled with “Nøglehullet”, but the ingredients can’t be marked individually. It is not just about content, but about context! Buying whole grain bread labelled with Nøglehullet does not compensate for a 1 centimetre of Nutella, but it still might convince you that it does. It is difficult to frame a single argument for against Nøglehullet from a consumer point of view, as it granted does enable people with absolutely *no* knowledge to make a quote on quote “better choice”. However, this comes at the expensive of confusing people who do know something. In defence of Nøglehulsmærket, they do also offer recipes, which are more context based and take the entire meal into account.

From a policy and manufacturer point of view it does have some potential to push product development towards meeting the criteria of low fat, low salt, low sugar and more fibres. Though this assumes, which currently holds true, that people desire the labelled products and will prefer them over not labelled products.

Tesco CO2e

In January 2007 Tesco announced a plan to put a carbon footprint label on all their 70.000 products. An example of the label is shown in figure 8. It was described as the beginning of a green revolution. They intended be first movers and hope to “develop a universally accepted and commonly understood" measuring system. However, as they were merely labelling 125 products a year it would take a stupendous amount of time to complete the project and the project was discontinued (Vaughan, 2012). Tesco explains they expected other actors to follow them to give the labelling critical mass and consumer demand, which they realized never occurred and thus disbanded the project.

Figure 8 Tesco CO2e label [Online image] Retrieved from goo.gl/cnR19U

Organization

Tesco was a first mover and did not have a large supporting network, but hoped that it would materialize as a result of their progressive move in introducing this new label. However, they did collaborate with the Carbon Trust Fund to calculate the footprint of their products. Nothing else if found detailed

Quality assurance

Although, the labelling activity has stopped, Tesco still calculates their own CO2e impact of their own activities as an organization. The carbon footprint is calculated in accordance with the standards set out by World Resource Institute, World Business Council for Sustainable Development Green House Gas Protocol (Tesco, 2016).

The methodology of the above consist of two mandatory reporting’s and one voluntary. First the aggregated direct emission from owned assets is calculated. The second step is to aggregated the indirect emission, from electricity and heating. Finally, it optional to include other indirect emission occurring along the supply chain. The result of this approach may look like

This means that the core of their business, that is the products they distribute, is considered outside their scope. Constructing their buildings or filling their inventories is not included, which is odd – who else should carry this cost? The consumption of physical items, which has emitted CO2 during their production is not included

Tesco applies a method called "operational control approach" to determine if a given activity is within their frame for CO2e. This method states that any operation over which they have full authority over is included, and any activity they don't have full control over is delimited from the CO2e. This is a very practical approach, but it does not deserve must trust as the numbers can be easily be manipulated – the transport could be partially outsourced and suddenly it is out of the budget. However, the emission still takes place and is now hidden by the system. Finally, Tesco hires external consultants to verify their own work, which also strengthens the legitimacy.

Values

On an operational level, the values of the label is different types of emitted greenhouse gasses converted into a unit of carbon dioxide equivalence. However, this is rather different than the values it represents for the different actors involved.

For Tesco, the value of the CO2e label was to cement themselves as a leader in promoting green and sustainable living. It was part of redeeming themselves as having corporate social responsibility. However, this quickly turned into a nightmare of cost running wild.

For the consumers, evidently the label held little value and was not appreciated. The intended value for the consumers was to satisfy their environmental concerns and feel good about purchasing items at Tesco.

For the manufacturers, the label was a possibility to get a greener image in the minds of the consumers, however this assumed that the consumer was aware of both the label and its meaning, which they weren't so the value for the manufacturers was almost non-existing.

Financing

Nothing was found detailing the cost structure of the labelling process. It is assumed that Tesco mainly carries the cost, as they started labelling their own products first, they have the principal interest in the project. When labelling 3.rd party products, it is reasonable that the manufacturer of the products also has an interest in labelling and thus are also prepared to carry at least part of the costs.

Acquisition

It is not known how Tesco choose where to begin, only that the started with their own brands and gave labels at a rate of 125/year. This seems to indicate that Tesco had a limited staff of their own employed to work their way through as many products as possible, but started with those were data was easily accessible and less controversial.

Critique

Tesco managed to provide the objective information of a range of products, which is an achievement. However, they failed to educate the consumers in knowing if a value (in CO2e) for a given product is high or low, which makes the entire system difficult to use for consumers.

There were also some issues regarding "improved products, which as mentioned earlier:

"Issues related to measuring carbon footprints, particularly boundary issues, need to be clarified prior to attempting to define 'reductions'"(Upham & Bleda, 2009)

The framing of the CO2e has some pro's and con's in the way it is designed. It is great that the methodology is compliant with other standards as mentioned earlier, this helps to strengthen its legitimacy. However, the framing of the standards are lacking to say the least. It frames what is easily captured and deciphered, direct emissions from combustion and indirect from electricity and heating, and falls short where the magic happens, which is along the supply chain. Surely, Tesco chooses to include this third step, but as it is optional, the trustworthiness fades away as they can pick and choose which numbers to include and present.

Tesco's competitors, Marks & Spencer's head of packaging, stated that:

"We currently have no plans to introduce carbon labelling. It's something we'll continue to monitor, but at this stage it's not something our customers are looking for and we do not believe it would currently be a useful addition to our labelling." (Smithers, 2012)

In retrospect in seems the ambitious move by Tesco was made prematurely and without the required supporting network to properly facilitate the introduction to the consumers.

Sub-conclusion

All the labels mentioned above each have their own unique strengths and strategy to fulfil the role they have been designated to play. They bring actors from different realms together and act as a boundary object, which all of them can relate to in their own way. By disseminating these four labels (see appendix 6 for the two other labels), a list of criteria can be extracted, of which have helped to make the labels successful, and those should be imitated when designing a new label. Simultaneously, some of the pitfalls will be highlighted, which should be avoided.

Recognition is crucial, which all of the four labels recognized. The Ø-mark and Nøglehullet spent a lot of effort on promotional campaigns to increase the public knowledge of their labels. Tesco collaborated with the Carbon Trust Fund, which already was a, somewhat, recognizable logo, which Tesco utilized. Finally, Varefakta enjoys credibility from 50 years of existence and no competitors, which have granted them recognition. Recognition is also seen as precursor to trustworthiness.

Trustworthiness can be difficult to achieve when promoting your own products, which is why a collaboration with external partners works better. There needs to be a transparent framework, which allows for non-biased assessments per that framework, which can be undertaken by independent parties and the result must be reliable, meaning they can be replicated by different 3. parties to the

same result. Varefakta uses a 3rd party to conduct their analysis's, which ensure their trustworthiness. The ecological manufacturers use the state as quality assurance, which boosts their trustworthiness.

Transparency is important, because it aids consumers who seeks more information to do so, and on those grounds, challenge the frame work set in place. If everyone can challenge a frame work, yet nobody does so, that builds legitimacy. Nøglehullet and the Ø-mark has the procedures for compliance available for everyone to see, so it is possible to know the regulation, which those labels comply to and who they are assessed.

The network must assemble stakes and holders in such a way, that the bullets above can be satisfied. It should also be beneficial for the involved parties since all of the investigated labelling schemes are voluntary and if it does not prove beneficial to participate, participants will simply leave the network.

Of everything mentioned above, the key word in regard of food labels is "trustworthiness", how to create it and how consumers end up believing in the story told by a tiny colourful logo on their food.

To show how the different actors can successfully collaborate in a network around a food label, hypothesises are made regarding who is participating and what their role in realizing a new food label would be.

Actor	**Role**
State	Authority, legitimacy, QA
Consumers	Demand
Manufacturers	Supply
Retail	Distribution, promotion & education of consumers
Consultants	Advisor to manufacturers in mapping/calculating CO2e. Expert

In this process the innovator has two main ways to achieve a working solution. The design can be changed to better suit the actors or the actors can be re-selected to better suit the design. In practice this becomes a negotiation to make the involved actors interested in participating.

During this negotiation, it is necessary to be thoughtful of the double relation between food label and the actor – both needs to serve each other. The actor may deliver knowledge, services, legitimacy or something else depending on their role in exchange for publicity, market access, corporate social responsibility etc. These actors would put forth demands to be met, such as market research to verify potential of the concept, benefits outweighing costs, benefit from the message of the label.

Although many ways to quantify already exists, it is noted that most of the units are comparable. Depending on the interest, one may be preferred over another, for instance if global nutrition was the focus, it would most likely be relevant to use GHG per gram of protein. Given the focus of "energy in production" CO2e seems like a convenient unit, as it can encapsulate many aspects of energy conversion and express them via a single unit. However, all the units may be viable to use though they would produce different outcomes.

3.3 Alternative solutions analysis

The interview with Signe D. Frese illuminated other ways to go about selecting climate friendly products than a LCA Instead of teaching consumers a new quality – like CO_2e – to be scientific and objective in the description of the impact of different types of food, simple heuristics, such as rules of thumb, may suffice for selecting a climate friendly diet. This section unfolds some of these heuristics and similar solution, which also can serve to help guide consumers to select more climate friendly products and summarizes the pros and cons of such solutions compared to the concept of applying CO2e.

RISE – Response Inducing Sustainability Evaluation

RISE is a method for evaluating sustainability, by "measuring" on several parameters, which – arguably – pertains to sustainability, through interviews with the manufacturer. Developed by Bern University of applied sciences and adopted by Seges and translated into a Danish context.

"The steps of a RISE analysis are goal and scope definition, farmer selection and contacting, data collection and interpretation, farmer feedback discussion and reporting." (Grenz & Sereke, 2017)

The RISE method is…

Transparent. Purpose, process, benefits and possible consequences of participating in a RISE study are explained to farmers prior to the start of the analysis.

Voluntary. Nobody must be forced to participate in a RISE study, to disclose sensitive information or to implement measures.

Thorough. RISE consultants and trainers must command intimate knowledge of and experience in agricultural production and sustainable agriculture; they must command in-depth knowledge of the RISE method.

Confidential. Information collected or generated in a RISE study must not be forwarded without consent of the concerned farmers, neither within nor outside an institution. Strict standards apply concerning privacy protection and data safety.

Figure 9 RISE method (Grenz & Sereke, 2017, p. 2)

Figure 9 displays the principles of the RISE approach, which seems to have some contradiction between its "transparency" principle and its "confidential" principle, at least from a consumer perspective.

The inscribed values of the RISE system consider agricultural sustainability, as *"An agricultural operation is sustainable if it is sufficiently profitable, environmentally friendly and offers good living conditions to those who work and live on the farm"*(Grenz, Graf, Sereke, Thalmann, & Wyss, 2017). This is very similar the profit, planet and people view of sustainability (Elkington, 1994), although the RISE approach seems more limited in the social sense, as the delimitation occurs at the farm level (i.e. the neighbours/surrounding society are not included).

RISE states that *"the sustainability of agricultural production can be measured and communicated in the context of agricultural extension, education and supply chain management."* (Grenz et al., 2017)

50 questions are posed to the manufacturer regarding several aspects of the production and the answers are in turn plotted in a concentric fashion as shown below in figure 10.

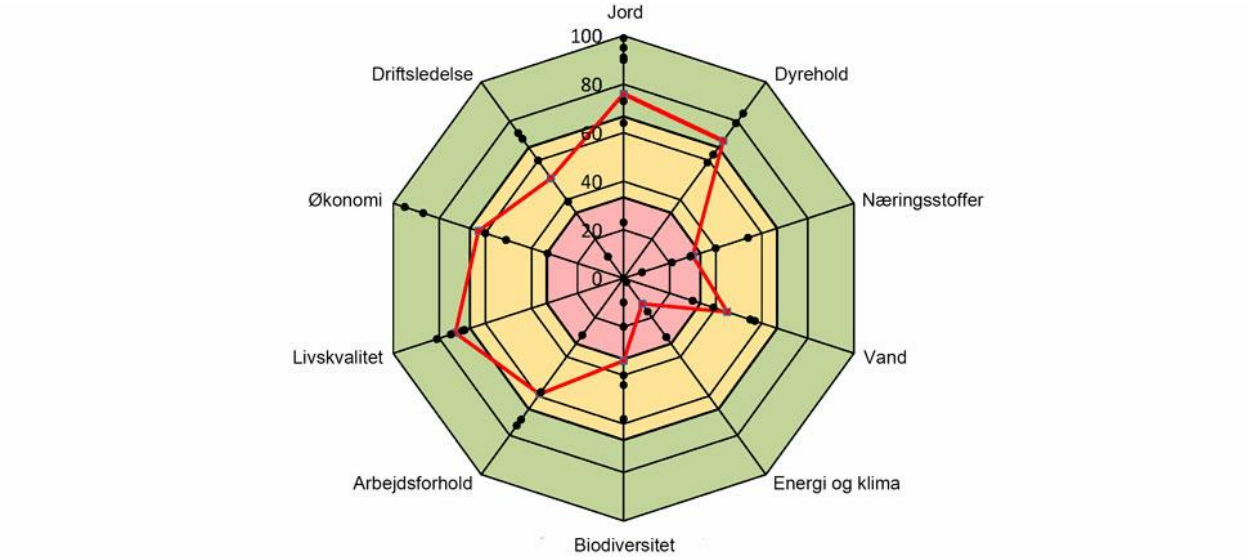


Figure 10 RISE model. (Grenz & Sereke, 2017, p. 6)

This is the outset for a conversation with the manufacturer, where they in collaboration discover where improvements may be most significant. It is a pragmatic approach to discover the low hanging fruits, which is very useful to make improvements. However, the final score is less beneficial in that regards, and holds a better communicative value. Most likely, users evaluation of what is important is not equal to what RISE finds important.

Figure 11 Degree of sustainability. (Grenz & Sereke, 2017, p. 5)

Figure 11 shows how RISE can depict the aggregated result of an investigation of the degree of sustainability.

CO2 Thermometer

The "CO2 Thermometer" shown in figure 12 is developed by Kold College, Odense Municipality, University College Lillebælt and Smagen af Fyn. The numbers used draw on a report by Lisbeth Mogensen (Mogensen et al., 2009).

The CO2 thermometer gives a generic rating of different products measured in CO2 equivalent pr kg product. The unit may not make sense intuitively, however ranking it visually from green to red is easily understood. This intuitively gives a feeling for how well product compares to another. A strong limitation of this approach is the fact, that the exact production of the good is not included, which can change the results significantly.

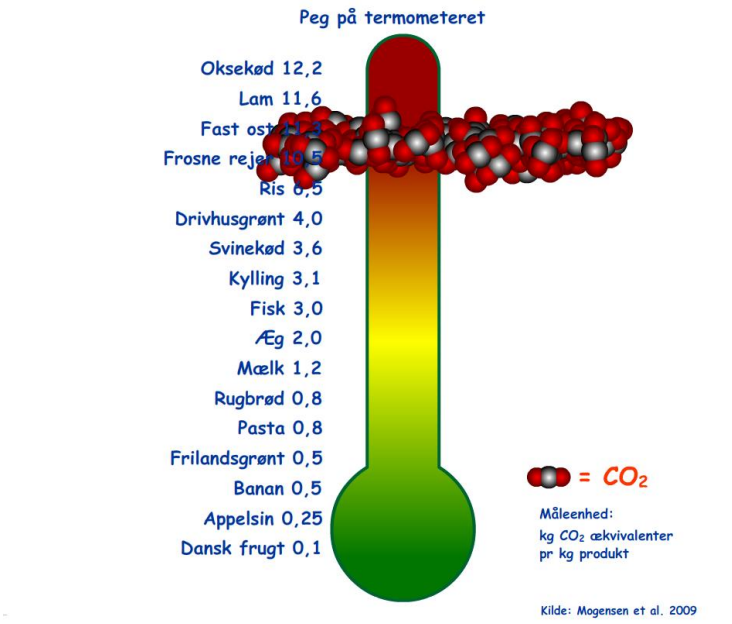


Figure 12 CO2 thermometer. [Online image] Retrieved from goo.gl/jdDkGO

"A factor, which makes it difficult to be an ethical consumer, is that the specific production of a product may influence how climate friendly or how sustainable it is" Translated from (Griesen et al., 2016, p. 18)

The CO2 thermometer fails to encapsulate this aspect, and thus it can't be used to select between the same type of product. It is limited to promote low emission product groups or encourage limited consumption of high emission product groups.

The developers of the CO2 thermometer also offer some climate oriented pieces of advices, which goes as follows:

- Eat less meat
- Eat plenty of seasonal fruits and vegetables
- Eat potatoes instead of rice
- Drink tab water
- Don't prepare more food than you can eat
- Use local products

In the appendix 5, there is a picture elaborating on these pieces of advice, which in a very simple language exemplifies and expands these pieces of advice. This is used as an example of how storytelling can confuse people as it gives a partial picture of climate friendliness. It is a single few do's and don'ts, which does not relate to each other or give any indication of the level of impact of the different pieces of advice. These pieces of advice are also considered self-explanatory and are solely presented to indicate a multitude of sources for climate friendly food advice.

Life Cycle Analysis

The life cycle analysis, as exemplified in figure 13, is a holistic approach, which aims to map all the phases of a given good, product or even project, from extraction to disposal.

"Life-cycle assessment attempts to quantify environmental burdens over the entire life-cycle of a product from raw material extraction, manufacturing, and use to ultimate disposal" (Joshi, 1999, p. 95)

This is done by mapping all phases of the product in a software, such as Gabi, SimaPro or similar where all the material and energy inputs are aggregated to express the total energy usage throughout the life of the good.

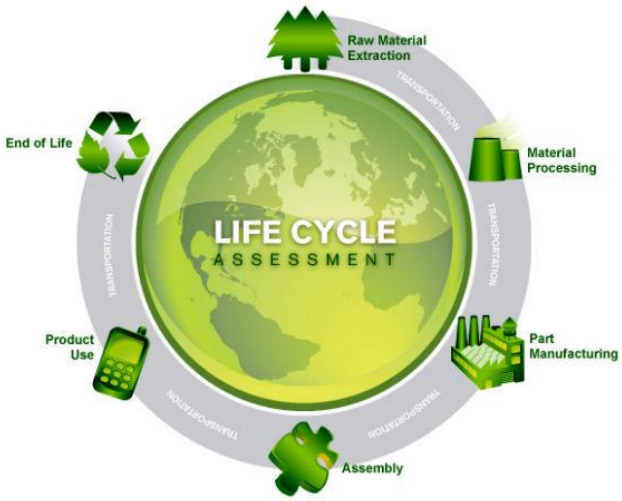


Figure 13 Life cycle assessment. [Online image] Retrieved from goo.gl/neJ7yA

Many different products have already been mapped, examples of these can be found at www.lcafood.dk or through literature search on "life cycle analysis". In theory, this approach is perfect, as it may include all aspect of a product's life cycle, reality however differs from theory.

"However, current methods for LCA suffer from problems of subjective boundary definition, inflexibility, high cost, data confidentiality, and aggregation." (Joshi, 1999, p. 95)

The LCA is thus only as good as the input data, and the framework in which they are put in. Often, there will be assumptions and exclusions, which will distort the model compared with reality and the size of the distortion often remains unknown and thus less trustworthy, perhaps it is accurate enough, perhaps not.

Carbon Trust Footprint label

The Carbon Trust is a private company, which maps products, organizations and value chains for their carbon footprint. They are amongst the forerunners, within documenting CO2 footprint as a company, not as researchers, however this also entails, that they may be lenient towards their costumers, as both parties have an interest in delivering a good result. Their logo is shown in figure 14.

"Whilst reasonable steps have been taken to ensure that the information contained within this publication is correct, the authors, the Carbon Trust, its agents, contractors and sub-contractors give no warranty and make no representation as to its accuracy and accept no liability for any errors or omissions." (Spencer & Clarke, 2010)

The Carbon Trust adheres to the PAS 2050 standard and was also a partner in the failed Tesco CO2 label.

Figure 14 Carbon trust Logo. [Online image] Retrieved from goo.gl/bhKMEX

Food miles

A unit to express the distance the food have travelled and the energy it took to complete that journey. This is an awareness strategy, which simply promotes local food with fewer "food miles" over imported food with more "food miles". Usually, it is also used to differentiate different types of transport on a basic level, such as transport by ship, truck and/or plane. However, usually standards values are applied, similarly to the CO2 thermometer, and thus it cannot distinguish between e.g. the emissions from an old or a new truck. Thus it can be considered more to be an awareness strategy, than an metrological assessment.

The term originates from The Food Miles Report (Paxton, 1994), however even the author noted that:

Reducing the distance food is transported is only a part of the conversion to a sustainable food production system. Agriculture itself needs to become more sustainable. (Paxton, 1994)

Food pyramid

The food pyramid was created in the 1976 by FDB to indicate a simple and balanced diet. The pyramid is divided into three layers, and recommends eating primarily from the bottom layer and less from the upper two layers. There are many iterations and adaptations of this food pyramid (Saxe et al., 2010). A visualization of the food pyramid is shown in figure 15.

Figure 15 Food Pyramid. (Saxe et al., 2010)

De otte kostråd – www.altomkost.dk

The dietary advice from the government are primarily concerned with health and nutrition, however following these will lower most consumers carbon foot print as well. These pieces of advices are aimed at consumers.

This is due to several factors, such as many people consume more than they need, especially excess protein consumption from meat is a contributor. Another factor is eating too few vegetables, which in bulk can substitute more resource intensive types of food.

The pieces of advice can be seen on the right-hand side in figure 16, they will not be explained as they are considered self-explanatory. These pieces of advice are not pertaining to climate friendliness; however, they manage to nudge in that direction never the less.

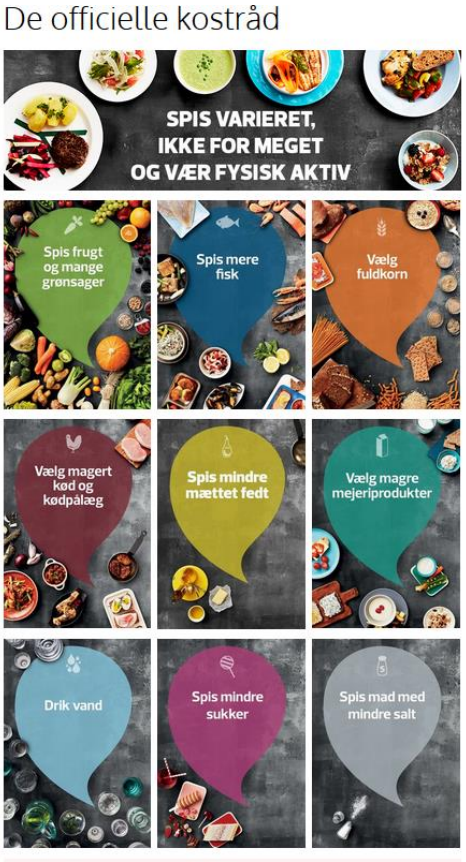


Figure 16 Official dietary advice. [Online image] Retrieved from goo.gl/vHOvXw

Climate friendly food consumption, Garnett 2008

See appendix 4 – climate friendly food consumption for the chart containing the pieces of advice. These pieces advices are not aimed at consumers, but exist in the literature (Garnett, 2008). The pieces of advice are concerned with optimizing the diet through behaviour changes, such as eating less meat, minimizing food waste, eating seasonal food and cutting unnecessary foods, such as alcohol and candy. It is very general, but difficult to apply in practice. It doesn't offer any help to a consumer, of course nobody desires food waste, but how to minimize it, that is the real question.

5 pieces of climate advice from COOP

COOP offers five pieces of advices to eat more climate friendly, which goes as follows:

- Eat plenty of fruit and vegetables and fewer dairy products
- Buy more local and chose seasonal goods
- Eat less meat
- Drink tab water
- Avoid food waste – only prepare as much as you need

These pieces of advice are also considered self-explanatory and are solely presented to indicate a multitude of sources for climate friendly food advice.

Sub-conclusion

There are a lot of different means to achieve the same end of selecting climate friendly products, perhaps even too many, as it becomes impossible to satisfy all of them, and thus hard choices must be made. There is a lot of common grounds between the climate advice, but the phrasing of them may cause confusion by mixing general and specific pieces of advice. To summarize and generalize the main points of all the climate advice above, would go like follows:

- Buy local
- Avoid food waste
- Avoid animalistic products
- Eat seasonal food
- Drink tab water
- Don't overeat

However, what is not discussed by any of the above-mentioned food label and solutions is:

- The impact of processed food and how to discover it

  Danish products may be manufactured abroad or manufactured in Denmark with foreign ingredients. It can be difficult to tell as a consumer

- The impact of packaging and how to discover it

  Which form of packaging has the least associated emissions? But even though perhaps metal is the most resource intensive form of packaging, but what if it is recycled vs incinerated? Consumers often know if they intend to recycle or trash their packaging. Could this information be given to consumers?

- The limits of "local" and how to discover it

  Is country of origin truly the most accurate description of "local"? and shouldn't the scope include the equipment used to process the food? Most likely there will be components from all over the world at even a small-scale farm – is this to be neglected?

- The relative importance of the different pieces of advice

Although everything contributes to the total amount of emissions, it would be relevant to have an indication of just how must it does so. Perhaps it takes some energy to import food, but it may be less than to grow them in a climate where they don't belong.

- The "acceptable" limit of emissions.

Can I choose to sin somewhere if only I act a saint somewhere else? Or does it have to be completely puritan, in the sense that all emissions are deemed bad, and the only acceptable behaviour is to continuously decrease them? Will my consumption ever be low enough to rest my conscience

- Feedback on consumption.

How do I check myself? Is my current consumption way of the charts, or am I doing just fine. Currently, it relies the combination of gut feeling and conscience, however, does it have to?

To summarize, the climate advice serves a purpose in telling a good story about more climate friendly choices, but they don't really help anyone to a specific choice between to similar products. They don't help in avoiding food waste. The simply state what to maximize (local food!) and what to minimize (meat!), but not how to go about doing so. They are easy to apply, but difficult to master. Are they hinting at everybody becoming vegan at some point? Finally, they don't give any sense of having complied with them or not, and thus leaving a feeling of "I could do better". It seems something new may be needed, which could help consumers to take make a choice between similar products and which may provide a feeling of adequacy over the concerns of one's diet.

4. Development of possible network

4.1 Actor network inspired translation

This section attempts to exemplify ANT's application on the network in question and ends with a conclusion regarding how ANT influenced the project. There is no complete mapping of the actors, partly because there is inherent uncertainty regarding which actors are relevant to include and also due to practical restraint, such as time and resources. It was and still is not feasible to interview every potential relevant actor in all the different industries, nor even their spokespersons. Therefore, the outset for the actor network analysis is to make hypothesis' and test these in order accept or reject them. The first hypothesis regards to whom it is relevant to approach, which is chosen to be spoke persons for the different industries, which needs to collaborate for a food label to be successful. When a brief introduction of the theory, an attempt will be given of translating the theory into this field:

Like the three researchers who saw the foreign larvae anchor themselves to collectors and grow undisturbed, and thus wondered if this solution was transposable to France. The innovator has seen life cycle analysis's being applied to products to map their resource consumption and associated costs, which led the innovator to wonder if this approach may be suited for evaluating the climate, like the three researchers, questions were raised, to which there was no clear answer. Is it possible to apply LCA thinking to evaluate the climate friendliness of food? Are market devices the right approach to affect consumer? How many does even want climate friendly products?

To proceed from here thought went into who may be relevant to participate in a network around evaluating climate friendly food.

"They determined a set of actors and defined their identities in such a way as to establish themselves an obligatory passage point in the network of relationships they were building" (Callon, 1986)

Like Callon, a set of actors was determined to make up the network. However, since there was no certainty of who needed to participate, the focus was put on the roles intended for the actors, rather than who is the specific actor. In this way, any actor willing and able to fulfil the role could step up and participate. This double movement, determining actors and determining actor identities, is what Callon calls *problematization.* The second part of the *problematization* is the interdefinition of the actors, where the actor's roles and interests are laid out. A simplified network of generalized roles, their goals and their obstacles are presented. This network is generated through the literature found, the interviews conducted and an aggregation of the actors pointing out each other.

It is important to consider multiple aspect of the future network, some of which are pointed out as being manufacturers, researchers and the state.

"The report suggests to cooperate between manufacturers, researchers and the food administration for make the complex knowledge of the climate impact of food useful for consumers." Translated from (Vibeke & Søgaard, 2012, p. 7)

Since the state has a high degree of trustworthiness, as demonstrated through the Ø-mark, they can act as an independent quality assurer. However, another way to ensure trustworthiness is to have a private independent participant to have the role as QA, such as Dansk Varefaktanævn, who also have a high

degree of trustworthiness. In fact the state even trust them enough, that they are no longer subject to random sampling (Møller, 2016).

"If such a label is to penetrate the market, it is important that all products is labelled with a value, so that the consumer can relate them to each other. And it is of equal important, that there is an independent sender responsible, such as Dansk Varefaktanævn. Translated from ("FDB vil udvikle klimamærke," 2016)

The consumers are obviously of interest, since it those who are to purchase the products, however it is deemed most frugal to focus upon the most interested consumers at first in order to test the concept. The quote below is regarding an expansion to ecology, but it is assumed that it also can relate to e.g. climate oriented consumers.

"When there is a trend amongst firstmovers, the trend will spread to the commercially interesting mass market." Translated from (Fødevarerådgivningen. Økologisk Landsforening, 2015, p. 4)

The retail is also included in the proposed network, as they have the possibility to influence the consumer in the purchase situation. They also have a strategic influence through their purchasing power, which can help to incentivize manufacturers.

Finally, the innovator is included to help kick start the network, and the primary function of the innovator is to assemble the network and align the interests of the participants, thus the innovator acts as a facilitator.

Actor	**Goals of entities**	**Obstacle**
State	Climate impact mitigation	Lack of private initiatives
Consumer	Sustainable, healthy products	Lack of information, price is a constraint
Manufacturer	Differentiated products, increased price	Lack of standards to communicate climate efforts
Retail	CSR profile to attract costumers	Lack of demand, price sensitive costumers
Consultants, researchers	Increase and apply knowledge. Sell man hours	No costumers demanding the service
Innovator	Empower consumers to take an informed choice	Gathering information, assembling a network

If the state wants to mitigate climate impact…

If the consumer want sustainable and healthy products…

If the manufacturers want differentiated products…

If the retail businesses want a better CSR profile…

If the consultants want to apply their knowledge…

Then they must (or it just might be helpful) to know the answer to this question: How to communicate the climate intensity of food products? In addition to this, the proposed network must also converge and *"recognize that their alliance around this question can benefit each of them"* (Callon, 1984). For the innovator, the project turns around the question of quantifying climate impact.

The next step of the translation is interessement, which Callon defines as: *"Interessement is the group of actions by which an entity attempts to impose and stabilize the other actors it defines through its problematization"* (Callon, 1986).

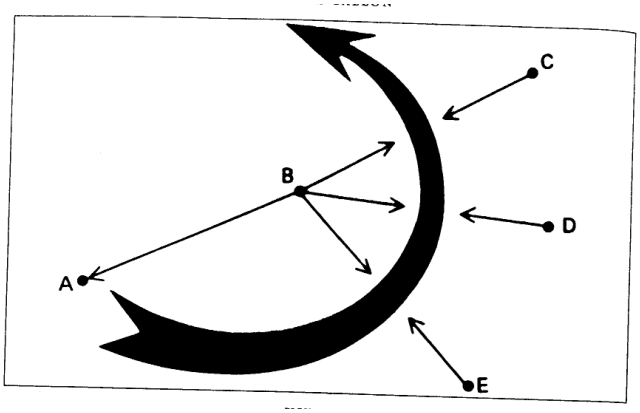


Figure 17 ANT. Association trough disassociation. (Callon, 1986, p. 72)

Figure 17 shows interessement through disassociation. The link between A and B can be strengthen by weakening B's link to C, D and E. This could be applied to innovators case. If A is the new food label, B is the consumer and C, D and E are price, existing food labels and other qualities. Then it would be possible to strengthen the new label, simply by weakening the consumers' relation to C,D and E. Callon expresses that there are an *unlimited numbers of strategies* and *anything goes* when enacting the interessement phase. Callon describe a successful interessement phase as being able to *"… confirm the validity of the problematization and the alliance it implies"* (Callon, 1986).

The approach laid out in Callon' work states that it is not necessary to convince any group as a whole, but rather the representatives for the group should be the prime target for interessement. The representatives of the fishermen are targeted with curves explaining the decline in the stock of the scallops in St. Brieuic bay. The scientific colleges are targeted with a review of the literature, which shows the lack of knowledge regarding scallops. Finally, the non-human actor, the scallops, were also addressed

> *"For the case of the scallops (like the fishermen and the scientific colleagues" the interessement is founded on a certain interpretation of what the yet to be enrolled actors are and want as well as with which entities these actors are associated"* (Callon, 1986, p. 74)

This is interesting for the food label case, as it entails the possibility for interpreting the (starting) position of actors. Obviously, it is not the best approach, but it allows the innovator to work with some assumptions and simplifications.

Hypothesis$_0$ The actors approached have authority to act as spoke persons for their intended "role"

Hypothesis$_1$: It is possible to find actors who wants to participate in creating a label, as they can see a self-interest in participating

Hypothesis$_2$: It is possible to grow the consumer interest in the climate impact of their food

Hypothesis$_3$: It is possible to gather the needed knowledge throughout the supply chain through metrological work

Hypothesis$_4$: It is possible to make a framing for the metrological work which captures the CO2e

Hypothesis$_5$: It is possible to finance a label through the network around it

Hypothesis$_6$: It is possible for consumers to attribute economic worth to CO2e

With this outset of hypothesis', an obligatory passage point was devised to show how the network could collaborate and benefit from each other's participation. Figure 18 serves as an attempt to define the actor's identity and what they want and the obstacle, which currently prohibits them for achieving that end. Through a food label as an obligatory passage point, it is deemed possible that all actors may achieve their individual goal through this collaboration

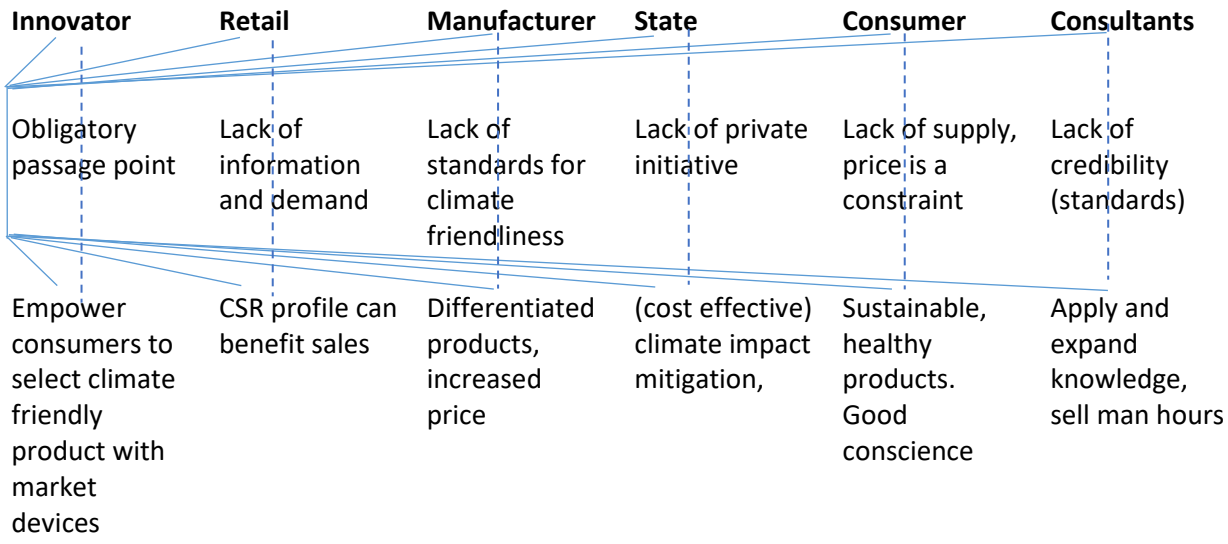


Figure 18 Obligatory passage point

Callon states that markets are reflexive and question their own organization in an attempt to conceive and establish new rules for the game.

> *Economic markets are caught in a reflexive activity: the actors concerned explicitly question their organization and, based on an analysis of their functioning, try to conceive and establish new rules for the game.* (Callon & Méadel, 2002, p. 194)

This has already been seen by the two previous and failed attempt to create a CO2e label, by Tesco (Vaughan, 2012) and FDB (Pedersen, 2010). In both cases the retail companies tried to introduce a new label, but found that they could not manage to build a network around their concept nor keep cost down.

"We had great ambitions of being active in developing a new food label for climate friendliness, and it was an open invitation to the whole industry. But we have to admit, now two years later, that we have been alone with our vision" (Pedersen, 2010).

Sub-conclusion

The actor network-theory provides valuable insights into how actors can be successfully approached and alliances be made. This process is described through the moments of translation. ANT also explains that through these alliances, it is possible for few spokespersons to represent the many, both human and non-human actors.

> *"It also permits an explanation of how few obtain the right to express and represent the many silent actors of the social and natural world they have mobilized"* (Callon, 1986, p. 82)

ANT helps to facilitate network thinking, in the sense that multiple actors must be considered as well as these actors' own interests. This creates an ever-expanding jigsaw puzzle of actors, goals and obstacles, which there is no guaranteed solution too, however *if* a solution to the puzzle is found matching all of the actors, their goals and obstacles it will be a stronger solution. However, ANT does not explain how to retain alliances, but mere states traduttore-traditore, which is to say, treason is only a step away.

The ANT approach is adaptable to the problem at hand, so the innovator must exhibit critical thinking when applying the theory to know if the method used advances or confuses the process. This is to say, that a rigid usage of ANT will likely fail and the theory is without fault for this. ANT is an academic theory, not a scientific law and must be treated as such. It can explain the observed phenomenon of network building, but it cannot be expected to predict any outcomes or future phenomenon's.

Although, the innovator has managed to convince himself regarding the validity of the hypothesis mentioned above, it must be admitted that they remain hypothesis, although there are some decent arguments and expert statements to qualify the hypothesis, there may be equally many different points of view, who oppose them. Even though the hypothesis' aims to be clear in their articulation, they fall short as they themselves are built upon varying assumptions. The innovator finds it likely that, e.g. hypothesis 5

$Hypothesis_5$: It is possible to finance a label through the network around it

Can be equally possible and impossible at the same time. It depends on so many unknowns, that it feels like guesswork at best to say which way it will go. A good strategy will surely help, but it is not necessarily enough. The hypothesis also doesn't talk about scale of the implementation; therefore the reader makes assumptions to compensate. The hypothesis may not be specific enough, however they may still serve as pointing out a direction for the investigation.

4.2 Valuation Frame Analysis

The valuation frame theory explains a process, which may help towards improving the understanding of the innovation and provides strategies, which ease the market introduction of the innovation. First, the stake's and the holders must be made explicit. This is inspired by the obligatory passage point from the ANT section.

"When it comes to innovation of new products, both stakes and their holders are emergent; hence, assembling the stakes and holders is a critical job for the innovator."(Doganova & Karnøe, 2012, p. 6)

Stake	**Holder**
Climate friendly diet	Consumer
Climate change mitigation	State
Market (re)positioning	Retail
Idealistic production	Manufacturer
Calculation and verification of process	Consultants

These stakes and holders represent a combination, which may become possible through work in the external environment. To change the valuation frame of the proposed network to include CO2e as a new quality, these stakes and holders must be assembled. Furthermore, there must be a business model which supports the proposed network and provides incentive for participating.

"Valuation frames are recomposed through the invention of new business models, which grant value to qualities that have hitherto been unaccounted for." (Doganova & Karnøe, 2012, p. 18)

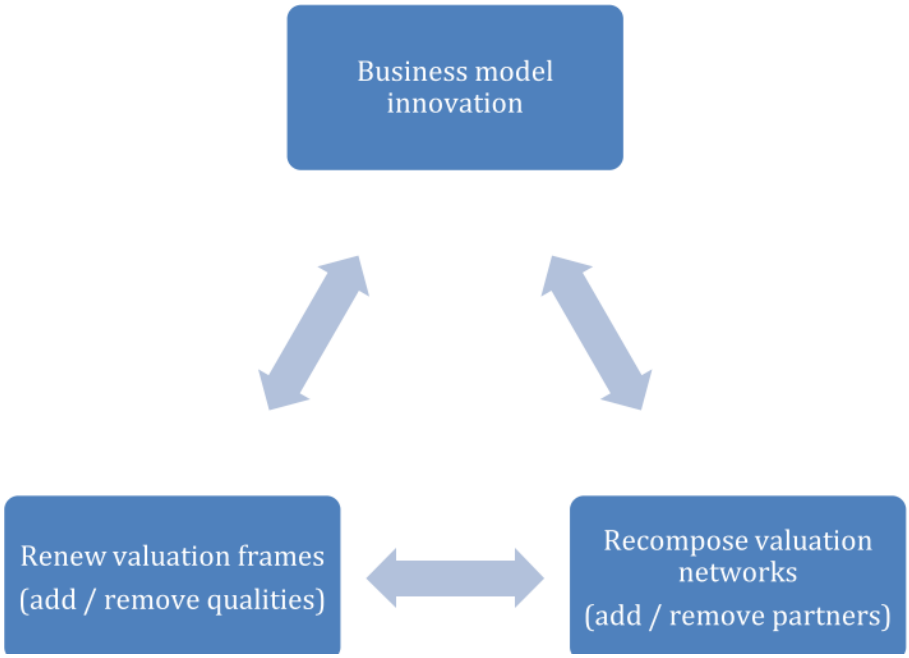


Figure 19 Dimensions in business model innovation. (Doganova & Karnøe, 2012, p. 18)

Figure 19 shows the two dimensions in business model innovation (Doganova & Karnøe, 2012). From here on, the qualities of the good must be framed. This occurs because of negotiation between the involved actors and the result is a temporary stability of the qualities of the good, which makes it for a while a tradeable commodity. In the case of the proposed food label, this has not yet occurred. The theory then provides a set of three questions to help determine how far the innovations has come from issues, to fact to worth as shown below in figure 20.

	Issues	Facts	Worth
Question	What concerns do product qualities relate to?	Are product qualities backed up with data and measures?	Do users and customers value product qualities?

Figure 20 Issues, facts & worth. (Doganova & Karnøe, 2012, p. 20)

Issues: The concerns related to the innovation are the associated emissions from food production, which is contributing to climate change.

Facts: The quality proposed, CO2e, is backed up by data and measures, though these are conflicting and still a contested area due to lack of standards.

Worth: Certain customers, namely the conscious consumers, do value climate friendliness, albeit it is difficult to determine.

The theory continues to provide a checklist, which can be utilized to see how far towards "worth" an innovation has moved, which can be seen below in figure 21.

Concerns	Facts	Worth
☐ Is there an issue?	☐ To what extent is the issue quantified?	☐ What are the qualities of the product?
☐ How visible is it?	☐ Are there measurement standards set?	☐ What are the valuation frames of users / customers?
☐ Who is concerned by it?	☐ What kind of numbers are considered by stakeholders?	☐ How can external qualities be included in the valuation frame?
☐ Are concerned groups organized?	☐ Who produces these numbers?	☐ How are the product's costs calculated?
☐ How extended are they?	☐ How stabilized or controversial are measurement methods and numbers?	☐ Can the value of the product be sustained over time?

Figure 21 Concerns, facts & worth. (Doganova & Karnøe, 2012, p. 24)

Answering these, yields that the concern is real and tangible, but the facts are most certainly not. The measurements methods are controversial and not stabilized in the form of standards, such as an ISO

standard. Though the facts may be wobbly, it already does hold some worth for certain consumers, which are self-declared willing to pay more for climate friendly products.

Sub-conclusion

The valuation frame theory helps to perceive how far a clean-tech innovation has come towards from being an environmental concern towards hold economic worth. The theory paints a picture of the components which play a part of creating a valuation frame, and how this interplay with the business model and value architecture.

"It (the work of framing a good, red.) involves stakes and holders, rules and regulations, scientific facts, calculative devices, and user valuations that happen to make the user buy some product or service."
(Doganova & Karnøe, 2012, p. 6)

Furthermore, the theory highlight some of the work, which has to be undertaken by innovator in assembling a network.

"The heterogeneous elements that compose an innovation are not born associated, and the innovator has to bring together supposedly disinterested actors, stakes and misfit technological components."
(Doganova & Karnøe, 2012, p. 8)

The theory is especially useful in helping to conceive the journey from environmental concern towards economic worth and raises some important questions, which the innovator must face, such as who the innovation is creating value for and how to assemble a value architecture around that to create a business model, which can sustain the innovation.

It is also worth noting that although the idea of a CO2e food label is likely to "*suffer from the liability of newness"* (Doganova & Karnøe, 2012, p. 4), it may later transform and normalize into *"technical standards, routines and skills in production, use and regulation, and even extend into the future by socialization, expectations and identity formation."* (Doganova & Karnøe, 2012, p. 7)

By considering valuation frame theory, it was also determined that the revenue model required to support such a food label, would most likely have to be paid for by consumers, which leads the investigation in direction of conscious consumers to determine if they are willing to carry those costs.

5. Lead consumer interviews

The interviews were coded twice with different focus in mind, at first a more hermeneutical approach was taken, were the innovators performed a subjective meaning condensation and interpreted what the interviewees were saying and categorized that in accordance to the types of qualities depicted in the working paper "Consumer's food choice and quality perception" (Brunsø et al., 2002). This approach was however being second guessed as being too biased by the innovators own perceptions and not truly understanding the lifeworld of the actor. Therefore, a second approach was undertaken, which aimed at being more phenomenological and attentive to the life world of the interviewee. In this method, the coded consisted of relating parts of the interview to question to the interview. These questions were as follows

1. Which qualities/criteria are a part of the consumers' choice?
2. How does the consumer apply these criteria to infer qualities / guide their choices?
3. How does the consumer react on the design proposal?

The two very first interviews with consumers, were not transcribed, and taught the innovator the necessity of doing so with future interviews. However, the learning outcome is considered valid none the less and thus will still be presented as they helped to shape the following interviews.

The first interview person, Emil, selected the following *qualities health, ecology, natural content, nutrition* and *price* as the most important qualities when selecting food. The most important for Emil'ss dietary choice is that the food is both good for his body and for the planet. Animal welfare is also very important to him, which is one of the main reasons that he prefers ecological food. Emil believes natural goods which have not been processed are to prefer over those who have been. Finally, if two products have equal qualities, then price will determine the outcome.

The second interview person, Lars, selected the following qualities *locally produced, taste, climate, storytelling, convenience* and *freshness* as the most important qualities when selecting food. Lars expressed that It's important for him to minimize transportation and therefore he prefers locally produced goods, which is also why he e.g. prefer European wine over non-European wines. Taste and freshness is also very important, and he feels he gets better taste and more freshness from local products. He likes to have a relationship with the people he buys the food from and enjoy going to farmers' markets, the butcher and anywhere else he can get a conversation about the food – this can be seen as storytelling. Convenience is also a factor, though he rejects frozen fast food, he does enjoy being able to cook a quick quality meal.

The point of this initial exercise is to ease the communication by bringing a lot of different qualities into play, as well as to discover new qualities, which are of importance to the conscious consumer. This was difficult, as people's perception apparently differ greatly, however with this approach their opinions became articulated, which is the first step towards understanding. For instance, a consumer equated ecology with health and taste, whereas other consumers were more interested in the animal welfare aspect and didn't even associate ecology with health nor taste.

Difficulties arrived, when the interviewees began asking question regarding the different qualities, such as "What do you mean by e.g. climate", the chosen approach to this was to answer with "Well, what do *you* understand by climate?". This was chosen in order not to influence the interviewees response by framing qualities to one superior to another. However, the interviewees were interested in the subject

and relentlessly tried to get examples and understand what the innovator meant by a given quality, which was a challenge to talk around.

When asked if they actively seek out climate friendly products, Emil answered positively that he does I prefer a product with less packaging which is locally produced, which constitute his immediate understanding of climate friendliness. Answering the same question, Lars expressed that in the past few years, he has begun to emphasize climate friendly products more, as he has become increasingly aware of climate change and the contributing factors, including his dietary choices. Therefore, he also prefers local products. When proceeding to ask regarding if friendly product have value for has value for them Emil answered that like for ecology, he would pay a small premium for climate friendly food and added that perhaps he would pay more for animal products than for other product groups. Lars also expressed that climate friendliness holds value for him, however he also points out that it is difficult for him to put a finger on just how much it is worth. There is some price elasticity, but it is limited

The interview then went on to ask which food labels were used in the interviewees current shopping behaviour, to which Emil answered that he uses the Ø-mark, the nutrient declaration, the country of origin and the EU ecology label must frequently. However, he also uses nøglehullet, dyrevelfærdsmærket, demeter, fuldkornsmærket, MSC and he looks up new food labels as he encounters them. He sees food labels as quality stamp, and the more the merrier. He actively use food labels to choose his food, currently he insist on eating ecological and thus everything without a Ø-mark, demeter or EU ecology label is deselected. After this deselection process price may determine what he buys

To the same question on food labels Lars stated, that he does not always use food label, but he does use the Ø-mark more often, however not as a requirement, but rather a desirable ”bonus” quality. He tried to use Nøglehulsmærket, but it didn’t satisfy his perception of health and environmental friendly. He stated that he might not know enough, but he just doesn’t trust Nøglehullet. During his normal shopping, he doesn’t consider the price, as many products have become a habit to buy instead of others. However, once in a while he makes a “test” and check the price and weight of content. If he feels like a manufacturer is trying to “cheat” themselves to a higher price by e.g. lowering the weight, quality of content or similar he boycotts them. First, he asks if he need the product, secondly, he ask if he know the product, third he ask himself if he likes the product (and manufacturer) and finally asks if it does it have attributes he values. After going through the first three gates of “deselection”, it becomes possible to select products based on the most interesting mix of qualities.

Finally, a question was posed if the interviewees could imagine using a food label for climate friendliness, to which Emil answered a definite yes and elaborated that climate friendliness is not as high a priority as ecology and animal welfare, but he could see it as a selection criteria for choosing *between food, which he cannot otherwise differentiate instead of price or as another layer in his selection process.*

To the same question, Lars also answered yes and elaborated that would be interesting to see how Danish and foreign products really compare. Lars generally likes the idea of being able to compare different products and being able to choose based on that comparison

In continuation of this the coded transcripts will be presented. The answer to the first question regarding qualities, yielded relatively similar results over the four different interviews.

First interview, Louis:	Price, taste, health, natural content
Second interview, Philip:	Ecology, price, taste, sensual appeal, natural content.
Third interview, Lander:	Health, ecology, price, natural content, locally produced
Fourth interview, Lars:	Locally produced, health, ecology, climate/environment, process

All of these highlighted qualities are shared by all of the participants, although e.g. price is not highlighted in the fourth interview above, it can be found in the transcripts, were the interviewee explains his willingness to pay more for climate friendly food as such:

> Så vil jeg gerne spørge om det er værdifuldt for dig at en vare er klimavenlig?
>
> *"Absolut. Værdifuldt, ja det er det. Jeg vil godt give lidt mere for hvis det er relevant og give mere for den, ikke bare fordi den er klimavenlig. Det kan være at det kræver noget en anden form for produktion, som er lidt dyrere og det vil jeg gerne betale for og jeg vil også gerne vælge den til den her fødevare"* Lars, interview 4

Similarly, the other three participants doesn't highlight climate as being an important quality at first, however, when reading through the transcripts, it becomes possible to see that it matters to them. Some infer climate- and environmental friendliness through ecology, some through natural content, some through locally produced and some even connects everything.

However, through the interviews it was discovered that there the participants also value other qualities than the those highlighted above. This was expressed uniquely in each case, the most prominent of those being:

> *"Altså de her punkter tilbage, hvor vi startede på listen her, øh, er jo gode alle sammen. Jeg kan jo sagtens finde noget til alle sammen jeg synes der er interessant og vigtigt, men nu har jeg valgt nogle ud og holdt fast i dem. Det er jo ikke fordi at jeg ikke tænker noget med story telling eller og så videre eller næringsværdi."* Lars, interview 4.

Perhaps it is a hard verdict to judge, but the innovator finds resemblance between the conscious consumers and the fishermen of St. Brieuic bay.

> *"Transactions with the fishermen, or rather, with their representatives, are non-existent. They watch like amused spectators and wait for the final verdict. They are prepared to simply accept the conclusions drawn by the specialist. Their consent is obtain (in advanced) without any discussion".* (Callon, 1986)

The conscious consumers seem willing to simply accept label for climate friendliness without participating in the debate of forming it, they too are prepared to accept the conclusions drawn by the specialists. Even though all the consumers do have concerns regarding ecology, none of the conscious consumers had bothered to investigate what ecology truly pertains too and instead were guided by heuristic, such as "ecology is good for the personal health" and "ecology is good for the climate".

Sub-conclusion

The interviews shed light on some matters, which were of great interest to the project. These matters will be listed and backed up by citations from the interview transcripts.

The conscious consumer is guided by food labels and availability heuristics

> *"F.eks. er jeg begyndt at købe økologiske æg konsekvent, fordi jeg har fundet ud af at den ekstra pris der er synes jeg retfærdiggøres ved at smagen er bedre og øh ja, egentlig bare mest smagen er bedre og kvaliteten virker bedre. Jeg synes, at det virkelig at det er håndgribeligt med æg. Der kan du fandme se det, når du selv har haft høns, så ved du hvordan et æg der kommer lige ud af røven på en høne skal se ud, og det gør de der skrabeæg bare ikke."* Philip, Interview 2

> *"Økologimærket ved grøntsager f.eks.. Der kigger jeg nok efter det, hvis jeg leder efter økologisk gulerødder, eller hvis jeg bare leder efter gulerødder og jeg ved at jeg foretrækker økologiske gulerødder, så vil jeg bruge Ø mærket."* Philip, Interview 1

The conscious consumer chooses from the differences between products.

> *"Altså min tanke er, at jeg ikke vil stå og forholde mig til nogle tal nede i butikken. Jeg vil have et eller andet mærke som, hvis jeg skulle navigerer efter carbon footprintet for en vare, så skulle det være grøn, gul og rød f.eks. og så kunne man jo bagpå varen have mere detaljeret beskrivelse af det."* Louis, Interview 2

> *"Ja, hvis de begge to er økologiske, så kigger jeg også meget på prisen tror jeg. Eller så kommer jeg måske til at tænke ekstra på lokalt eller ikke(produceret, red.), så kommer der flere parameter, men i hvert fald også pris og..."* Lander, Interview 3

Tries to be climate friendly based on available knowledge, applies heuristics

> *"Det er mest fordi at man ved f.eks. at mange spansk produceret grøntsager, bliver produceret under nogle mildest talt kritisable forhold og at jeg så synes at kvaliteten af de grøntsager i sidste ende er væsentlig dårligere end det du kan få som er lokal produceret."* Philip, Interview 2

Ignorance leads to bias in decision making

> *"Det er fordi at der er meget af det, hvor man reelt ikke har en forståelse hvilken indvirkning på kroppen de har*." Philip, Interview 1

> *"Ja, det er det nok mere end noget andet. Altså mange E numre dækker jo over over helt almindelig ting ikk, citronsyre eller whatever ikke, helt normale ting, men øhhh, men mange andre dækker jo også over.. noget som man reelt ikke ved hvilken indvirkning det har på kroppen over længere tid, så hvis man kan undgå så meget af det som muligt, så har man da sorteret meget af skadevirkningen fra*." Philip, Interview 1

There is already too much available information. Ecology is important, however none of the interviewees had investigated what it entails.

> *Associerer du økologi med klimavenligt?*

> *Ja, det gør jeg nok. Selvfølgelig.*
>
> *På hvilken måde?*
>
> *Fordi, øhm. Det er lidt sjovt fordi i går da jeg kørte i bil var der en samtale i radioen, hvor de snakkede om hvis man har en mark og bruger sprøjtestoffer, øh, så hvad man så egentlig gør er, man har kun et stof, som man giver mulighed for at overleve. Så er der faktisk mere død end der er liv. Og ja, det synes jeg bare lyder så mærkeligt eller bare som tanke er så mærkeligt, at der er så mange stoffer i jorden, at det på en eller anden må påvirke sundheden af jorden. På den måde tænker jeg godt nok at økologi giver mening.* Lander, Interview 3

There is an interest in climate friendliness, which surpasses the understanding of it, however the consumers desire to make a better choice.

> *"Om, altså, øh. Jo, det ville jeg gøre. Jeg sidder bare og tænker over hvorfor jeg ville gøre det. Men på et eller plan går jeg jo op i miljøet og vil ønske at jeg.. I min optimale verden der blev jeg ikke stillet overfor et produkt der ville ligge i den røde skala, der vil kun være et godt eller okay produkt".* Louis, interview 2.

There is a perception of a relationship between natural content, health, locally produced, ecology and climate friendliness

> *Jeg tror ikke, at det er som sådan er en overvejelse jeg gør direkte, men mere sådan en overvejelse der kommer med, når alle de andre faktorer bliver lagt sammen. Fordi naturligt indhold, sundhed og lokal produceret, det hænger tæt sammen med klimavenlighed, ik."* Philip, Interview 2

A label for climate friendliness could supplement decision making, but not determine it.

> *"Ja, øh. Det kræver lidt forståelse af mærkningen fra forbrugerens side. Ja, øh, det er et godt spørgsmål. Jeg tænker, at jeg bare gerne vil have noget der fortæller mig alt ved et blik. Den forbruger, som det der appellerer til ved jo godt at oksekød ikke er klimavenligt, så den der relative rangering er nok mere håndgribelig i virkeligheden. Der er jo svært at sammenligne hønsekød med oksekød, du går jo ned for at købe oksekød, og jeg tror ikke at jeg vil ændre at jeg vil købe oksekød fordi den var den dårligste vare ift co2 udledning*." Philip, Interview 1

To summarize, the lead consumers interview seems interested in food in many different aspects, where climate friendliness as one of them is gaining importance. However, even among these conscious consumers, who desire to make a "good choice" there is a distinct lack of knowledge and ability to select products, which suits their preferences. A common misconception is that ecological goods are great on all aspects except price, however, with ecological products there is trade-off between environment- and climate friendliness. A food label would be able to let users compare the climate friendliness of different products, but it would not be able to help consumers evaluate the trade-off between environmental- and climate friendliness. Despite this, the consumers interviewed would be interested in having access to the information to help inform their choices and would be willing to pay a premium for having access to this information.

6. Design choices

The idea of a food label to express climate friendliness can be executed in a multitude of manners. The purpose of this section is to talk through some of the major consideration, which the innovator has had during the project.

Actor constellation

To realize the concept of a food label concerned with CO2 equivalence several actors must collaborate closely. To simplify this, it is hypothesized that five groups of actors can achieve this.

Actor	Role	Responsibility
State (Fødevarestyrelsen) El. Dansk varefaktanævn	Authority, legitimacy, QA	Quality assurance, audit
Eco friendly consumers (children's families, environmentalists, health enthusiastic,	Demand	Demand climate awareness, Use CO2e to help choose
Manufacturers (demeter, biodynamic or others who desire to add value to their products)	Supply	Increased traceability on all products and processes
Retail (COOP, Dansk supermarked, Dagrofa)	Distribution, promotion & education of consumers	Promote CO2e in stores, use market to devices to make it visible
Consultants (Concito, private agriculture/environmental specialists, Arhus university Danish center for food and agriculture,)	Advisor to manufacturers in mapping/calculating CO2e. Expert	Map CO2e for manufacturer

Each of the participants in the network may have their own reason for participating, but must commonly agree upon the valuation frame which would be the newly establish quality for climate friendliness. This is one of the major challenges to ensure the network will collaborate and mutually agree upon CO2e as a new quality. However, the specific actors suggested may be replaced by others, which could also fill the intended role in the network.

Product groups

To make comparisons easier, it is possible to include differentiation by adding product groups to the mix. This could pan out in different ways depending on how those are setup. There could be no grouping, which would result in the food label promoting the lowest emission food over higher emission food, or to put it plainly, vegetables over meat. There could be a grouping of all types of meat as one, which would "promote" light meat" such as turkey and chicken over pork and beef. An even more specific grouping, such as beef, would rather promote consumers to choose the better alternative *within* that group. Finally, there could be infinitely specific groups such as "local, free range, halal" meat group,

which would arguably make comparisons much more difficult. The design of, or lack of, these product groups will impact the way the label is used and the message it communicates.

Public vs private

There is a design option which is whether the labelling should occur through private or public means. Whereas the private has more freedom to choose what should count and how it should count and may be quicker to implement changes, it may suffer from lower trustworthiness due to economic interests.

Quality assurance vs honour system

The design of the quality system will influence the trustworthiness and of the label as well as the operating costs for managing such a label and thus is of great importance. Random sampling can only occur through testing the documentation of CO2e calculation, since it is not possible to determine the CO2e of any product physically.

Framing of CO2e

The framing of what counts in the data aggregation of calculating the impact of a product is important to define as it will heavily influence the costs of the label, the accuracy and the results. I.e. omitting rearing of animals and including diffuse emissions from fields could skewer the results to indicate, that animal based products are less resource intensive then growing vegetables. An example of the framing of a LCA approach (Carlsson-Kanyama, 1998, p. 281) is shown in appendix 7, which displays the systems boundaries for rice and pork production. Although they both are from the same study, they must consider different aspects, which indicates that several framings will be necessary based on the product in question. Both framings though share some similarities in the sense, that the place the production of inputs outside the system boundary, which exclude the packaging. Some parts of the framing are directly quantifiable, such as the electricity usage, however other aspects such as N_2O emissions cannot be measured and thus must be estimated.

Unit of choice

The unit of choice to express the climate friendliness is also of great importance, and will yield different result depending on what is chosen. This can be exemplified through figure 22 below, which shows two different functional units and demonstrates, that the there is no linear relation between CO2e per kg and MJ per kg, which demonstrates that using different functional units will lead to very different results.

	Carrots	Tomatoes	Potatoes	Pork	Rice	Dry peas
g CO_2 equivalents per kg	500	3300	170	6100	6400	680
MJ per kg	2.9	42	1.8	32	9.8	3.2

Figure 22 Functional unit comparison. (Carlsson-Kanyama, 1998, p. 282)

Some of the found examples of expressing the climate impact is CO2e pr. Kg product/protein/carotene and MJ pr. Kg product/protein/carotene, all of which would show a unique picture, however having all would be unnecessarily complex.

Absolute vs relative impact

There is a choice to be made whether the conceptual food label should use an absolute scale or a relative scale. This might decision may be closely related to the "general/specific" issue. The general may fit better to a relative scale and the specific to an absolute scale. A relative impact could be a score from bad to good whereas an absolute impact will quantifiable.

Volunteer vs legislative

There is also an option of how to introduce the food label, which hasn't been settled on yet. Whether it should happen as a volunteer label that producers can apply to get or it rather should become a legislative regulation.

The volunteer method would have some benefits, such as getting the most motivated actors to take the lead and establish a good example. The most motivated actors who does something volunteering are more likely to come up with a good idea to improve the concept. Hopefully, they could create a demand among consumers and get other actors on the band wagon. By coercing it on companies, like a regulatory requirement, it would create an outcry from manufacturers about all kinds of concerns – profit, unfair rules, the time to implement. However, they could easily be motivated by declaring they can't sell their products without the new label. Collaboration in designing the label would be difficult, as the companies will have an interest in slack requirements.

Specific vs general

One of the biggest unknowns of the concept imagined is whether it should be a generic classification of the different types of food or it should be a specific classification based on their actual production.

The advantage of using a generic classification, is that it communicates the basic notion of the climate impact at a very low cost to develop. There are already existing life cycles analyses of different types of food, which can be applied. It would capture the notion of animalistic products have a higher climate impact than processed products and processed products have a higher impact than non-processed products and would be able to convey this notion on to the consumer. However, there would be no differentiation between similar products produced differently, which is unfortunate, as it leaves no incentive (qua the food label) to improve the methods of production.

The specific classification is much more ambitious in its design, in the way it aims to frame the entire food chain of the product without having any overflows, which can be questioned. In this way, it would be possible to compete on several new parameters, which hitherto has been hidden for the consumer to consider. The distance, which the products have travelled, the efficiency of the transportation, the energy required to process the product and the source of that energy – all of these considerations have an associated CO2 equivalent and could be aggregated for a single product. Thus, the sum of all

processes which the product is in contact with are be mapped and explained. It is accepted that a consumer cannot be aware of everything, so the idea was to give a simple tool to the consumer, CO2e, which can include all energy and material externalities to a product. The higher the score the more energy intensive the product and inversely the lower score the better. Theoretically a score can be negative if the product somehow manages to bind atmospheric carbon into the soil or the product. If adopted by consumers as a quality worth choosing over, this will enable competition to not only make the best product, but the best product in the best way.

It will require an in-depth mapping of energy and material flows, to be conducted in a structured and repeatable manner for each product – every time. This holds the potential to be a tremendous amount of work.

Even if it imagined to be perfectly framed in regards to energy and material, there are still a lot of externalities to this framing of "environmental concern", such maintaining fertility of the land, the usage of toxics, biodiversity, land usage and so on and so forth. In conclusion, even if executed perfectly as imagined it is not possible to encapsulate all environmental concerns in one number. However, it might be enough concern to act upon.

There will also be a lot of controversy regarding framing of the products, as it can be difficult to get it right. This is inevitable and must be embraced as a part of the process of making the most necessary actors to agree. When a controversy arises, the discussion must be undertaken, so that a consensus can be achieved and legitimacy can be built.

Making it generic will make it simple to calculate or even estimate at the cost of precision. This will result in a solution like the CO2 thermometer and on the other hand making it too specific will make it similar to Tesco's CO2e, which was too complex to manage. Therefore, a detail level in-between those is sought after.

6.1 Design solution

Based on the considerations from the previously mentioned design choices, the literature and the interviews conducted a middle way between the extreme design choices is proposed by the innovator, which is shown below with explanations of the different elements in figure 23.

The proposed design of a food label for climate friendliness is based upon the duality of 'specific' and 'relativity'. The design attempts to communicate the exact impact of a given products, within the input/accuracy dichotomy, by expressing the processes which have occurred up until the point of purchase in the supermarket in terms of CO2e. The relative impact is expressed by relating the labelled products to similar products in the same category, which may substitute each other.

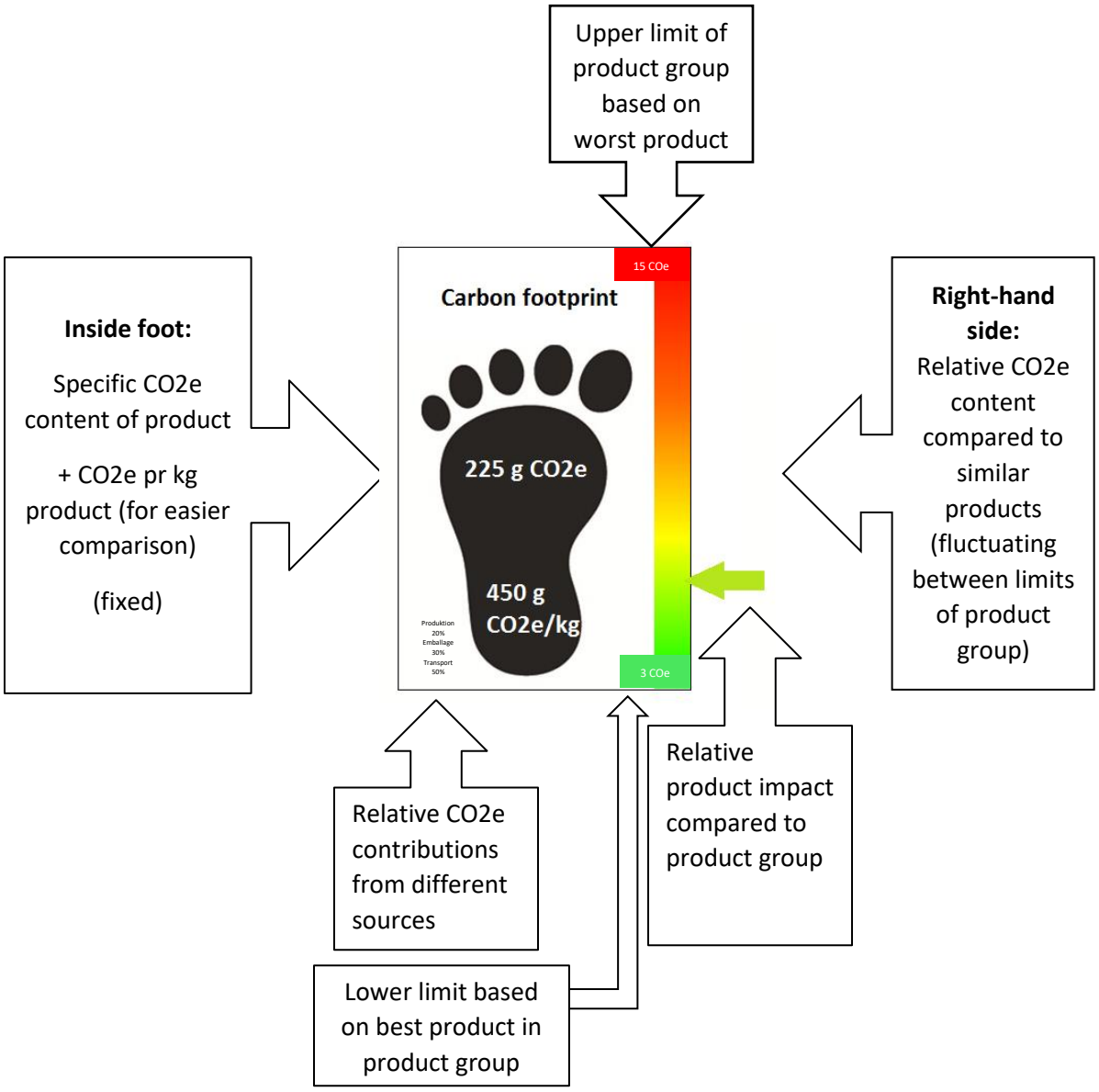


Figure 23 Design solution for a climate food label expressing climate friendliness

The product groups are decided to be narrow and focused on the high emission products, such as animal produce and some contrasting low emissions groups. This design aspect is up for negotiation, but it is recommended to maintain the product group to let users select between products, which can substitute each other. The recommended starting product groups may include:

Beef, pork, chicken, dairy products, bread, cereals, fruit, vegetables, other

This is a very crude start, and should be expanded gradually as more products become labelled. Using these product groups give an intuitive way to select between different types of the same product, using the green-red scale without having all types of meat fall into a "red" category, which would make it hard to distinguish between different types of meat, thus defeating the intended purpose of using the label as a selection tool. The purpose of this approach is to gain a broader adaptation of the food label, as it does not moralize consumers as much as a version of the food label without product groups.

It is accepted that all processes cannot be included, and even those who can be included may not be accurate. However, if the method of inclusion remains comparable, it is considered a usable result as the impact is equally skewed.

There are different standards of how to express emissions of both products and it is not certain, which may be the best, however among the candidates can be. GHG emission Scope 1, 2 & 3, PAS 2050 and ISO 14067. Especially PAS 2050 seems viable, as it is an evolving standard, which can take input from stakeholders. However, whichever standard is chosen, it should be backed up by national legislation, so there will be a consequence of falsifying or omitting data. PAS 2050 also have some vague statements, such as "all relevant processes must be included", which is not sufficient, rather all relevant processes must be specified and then the manufacturer simply must comply and deliver the required information from which a score can be calculated.

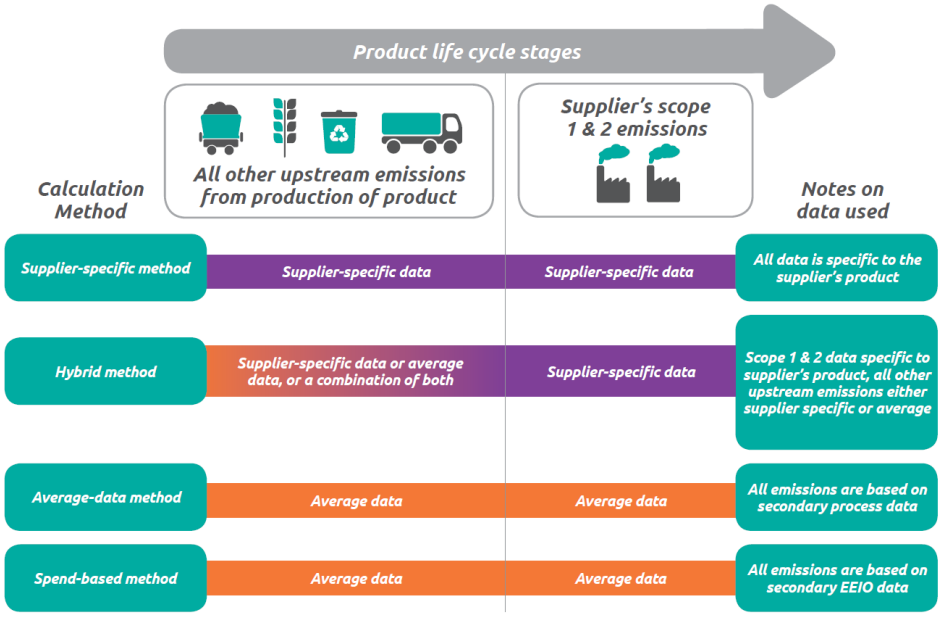


Figure 24 GHG calculation methods.(GHG, 2008, p. 21)

In addition to the framing, there are also choices to be made regarding the calculation method applied. As shown in figure 23 above, there are several methods for calculating the total emission from a products life cycle. It is understood, that some processes, although relevant, may be very difficult to measure, such as diffuse N_2O emissions (Boye, 2015). When easily available, it is preferable to use specific data, however, when it is not available, estimations using average data can be accepted, though it must be noted that by using average data, the competitive aspect of improving the process is eliminated.

The main areas of interest are the manufacturing, the processing, the packaging and the transport.

Manufacturing:	The usage of fossil fuels, heating, cooling, electricity, fodder, estimated soil emissions, manure emissions, direct emissions
Processing:	The usage of fossil fuels, heating, cooling, electricity, direct emissions
Packaging:	The materials used, usage of fossil fuels, heating, cooling and electricity
Transport:	The fossil fuels used in all steps of transport until the supermarket shelf

The extraction of raw materials, the purchasing of equipment and the amount of labour going into the production of the products is excluded, although relevant, the boundaries would be extended so far, that the cost is expected to increase dramatically without giving a much more accurate picture, it would be unjustifiable. However, as a result of this the upstream can also reinvents in new manufacturing equipment and is left without incentive to reduce, reuse and recycle on this aspect.

The design solution does not represent an invention, both LCA, carbon foot print and food labels has been around for a long time. However, by applying those three together, the utility they afford changes, as was the case of the British postal service.

"The product or service it carries may well have been around for a long time – in our first example the postal service, it was almost two thousand years old. But the strategy converts this old established product or service into something. It changes utility, its value, its economic characteristics. While physically there is nothing new, economically there is something different." (Drucker, 1986)

By making the complex knowledge of LCA and carbon footprint analysis available to consumers in an easily understood format, such as a red-green scale, the innovators notion is that it may help consumer use this in their decision-making process, if they desire to do so.

"Hill created utility. He asked: What do the customers need for a postal service to be truly a service to them? This is always the first question in the entrepreneurial strategy of changing utility, values, and economic characteristics. In fact, the reduction in the cost of mailing a letter, although 80 percent or more, was secondary. The main effect was to make using mails convenient for everybody and available to everybody. Letters no longer had to be confined to 'epistles'". (Drucker, 1986)

These quotes lead to believe, that it is not necessary to invent something new entirely, but rather recompose what is already there into a format which is convenient for everybody and create utility for the costumer, so that they may apply the existing knowledge of LCA, carbon footprint and food labels to help guide their choices.

The last of these innovative strategies delivers what is 'value' to the costumer rather than what is 'product' to the manufacturer. It is actually only one step beyond the strategy of accepting the

customer's reality as part of the product and part of what the customer buys and pays for. (Drucker, 1986)

The quality assurance of the label can occur through sample testing of the documentation provided for the label, conducted by the government body involved in the network. To add to this quality assurance, the documentation could be transparent and publicly available, so that consumers may call it into question and alert the authorities about suspicious numbers.

Sub-conclusion

Even when merely considering the design choices laid out, there are a wealth of different of combinations possible for creating a label approaching the infinite. The purpose of laying out the three initial concepts is to talk through some of the possible extremities of possibilities, such as the general/specific dichotomy, each extreme has an advantage and disadvantage. In the case of the latter, the general approach is cheap and is easy to apply and the specific approach is the most accurate and trustworthy, however both pays a heavy price for their extremity. The general approach is inaccurate to point of being almost useless and the specific approach is impossible to implement in real life and will be insanely expensive if attempted. Therefore, the conclusion to be made is that the answer does not lie in following either of these extreme, but rather in a well-balanced compromise between them, encapsulating the most of each of their positive aspects. What is needed is the middle way.

With the learnings from having considered some of the extreme design options, the innovators attempt at a middle way is presented below as the final concept. Although, it is noted, that in the sense of being ready to truly implement, it is merely a first conceptual iteration which needs further work.

"On the one hand, it leads to a singularization of the good (so that it is distinguished from other goods and satisfies a demand that other goods cannot meet). On the other hand, it makes the good comparable to other existing goods, so that new markets are constructed through the extension and renewal of existing ones." (Callon & Méadel, 2002, p. 201)

To influence consumers through changed qualities, it is noted that the supply side alone doesn't wield sufficient power nor credibility.

"There is no reason to believe that agents on the supply side are capable of imposing on consumers both their perception of qualities and the way they grade those qualities" (Callon & Méadel, 2002, p. 201)

Instead, the innovator needs to find appropriate agents to represent all the different actors in the network, such as an independent audit agency or the government, consultants, retailers and manufacturers, which can build credibility around the qualities expressed in the label. Here the proposed design solution may act as an interessement device.

Many of design options are negotiable and both can and should be define in collaboration in the network. The design solution should in this regard be considered an initial proposal for the network to take their outset in. However, a few aspects of the label should be fixed, as it would otherwise become radically different, and possibly not even serve the same purpose anymore.

- There must be an independent party in the network, which has no monetary interest in the network, which should help build legitimacy.

- There should be product groups to avoid moralizing consumers excessively and labelling all meat and dairy products in red. The usage of product groups promotes using the label to select a better alternative within the same group of products.
- The label should communicate the specific value of CO2e, which should serve as a boundary object between businesses to compete on, and deliver further in their value chain. It can also be used by consumers, who are interested, but this is a secondary purpose, however it may build further legitimacy to be transparent about specifics of the calculation.
- The label should communicate the relative impact is based on the product groups and should help guide the consumer to choose between similar product, based on an intuitive green-red scale, which allows for intuitively picking out products.
- There must be a rigid and transparent framing, although the the specifics of the framing can be negotiated. Estimations may be fair game, but it must be specified exactly how these estimations are made for the sake of transparency.
- The food label must be continuously updated, though the interval can be negotiated, it is imperative that this update occurs as this is the incentive to improve the means of production.

There may be promise in creating a food label to express climate friendliness, However, there are still aspects, which can't be solved by a label. A critique of the design solution can be summarized to include.

- Does not account for food waste in the super market nor at home for the consumer.
- Neither does the food label account for the transportation from super market to home.
- Does not consider environmental issues, which cannot be expressed in CO2e.
- Does not include animal welfare, health, nutrition, water usage
- Cost of producing numbers may be prohibitive
- Must label several similar products to allow for comparisons.
- Difficult to produce accurate numbers

7. Discussion

Through this report numerous challenges associated with designing and implementing a market device has been discovered. These challenges range from the ensuring there is an interested target group, the specifications of the label, the network around the label to the added cost and benefit which the label provides. In this discussion, some of those challenges, which are deemed the most urgent are discussed.

Input vs accuracy dichotomy

There is a trade-off between the accuracy of the numbers produced and the cost associated with gathering and inputting the data to achieve that accuracy (Birch, 2016). If the label becomes to inaccurate, although cheaper, it may become so generic, that it is comparable with the CO2 thermometer, which doesn't allow for the consumer to choose between similar objects, or perhaps it will be so inaccurate, that it will lose trustworthiness. On the other hand, making it too specific, may increase cost way beyond what most consumers may consider justifiable, thus losing the target group.

Cost / benefit controversy

The benefits of creating the label, must outweigh the cost of creating the label for all parties involved. For the manufacturer and the retail, this must be true in a strictly economic sense, however for the consumers and the state, other factors than price may be considered as beneficial. The cost must be "justifiable" as learned from the interviews, which will be difficult to obtain at first, but it may gradually decrease with more collaborators and higher turnover through an economy of scale. The first product may be insanely expensive to map, but the last product to be mapped, will benefit from improved practices and an improved framework. This was the case for Danish ecology producers, who since the implementation of the Ø-mark has continuously lowered their prices on ecological products. Therefore, it is reasonable to assume that the same may occur for a carbon label, although the time frame for this may be decades. The management of the label, such as quality assurance, may also be expensive at first, as it will require specialist, however it may also decrease in time, through automation and smarter practices.

Framing and overflow of CO2e quality

It is essential to ensure a fair playing field between manufacturers, partially because of fairness principles, but more importantly to ensure a usable result. This is to avoid speculation in "outsourcing" some activities to obtain a better CO2e score, which would obscure the intended transparency of the label. Furthermore, even with fair play from all parties, the result may be skewered due to inadequate framing of what counts, such as diffuse emissions from fields (Boye, 2015) or fodder to cattle, thus misleading the consumers. The network must agree upon a value architecture and quality assurance system. Currently, there is no universally accepted of calculating the carbon foot print of goods, and as such any attempt to do so may be contested.

"But numbers also lay themselves open to contestation: a tentatively established fact may thus be turned back into an issue if scientific." (Doganova & Karnøe, 2012)

However, this controversy should be embraced and be used to clear up any doubts the critique raises or even improve the current framework further. Through transparency regarding what counts and what

doesn't a debate may be initiated, which hopefully can aid in conforming the notion of what counts and how it does so.

Interessement of actors

The difficulty lies in how to make them align their interest to achieve their own agendas with help from each other. It will require persuasion to interest the different actors into participating in the proposed network, but is considered necessary to avoid what happened to both Tesco's and FDB's plan for a carbon footprint label, where in both cases they had insufficients partners, and in both cases failed.

Consumers: First movers define values, climate friendliness, which other next movers (Fødevarerådgivningen. Økologisk Landsforening, 2015)

Manufacturers: Use CO2e to position themselves on market, works for their advertisements and justifies higher costs (Skov, 2015)

State: See this an opportunity for the market to minimize their emissions through competition rather than regulation. Helps towards lowering emissions without making unpopular regulations

"In Chapter 4 of Agenda 21, unsustainable consumption patterns in the developed world are targeted as an area for major concern and consumer information is given high priority (United Nations, 1992)" (Carlsson-Kanyama, 1998)

Consultants: Apply their expertise, make their field more important, increase funding's.

Retail: Use the label to bolster their CSR position

7.1 Different conclusions on the subject

Through the search of literature different points of view on the subjects were discovered, which partially aligned with the proposed design concept. These will be briefly presented put in context of the design concept.

"A numerical product label will not provide a frame of reference within which consumers may judge product-related emissions. A 'best-in-class' approach or product sector banded approach that provides a traffic-light' or A-G rating system, as is currently used for rating the energy emissions of white goods, should be developed." (Upham & Bleda, 2009, p. 4)

The argument against a numerical product label is based on the lack of standards, which indeed is problematic, however, this should not deter attempts to apply to perform LCA, but rather encourage it to develop a best practice through trial and error and being transparent about the uncertainty associated to the numbers. The second part of the argument however is more aligned with the design concept and argues for a 'traffic-light' system, which is a simple heuristic for consumers to add to their valuation. The innovator argues, that it does not have to be one *or* the other, but rather it can be both.

Another main point, which is argued is that.

"In terms of GHG emissions reduction, the main benefits of carbon labelling are likely to be incurred not via communication of emissions values to consumers, but upstream via manufacturers looking for additional ways to reduce emissions." (Upham & Bleda, 2009, p. 5)

The innovator agrees that upstream optimization will yield the greatest changes in terms of GHG emissions reduction, however there must be a push for the manufacturers to ensure those optimizations, which in themselves may not be economically sound, but paired with an increased value of their products or better positioning in the market, due to consumer demand, it suddenly may become economically sound to do so.

"It is recommended that sustainability is communicated as a continuous process, where the actor/manufacturer/producer continuously tries to become more sustainable and were there may be challenges and victories on this journey. It can be difficult for the consumer to figure out how sustainable different types of food truly are, and there is a demand for a more transparent story about the 'environmental account'. Here a certification scheme can make it easier for the consumer to navigate" Translated from (Seges, 2016, p. 7)

So far, the innovators agree, it is exactly the purpose of the design concept to empower consumers to make an informed choice, however, Seges' conclusion takes a sharp turn.

"However, on the contrary a certification scheme would also contribute to lock-in and counter-act the message of sustainability as being a journey and a common project, where there are many solutions towards the goal. A certification scheme is therefore not the answer." Translated from (Seges, 2016, p. 7)

Here, the innovator is left wondering. It seems, that they assume any certification to be equal to a minimum requirement, which the innovator agrees is bad, as it does not encourage to go above and beyond, however, it doesn't have to be so. A certification could also be a framework, wherein many solutions all can contribute their part to a more sustainable product, in the aspect of climate friendliness.

8. Conclusion

The focal point of this assignment is the double movement of designing a conceptual food label while also moving the actors into their intended role. During the investigation of both, challenges were discovered, which must be overcome to successfully implement the suggested concept.

What challenges are associated with designing a food label to enable consumers to select their products based on the CO2e of the product?

It is possible to reduce the consumption of an ordinary, healthy and nutritious diet to sustainable levels, even without banning meat, however this requires changes both from the conscious consumer regarding, what they choose and how they choose it, as well as the entire upstream supply chain, which needs to adapt to delivering lower emission products and services. This could be expressed in a food label. A food label expressing CO2e could act as a boundary object for the actors involved in the network, which allows businesses to compete on low emissions products and services and allow consumers to select more climate friendly products.

Currently, there are a wealth of market devices and climate advice, which all can guide consumers to make a more climate friendly choice, however none of these solutions can provide feedback on the specific consumption. It can be difficult, if not impossible to gauge the impact of the different choices available and thus it is cannot be employed rationally in decision making. There is a potential to use a food label to solve this issue.

The major challenges for creating the label are

- Assembling and maintaining the network
- Stabilizing the quality of CO2e in the valuation frame
- Cost of producing numbers

To be successful with a food label, such as the proposed design solution, it is crucial to build a network around it which can foster trustworthiness through recognition and transparency. The participants of the network must be mutually interested in participating by having ensuring that the value of participating outweigh the cost of participating, economically for businesses, though the value can be more intangible for consumers and the state, who may hold “higher” values such as sustainability. Businesses such as the retail and the manufacturing aspect can use a food label to position themselves on the market and charge a higher price for their products. The government can use the label as a part of a strategy to lower the overall emissions food production, without creating too much opposition.

From the interviews, it was learned that, at least some, consumers do care about the climate and actively use heuristics to guide their decision making. There is a desire make a good choice on every possible parameter and there is a willingness to pay more for making a “good” choice, however this added cost must feel justifiable. The amount of qualities at play for the consumer is mind boggling and although climate friendliness is gaining momentum as a quality, it is not and most likely will never be, *the* determining factor. However, it may be a method of choosing between similar products.

In designing the label, there are a lot design choices, which can change the outcome of the label radically, though there is no right answer, there may be some answers which are better than other. The final concept is an attempt of providing the best answer possible, though it is realized to be flawed.

From the discussion, it was noted that mutual actor interessement, albeit difficult, seems possible. The value of a CO2e label can outweigh the costs of the same for conscious consumers and the trend indicates growth in this target group. However, at the same time if other users do not attribute it value, it will remain worthless to them.

Although no solution is ready for implementation and there is not yet a mobilized network as a result of a successful translation strategy, the project has been successful in the sense that is has built up an understanding of the mechanisms needed to active to achieve success, which is the foundation of the food label. Courage to continue is found in the quote from Callon.

> *"To arrive at this perceptive understanding of the mechanisms of success or failure, which is key to surmounting the gap between the participant in the innovation process and those who try hard to understand the process, we must not believe for a moment those edifying stories which retrospectively invoke the absence of demand, technical difficulties or inhibitory costs."* (Akrich, Latour, Callon, 2002)

9. Further work

The entire process of interessement, enrolment and mobilization still lies ahead, therefore it is crucial to expose the selected actors for the idea and learn their concerns. Follow up by inviting all those actors to a workshop and expose them for each other. Adjust the concept to accommodate those interested in participating, if necessary find replacements for those actors who are not interested, as all roles in the actor network must be filled to give a greater chance of success. To "kick start" the project, I would recommend there would be one actor, which is responsible for assembling the stakes and the holders and that this actor should be one, who is motivated for seeing the label become reality and wield sufficient power to influence the other actors. Of the actors mentioned, COOP, might seem the most relevant for such a position, but there are other candidates such as SEGES, Energi- og klimaministeriet or Danish Centre for Food and Agriculture which also could fill the position.

It is essential to get CO2e accepted as legitimate quality in the network. This can be done through metrological and calculative work, although numbers lay themselves open to contestation (Doganova & Karnøe, 2012), however, this is perfectly fine, as this discussion is bound to happen and having this discussion is the beginning of stabilizing and legitimizing CO2e as a quality. When the quality of CO2e is framed, there will be a task in making it cheaper to both produce knowledge required as well as managing the quality assurance of the label.

Even if the network should successfully converge and decide to proceed with implementing the concept of CO2e, then there is still a great task ahead. More manufacturers must be pursued to collaborate, either with the stick or with a carrot, i.e. the retail could refuse to buy non-labelled products if an actor in the network wield that sort of power or give a better price for the labelled product – or both.

The consumers must be educated in the meaning and usage of this new label, through marketing campaigns, advertising and possibly further in-depth information available, online, through APPs or elsewhere, to those who may seek it. The state must develop QA protocols and provide official representative to ensure the same level of credibility of the new label, as they already do for the Ø-mark.

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11. Process evaluation

The outset of this thesis was a personal interest in the climate impact of food and how to express it to a consumer. I was annoyed that despite "all my knowledge" and interest in sustainability I was clueless about how to go about selecting food in the super market and that it was virtually impossible to find a way to compare two products. I was annoyed with the current marketing of sustainability, which I considered and still consider demeaning towards consumers. It's a despicable combination of claims and storytelling, which paints and pretty picture, but leaves confusion in its wake.

I thought applying LCA thinking to the problem at hand was an ingenious solution, certainly, this approach could be fair, quantifiable and provide the consumer with an informed basis on which to make their decision. At first, I was rather surprised no one else had thought of it and thought "I'm onto something here!" until I realized through an interview with COOP that others, COOP and Tesco, indeed had thought of it and scrapped the idea again. That was a real downer, reality hits hard.

This changed the focus of the project from developing, what before was imagined to be a novel framework for expressing climate friendliness, towards analysing the challenges for implementing such a food label. Obviously, it was important to know that others had tried and failed, but the notion of the idea being "too good too fail" was taken apart and with it a lot of my initial enthusiasm.

The project dragged on with reading up on other food labels, their organization, strength's and weaknesses. A few more interviews were conducted with the Fødevarestyrelsen, an ecological farmer and Concito, which at the time felt useless. The departmentalization was staggering and they all had their own point of view, concerns and notions about how to go about changing the system, which usually was to point at someone else. This further undermined my enthusiasm and belief in my own idea and the thesis in general.

I sought refugee in reading news articles, reports and articles which supported my notion that it *could* be possible to implement a market device to express climate friendliness, however this only created a dichotomy between *what could be* and *what is.* It felt depressing.

At this stage, most the research conducted had deviated so far away from the report, that it became difficult to apply some of the researched materials. Some of the subjects studied were food ethics, soil emissions, agricultural best practice, traceability, consumer choice experiments, dietary needs, regulation for label and claim usage, climate change issues, food qualities, interview techniquies, food labels etc. I knew, that to some extent these subjects were connected, but it started to become enourmously complex and difficult to manage.

At this point, some consumers were interviewed, which although it felt like a hazzle and adding to the pile of confusion, did bring back some enthusiasm for the project. These consumers cared, they tried to select their products with climate friendliness in mind, albeit it was not the *ultimate* quality, but when they could decipher it through country of origin, product type, packaing or any other mean, they could be influenced by it. This revitalized me in some sense and focus was regained. The thesis was no longer about developing a framework for expressing climate friendliness, but rather about discovering the challenges, which are associated with trying to implement such a framework and make a design oriented solution based upon those learnings. The project was originally was concerned with trying to develop a method of quantification of climate friendliness turned into a project of qualification of climate friendliness.

For me the writing of the thesis has been a challenge in self-motivation and through writing it alone, it has really pushed me to become better at working and planning independently. By experience the initial chaos of complete freedom, with the (bi)weekly exception of a planned supervision, the necessity of a more rigid approach truly dawned on me. These plans were frequently made and just as often scrapped again, especially every time the project took a turn; however, they were always remade or adjusted accordingly. The planning helped me to navigate through an unpredictable journey and manage the inherent uncertainty of the project with shifting goals.

Through the writing of the thesis, a humility developed and a willingness to accept foreign knowledge, such as the learning outcomes of the interviews. It pushed me over the edge of believing in a *right* and *wrong*, what *is* and what *isn't*, and sent me hurling down into an abyss of what neither *is* nor *isn't*, but rather what *can be*. Though frustrating at times, when no true answer could be found and only interpretations and possibilities based on assumptions were available, the newly gained humility enabled me to put my own perceptions aside and accept foreign knowledge, so that I could work with it. Without my constant scepticism, it became possible to work with the theory, rather than actively working against it to dismiss it. The greatest barrier in learning and working with this knowledge has been myself and my own stubbornness, and while I cannot say that my stubbornness nor scepticism has vanished, I can say that I can subdue them both and work with what I would previously dismiss at face value without further thought. The theories applied, particularly actor network-theory and valuation frame theory, became accepted for what they *can be*, which suddenly allowed for more in-depth consideration of their affordances. The writing of this thesis has been an exercise in embracing, that sometimes there is no certain answers.

Though the project hit a phase, where it had deviated in a bunch of different directions and it felt way too complex, I managed to throw out *a lot* of the report, which did not pertain to the line of arguments that I was intent on making, which was a challenge in condensing the report and keeping focus on the essential parts and trying to emphasize them.

Appendix 1 – Interviews

While investigating the subject matter of valuation frames in choosing products four different actors (Retail, manufacturer, state and were interviewed in order to gain a clearer picture of their position and ideas. The interviews were not recorded, and thus the learning outcome is summarized here in the form of notes.

Signe D. Frese – CSR director of CO-OP

Learning outcome:

Danes are among the most price conscious consumers in Europe – i.e. price is *the* primary quality

Performing a LCA – using external consultants – was estimated roughly at 500.000 DKK and an annual fee to keep the figures updated. This is way too expensive to justify, and the expense would land on the customers, which would choice a cheaper supermarket.

There is a need to change people's diet when considering climate change (over consumption, food waste, high intake of animal products)

Climate is not a strong motivator, but personal health is. Thus it is more viable to ask people to take on a different diet because it is healthier, than because of it's climate impact is lower. A healthier diet is also more climate friendly.

From a consumer point of view it is easier to use the general diet advice (madpyramiden, kostråd, nøglehullet) than learning how to use a new label

- Consumers would tend to pick a better diet, although they cannot quantify it

The estimated market segment (by signe) is 10 % idealists, who may be interested ecology

- Of these 1% may be interested in climate
- The interest of the topic is rising

The amount of complexity involved in a precise mapping, is excruciating and it would still be difficult to verify these. Thus there is uncertainty which undermines all the precision in the world.

It takes several years and a lot of branding effort to inform people about a new label.

Costumers are in general curious about their food and would like more information (?)

There already exists a lot of information, however it is separated in silos and there is little to no monetary incentive to collaborate as is.

If it was to rolled out, it would be through a few selected trusted partnerships at first

If it was to be rolled out, it would problably start in Irma, which have a higher penetration of idealists (30%)

The challenges has become: How to split the bill?

- How to enroll actors to participate in mapping their products?
- Bland sundhed, klima og fødevareproduktion sammen

An interesting opportunity is to crowdsource the work? Requires a common platform with a template for user to put in data

Questions:

Hvor mange kunder (målgrupper) kunne have interesse I at bruge sådan en mærkningsordning?

Bruger folk allerede mærkningsordninger til at vælge deres varer? (fairtrade, økologi)

Hvilke udfordringer ser COOP ift. At implementere en ny mærkningsordning?

Hvilken prisdifference ligger der mellem konventionelle varer og "mærkede" varer"?

- Kan en mærkningsordning financeres af merpris?

Udfordringner ift. ernæring? → Kunder der overprioriterer miljø over ernæring? ()

Hvilken form for mærkning ville have mest interesse?

- Generel mærkning baseret på gennemsnitlig produktion
- Specifik mærkning baseret på aktuel produktion

Kunne COOP have interesse I at kortlægge sine egne produkter som en start?

- Ekstern mærkningsordning?

Kvalitetssikring

- Tast-selv system baseret på tillid og transperens
- Eksternt audit team

Sten Jensen – Landmand på Buresødal

Stor tillid til Ø mærket pga faste plus ikke planlagte kontroller.

Men dermed sagt ikke tilfreds over kravene til økologi, og ønsker skrappere krav

Mangler ”kvalitet” til at beskrive sine produkter. Ingen kunstvanding, andre produktionsprincipper etc. Ikke inkluderet i nuværende valuation frame – resultat kan ikke tage den ønskede pris for varen

Michael Minter – forfatter til Klimavenlig kost notatet, concito

Stort behov for ændret kostvaner

Svært at få påvirket forbrugeren i et supermarked, når de er ”fanget i vaner”. Forsøg i stedet at påvirke deres beslutningstagen når de planlægger at købe ind.

Pernille Lundquist Madsen, Sous chef i Fødevarestyrelsen afdeling for kemi og fødevarekvalitet

The quality assurance of Ø mærket is based on the farmers documentation, not their products. Sample testing does occur, however a negative result (i.e. found pesticides) here will result in written reprimands as no one is thought to have bad intentions.

Reference to “Paul Ottosen” who is currently implementing an animal welfare certificate in collaboration with the industry.

Reference to “the nutrition office (ernæringskontoret)

Clearly cemented that EU and Danish regulation are completely equivalent (to my great confusion, as it is stated differently on Fødevarestyrelsens webpage)

Fødevarestyrelsen takes care of food manufacturers and the ecological “spisemærke”. Natur- og erhverstyrelsen takes care of the agricultural production.

Stated that “regulations are gradually tightening” as opposed to the statements from the farmer from Buresødal. Then exemplified with certain previous exceptions to their rules, which have been dissolved (e.g. requirements for ecological aquaculture).

Stated that there are several ways to start a new label. Top-down political pressure coercing actors to comply, privately developed labels which are in accordance with the general frameworks of labels (not misleading) and interest organization applying pressure through lobbyism.

Friends, family and acquitances remarks on their personal consumption

"Ecology is preferred over conventional food, if the price is the same" – L. Witzansky (26 y)

"I only buy ecological goods if they are cheaper, I cant taste the difference" Henrik Høegh (53 y)

"I always try to get as much ecological food as possible, because I want make sure my kids get a healthy diet and avoid any chemicals" Eva Høegh (48 y)

"I have chosen to eat ecological for three main reasons: The reduced environmental impact (no pesticides, less fertilizer), personal health (not consuming toxics) and for ethical reasons in regards to animal welfare" Emil (24y)

Appendix 2 – List of interviews

Person	Type of actor	Purpose of interview	Date
Signe D. Frese	COOP representative, CSR director	Pitch initial concept, receive feedback	October 2016
Steen Jensen	Manufacturer representative, Ecological farmer at Buresødal	Understand perspective of manufacturer, knowledge of Ø mark	October 2016
Michael Minter	NGO representative, author of "klimavenlig kost"	Pitch iterated concept,	November 2016
Pernille Lundquist Madesen	State representative, sous chec in Food administration of chemistry and food quality	Ask specifiv questions regarding food labels, their regulation and their conception	November 2016
Peter Karnøe	Academia representative, author of "The innovator's struggle to assemble environmental concerns to economic worth"	Deepen understanding of valuation frame theory	December 2016
Emil	Consumer representative	First interviews, gauge consumer interest, try out interview techniques	January 2016
Lars	Consumer representative	First interviews, gauge consumer interest, try out interview techniques	January 2016
Philip	Consumer representative	Coding, transcription and analysis	January 2016
Louis	Consumer representative	Coding, transcription and analysis	January 2016
Lander	Consumer representative	Coding, transcription and analysis	February 2016
Lars	Consumer representative	Coding, transcription and analysis	February 2016

Appendix 3 – Interview transcripts

The coding of the interview transcripts occurred twice. First a hermeneutical approach was taken, which tried to condense the meaning of the interviews through interpretation. However, there was inherent uncertainty in those interpretations, and therefore another approach was attempted. The second approach aimed to be more phenomenological and only code the transcripts according to some preconceived questions.

For the first approach, the transcrips were re-read in their entirety and based on that a list of codes were developed, which, after reading, seemed the most relevant. With this list of codes, the transscripts were re-re-read and coded. The codes are in Danish, as the interviews are in Danish.

Skinner (ift. adfærd)
Rogerian (ift. følelser)
Freud (ift. forældre)
Rationalisering (i modsætning til følelser)
Kvaliteter (i relation til produkt, process, opfattet kvalitet og QA), derunder
- Miljø
- Sundhed
- Pris
- Smag
- Naturligt indhold
- Process
- Klima
- Klimavenlig
- Lokale arbejdspladser
- Sociale forhold
- Transport

Meninger, derunder
- Positiv effekt
- Negativ effekt
- Forsigtighedsprincip
- Motivation

Anekdoter/eksempler
Erfaring
Heuristik
Priselasticitet

Interview 1 - Philip:

"Jeg vil vise dig en liste af kvaliteter, prøv at se her. Det er en liste af kvaliteter, som er fundet i litteraturen og igennem interviews, som udtrykker hvad andre forbrugere værdsætter ift. mad. Så kunne jeg godt tænke mig at bede dig om at udvælge de fem kvaliteter som er vigtigst for dig når du er nede og handle. Hvad ligger du vægt på?

Så ligger jeg mest vægt på pris, og øh, så ligger jeg mest vægt på smag, så ligger jeg mest vægt på sundhed til en vis grad, men nok, ja naturligt indhold nok mere i virkeligheden. Også, sååh. Så sundhed som sidste tror jeg. Det tror jeg, ja det tror jeg at sådan jeg vil rangere dem eller ikke rangere dem men vælge.

Ja, hvis du så kan forklare hvad betydning de har for dig?

Prisen, det er fordi at jeg er broke studerende, hehe, eller ikke mere. Smag, det skal smage godt ellers gider jeg ikke købe det. Naturligt indhold, jeg vil gerne undgå så mange tilsætningsstoffer som muligt. Og ja sundhed, ja det siger lidt sig selv.

Hvad for eksempel med det naturligt indhold hvorfor kunne du godt tænke dig at undgå de her kemistoffer?

Det er fordi at der er meget af det, hvor man reelt ikke har en forståelse hvilken indvirkning på kroppen de har. At de bare er blevet tilladte fordi der er nogle producenter der har betalt for at de skal blive tilladt hurtigt.

Er det sådan et forsigtighedsprincip du kører?

Ja, det er det nok mere end noget andet. Altså mange E numre dækker jo over over helt almindelig ting ikk, citronsyre eller whatever ikke, helt normale ting, men øhhh, men mange andre dækker jo også over.. noget som man reelt ikke ved hvilken indvirkning det har på kroppen over længere tid, så hvis man kan undgå så meget af det som muligt, så har man da sorteret meget af skadevirkningen fra.

Jaja

Så er jeg også lidt nysgerrig i forhold til sundhed? Hvordan vurderer du en vares sundhed?

Vare's sundhed. Ja, Jamen, det er jo nok igen at det ligger tæt sammen med naturligt indhold. En sund vare er ikke nødvendigvis en fedtfattig vare eller en light vare, men en vare som er så tæt på det naturlige vare man kan få.

Så du vil ikke have det særlig forældet?

Ja, nej, præcis.

Så det skal være råvare?

Jah, mere end det skal være, hvad hedder det, sådan, "processed" foods.

Ja?

Ja. Helt klart

Øhm, Er der andre ting udover de kvaliteter der er nævnt her som spiller ind når du er nede og handle?

Øhm, med grøntsager, mest grøntsager og kød, der øh, der spiller lokal produceret ind. Helt klart.

Hvordan spiller den ind?

Det er mest fordi at man ved f.eks. at mange spansk produceret grøntsager, bliver produceret under nogle mildest talt kritisable forhold og at jeg så synes at kvaliteten af de grøntsager i sidste ende er væsentlig dårligere end det du kan få som er lokal produceret.

Når du siger kvalitet, er det så smag du referer til?

Ja, det er mest af alt smag, men også konsistens i virkelig. Du ved når man får en af de der spanske tomater som er helt vandede og hårde i det. Det smager heller ikke godt. Det er mest smag.

Ja. Hvad tænker du så når du siger at det bliver produceret under dårlige forhold?

Ja, det er klima inde over det i sidste ende i virkeligheden ik. Det sviner af helvedes til med alt for meget gødningsmiddel, de har kæmpe drivhus arealer som er ja dækket over med en hel masse plastik og de

bruger vanvittige mægnder pesticider, ja. De prøver at putte steorider i deres produktion i virkeligheden.

Så det betyder også noget for hvordan en vare er kommet til verden?

Ja, men jeg ved ikke hvor meget jeg tænker over det, når jeg står dernede. Altså, medmindre at man kan se det på varen, at der er sådan en ligbleg tomat, som har været fragtet verden rundt, kontra en dejlig rød tomat i sæson i danmark, så vil jeg vil helt klart forestrække det (sidste). Selvom der også er drivhustomater i danmark, sæsonvarer vil jeg gerne se mere af og jeg synes egentlig at det ville være rart, hvis der kom større bevidsthed i butikkerne om at føre sæsonvare og så må forbrugerne ligesom bare indse at det ikke er hele året at du skal den ene og den anden ting, altså hvorfor skal vi have appelsiner hele året, når appelsiner reelt kun er gode om vinteren?

… Ja.

Jeg kunne godt tænke mig at spørge til, hvor vigtigt er det at mad er klimavenligt for dig?

Jeg tror ikke, at det er som sådan er en overvejelse jeg gør direkte, men mere sådan en overvejelse der kommer med, når alle de andre faktorer bliver lagt sammen. Fordi naturligt indhold, sundhed og lokal produceret, det hænger tæt sammen med klimavenlighed, ik.

Det gør det.

Ja, det vil jeg i hvert mene at det gjorde.

Hvor stor en, det er lidt svært at kvantificere selvfølgelig, altså hvor meget værdi har det for dig? Altså hvor meget kunne du være villig til at gå på kompromis med smag, sundhed, lokal produceret ift. til pris?

Øh, til en hvis grænse. Og jeg kommer helt sikkert til at købe mere lokal produceret og mere økologi og bedre kvalitet, når jeg får flere penge. Ingen tvivl om det, ingen tvivl om det. Fordi det er bare bedre, bare generelt.

Føler du lidt at det er lidt en midlertidig nødløsning?

Ja, det der en nødvendighed. Sådan nogle kyllingefilleter der er pumpet op med saltvand, det er det jeg køber, men det er ikke det jeg egentlig gerne vil have.

F.eks. er jeg begyndt at købe økologiske æg konsekvent, fordi jeg har fundet ud af at den ekstra pris der er synes jeg retfærdiggøres ved at smagen er bedre og øh ja, egentlig bare mest smagen er bedre og kvaliteten virker bedre. Jeg synes, at det virkelig at det er håndgribeligt med æg. Der kan du fandme se det, når du selv har haft høns, så ved du hvordan et æg der kommer lige ud af røven på en høne skal se ud, og det gør de der skrabeæg bare ikke.

Så det er meget det visuelle du bedømmer dem på?

Og smagen, helt klart. Og der er klimavenlighed super svært at få inkluderet i det der, fordi jeg vil jo gerne have at de økologiske æg er mere klimavenlige end de konventionelle æg, men det er de jo ikke nødvendigvis.

Ja, der er et tradeoff mellem konventionel og økologisk produktion.

Men der må du jo bare indstille sig på, at ikke spise så mange æg om dagen.

Ja, det er nok den bedste måde at gøre det på.

Jeg vil gerne prøve at gå videre til at spørge om du bruger nogle mærkningsordninger?

Mærkningsordninger?

Ja, ligesom du sagde at du brugte økologi mærket til at udvælge dine æg. Eller fuldkornsmærket, fair trade, svanemærket.

Øh, Ja, svanemærket, jah lidt. Jeg tillægger det i hvert fald helt sikkert noget værdi, men jeg vil ikke sige at jeg navigerer ud fra dem. Der er det jo nok mest sådan at svanemærket, fordi hvis det er fuldkornsmærket, Ja det kan godt være at der 35% fuldkorn i, men resten af det er bare glukosesirup, og det er da på ingen måde det bedste alternativ. men jeg vil da sige at jeg bruger de der mærkninger til at navigere lidt rundt med, men jeg er ikke helt ukritisk overfor dem på nogen måder

Kan du give andre eksempler på hvor du bruger mærker henne?

Økologimærket ved grøntsager f.eks.. Der kigger jeg nok efter det, hvis jeg leder efter økologisk gulerødder, eller hvis jeg bare leder efter gulerødder og jeg ved at jeg foretrækker økologiske gulerødder, så vil jeg bruge Ø mærket.

Tillægger du den samme værdi til det danske ø mærke og det europæiske Ø mærke?

Jeg kan ikke huske hvordan det europæiske Ø mærke ser ud.

Det er sådan et grønt blad.

Nå, ja, det har jeg set. Der vil jeg stole mere på den danske. OG en af grundende til at jeg har mere tillid til svanemærket end andre mærket, er at de har en i hvert fald hvad jeg har hørt om en god historie. De har nogle gode principper og gode retningslinjer og de har ikke haft nogle underlige skandaler med stoffer som er tilladt, som ikke burde være tilladt.

Så du tillægget det (svanemærket) en høj troværdighed?

Ja og nok mest fordi, at det er et mærke der har strengere regler end kravet er til EU lande, så vidt jeg har forstået. Ja.

Så vil jeg gerne prøve at vise dig noget, et udkast til hvordan man kan lave et klimamærke.

Sådan et carbonfootprint?

Ja lige præcis.

Der er tre elementer i det her. Jeg kunne godt tænke mig at vise CO2e af selve varen, og så kunne jeg godt tænke mig at vise en CO2e/pr kg, så du lettere kan sammenligne den med andre varer med en anden vægt. Herfra tænkte jeg, at det stadig er ret svært at forholde sig til, 225 g CO2, er det godt eller er det skidt? Derfor tænker jeg at bygge nogle produktgrupper op, så du har en relativ rangering.

Altså min tanke er, at jeg ikke vil stå og forholde mig til nogle tal nede i butikken. Jeg vil have et eller andet mærke som, hvis jeg skulle navigerer efter carbon footprintet for en vare, så skulle det være grøn, gul og rød f.eks. og så kunne man jo bagpå varen have mere detaljeret beskrivelse af det. Men det skal bare være super nemt at navigere ved brug af det. men der jo nok ikke nogle varer der vil have et rødt mærke på sig.

Hvad synes du om idéen om at have en adskillelse imellem det generelle og det specifikke?

Ja, det er nemlig også en af de ting jeg synes er en god idé. Og det er også det med at have mærket, som er det relative mærke, som siger ”her har vi en grøn vare”. Det er rimelig relativt. Og så har man så adgang til information om det specifikke på en anden måde. Det kunne være at man havde et mærke og information nedenunder. I virkeligheden skal man kunne se alt hvad man har brug for at se igennem mærket, og så kan man så læse mere hvis man er yderligere interesseret.

Hvad tænker du om, at du sådan en grøn til rød rangering. Både for det relative, men så også for det generelle? Tror ud at det ville det virke eller ville det være forvirrende? Du kan se om det er en relativ grøn vare, f.eks. oksekød. ”Vi har lavet det bedste oksekød i verden”, jamen så kommer det til at blive relativt set grønt, men det er stadig det værste produkt? Hvordan vil du reagere hvis du så et produkt der var relativt det bedste, men objektivt set det værste?

Ja, øh. Det kræver lidt forståelse af mærkningen fra forbrugerens side. Ja, øh, det er et godt spørgsmål. Jeg tænker, at jeg bare gerne vil have noget der fortæller mig alt ved et blik. Den forbruger, som det der appellerer til ved jo godt at oksekød ikke er klimavenligt, så den der relative rangering er nok mere håndgribelig i virkeligheden. Der er jo svært at sammenligne hønsekød med oksekød, du går jo ned for at købe oksekød, og jeg tror ikke at jeg vil ændre at jeg vil købe oksekød fordi den var den dårligste vare ift co2 udledning.

Men vil du gerne have mulighed for at differentiere mellem forskelligt oksekød.

Ja det vil være udmærket.

Kunne du forestille dig selv bruge sådan et mærke hvis det blev introduceret.

Det kunne jeg godt, hvis det er nemt at aflæse, og jeg ikke skal vende pakken om og læse en masse information, men jeg kan navigerer 100% igennem den mærkning. Helt klart.

Interview 2 - Louis

Chosen qualities: Ecology, price, taste, sensual appeal, natural content.

Jeg vil gerne spørge dig om, hvilke kvaliteter der er vigtige for dig når du er nede i et supermarked og skal vælge en vare. Derfor har jeg lavet en liste af forskellige kvaliteter, hvorfra jeg vil bede dig om at udvælge hvilke der er vigtigst for dig.

Kigger liste igennem

Labels. Er det bare sådan en visuelt om det betyder noget indpakningen eller logo?

Det forståes som mærkningsordninger, som f.eks. økologi kunne lige under der, men det kunne også være fuldkornsmærket

Ja, ja, et eller andet stempel de har opnået.

Ja

"Pris, lokal produceret, climate… story telling. Kan du give et eksempel på det?

Ja, f.eks. hvis der står nede i Føtex, at her er vores Ludvig mesterhakket serien, der har gået på frie enge.

En gris der har løbet rundt på en mark og hygget sig, ja.

Natural content. Er det hvor mange E stoffer der er proppet i det eller hva? Packaging, det er så det hvordan indpakningen ser ud.

Mumler kvaliteter

Sensual appeal..?

Det kunne være hvis du ser noget rødt kød og du tænker at det ser godt ud, hvis det lugter godt eller frugten ser godt ud.

Hm… Prisen det er helt klart noget der betyder noget for mig, som min situation ser ud nu, altså som studerende. Da jeg arbejde fuldtid var det mindre vigtigt for, da jeg havde større økonomisk handlerum og kunne vælge frit, men nu er det som regel det jeg vælger ud fra, det er prisen.

Så er det. Jaaah.. Altså den der sensual appeal, med det røde kød og så videre, det har også…

Det har også en indflydelse?

Ja, det har det absolut. Altså står jeg med to pakker kød, så kigger jeg på hvad for noget ser bedst ud, så vælger jeg det der ser bedst ud, hvis prisen kan forsvares. Derunder ligger smag jo også lidt, altså taste.

Altså fordi det der ser bedst ud også smager bedst?

Ja, det er sådan.. det er som regel det jeg forventer. Altså det er jo ikke altid at det er tilfældet, men som regel er der jo en sammenhæng. Og altså økologi, det.. det kommer an på prisen, hvis jeg kan forsvare

den ekstra merpris det koster eller den ikke er så stor at det virker voldsomt på mig. Jamen så tager jeg til hver en tid et økologisk produkt frem for det andet, ikke. Eller frem for et ikke-økologisk. Så, ja, den er sgu lidt svær.

Hvad er det der gør at du gerne vil have et økologisk produkt?

Altså, det har hovedsageligt noget med kvalitet at gøre igen, at jeg forbinder økologi med noget kvalitet. Det er nok hovedsageligt det, selvfølgelig har jeg også det der med at jeg gerne vil støtte at det bliver produceret ordentligt og man ikke bliver fyldt med nogle klamme e stoffer og kemikalier og alt det der ikk. Men hovedsageligt er det ud fra et kvalitetsøjemål.

Nu er jeg lidt nysgerrig igen. Når du siger kvalitet, hvad tænker du så?

Jamen lad os tage en pakket hakket oksekød, jeg kan få en til 20 kroner med 7-14% fedt og jeg kan få en til 25 kroner med 3-7% fedt og jeg kan få en økologisk til 35 eller sådan et eller andet. Der er min erfaring bare at det er bedre kvalitet, det er ikke ligeså meget røvhuller og tæer fra en gris. Det er renere kød, det er bedre udskæring det er lavet af. Man finder ikke det er brusk som man gør i det meget billige. Altså det kommer meget an på hvad jeg køber, det er jo sådan. Hvis jeg vælger en grøntsag som er økologisk over en der er ikke økologisk, så er det måske ikke så meget pga. at jeg regner med at det smager bedre, så er det måske over i at jeg regner med at den er blevet produceret bedre, at den ikke.. øh.. at den er sundere. Altså fordi en grøntsag er lidt en grøntsag for mig ikke, så kommer det bare an på pris igen, og så forbinder jeg med hvis at jeg kan forsvare prisen på den økologiske, så vil den være sundere og bedre for mig, ikk. Så det kommer meget an på hvad jeg køber. Kaffe, der har jeg også tit oplevet at en økologisk kaffe, den har sgu været god, og det er nok også fordi at jeg tænker at der bliver kræset mere om det. Hvor det andet det er, altså det billigste kaffe du kan få den er også kvaliteten derefter.

Så i forhold til økologi, øhm, føler du at det hænger sammen sundhed og naturligt indhold, er det det jeg hørte?

Ja, det er det absolut. Altså det er hovedsageligt på et egoistisk plan, at jeg vil vælge økologi, fordi jeg har svært ved at rigtig sætte mig ind i hvad det betyder at jeg støtter økologien, men det er fordi at jeg ikke har *dyrket* det, jeg har ikke sat mig ind i det, jeg ved ikke præcis hvad, køber jeg en bakke æg, hvor den ene er økologisk og den anden ikke er, altså jeg ved ikke. Jeg kan tænke mig til hvad det handler om, hvad er hønen blevet fodret med og sådan noget. Men jeg ved ikke konkret hvad forskellen er. Jeg ved ikke hvor meget værre den ene, den ikke økologiske er for klimaet end den økologiske. Så det bliver sådan en egoistisk vinkel på det. Det er for mit eget bedste.

Så selvom om du ikke har nogen klar følelse af hvad det er, så har du alligevel en følelse af at der er en kvalitetsforskel mellem det økologiske og det konventionelle?

Ja, med de fleste fødevarer vil jeg sige ja. Det er vel sådan. Hvis jeg skal tænke over hvad der får mig til at sige det så er det vel en blanding mellem erfaring, det er en blanding imellem at pris ofte hænger sammen med kvalitet. Altså køber man en dyr taske eller dyr bil så holder den længere end en billig taske. Jeg regner også med at, ja, kvaliteten er bedre.

Så vil jeg gerne gå lidt videre og spørge dig om klimavenlige varer, om det er noget du tænker over når du handler ind?

Ikke andet, end at jeg har en ide om at økologi hænger sammen med klimaet. Økologi for mig det er mange ting, det er bade. Er det kød eller et eller andet så har jeg idé om at den økologiske gris har haft det sjovere end den ikke økologiske, jeg regner med at den, at det er bedre for klimaet uden at vide konkret hvorfor, men jeg regner med. Det er en association for mig igennem økologi, så det er ikke noget jeg sådan.. Altså hvis jeg står med to produkter, hvor ingen af dem er økologiske, så tænker jeg ikke over hvad der har været bedst for klimaet, har det været den her eller den her. Fordi så har jeg ikke noget, føler jeg ikke noget, at skille det ad. Jeg har ikke noget at vurdere det ud fra.

Så oprindelseslandet f.eks. er ikke så vigtigt?

Neeej, altså… Det er det sådan set … ikke… Altså, øhh… det det… nej. Så er det igen, at jeg måske med nogle produkter har en idé om at det er bedre hvis det er dansk produceret end hvis det kommer fra polen eller et eller andet i den stil, så er det igen i forhold til smag, kvalitet, øhm. Altså. Ja. Også fordi. Så kan man sige, at en tysk høne jeg køber I butikken I danmark, der er selvfølgelig en masse processer med hvordan den er blevet transporteret og hvad er vilkårene I det land frem for en der er produceret i danmark osv., men det føler jeg ikke at jeg har nok indblik i og ved nok om til at det bliver en faktor for mig, så det er . det er kun hvis jeg har en eller anden idé at det kvalitetsmæssigt kan svare sig at den danske, frem for den tyske eller polske eller hvad det måtte være.

Bruger du, nu nævnte du lidt at du nogle gange kigger efter økologi, er der andre fødevaremærkninger du kigger efter?

Æhm, så vidt muligt, shampoo, sæbe, rengøringsmidler. Altså igen, hvis det ikke koster mig mere, så tager jeg altid en parfumefri, en svanemærket. Fordi jeg tænker at den er bedre for mig. Der tænker jeg ikke at der er en kvalitetsforskel, måske tværtimod. En sæbe med parfume får mig nok til at lugte renere end en uden, men jeg regner med at den er bedre for mig. Der vil jeg kigge efter det, ellers kan jeg ikke rigtig komme i tanke om flere mærker som har noget indflydelse eller flere produkter.

Kigger du f.eks. på varedeklarationen når du køber ind? Altså hvor kulhydrat, fedt og protein der er i varen?

Nej, nej. Det gør jeg faktisk ikke. Altså. Kød kigger jeg på fedtprocenten, og det er ikke fordi jeg skal passe på med min vægt, men det er fordi min erfaring siger mig at noget hakket oksekød med 3-7% fedt er bedre end noget med 7-14% fedt. Det er der igennem. Nej, ellers så kigger jeg ikke rigtig på det. Det vil jeg måske nok gøre hvis jeg var stærkt overvægtig, så ville jeg begynde at gå op i det. Men som min situation er så kan jeg spise hvad jeg vil og det gør ingen forskel for mig, sådan, hvordan jeg har det, hvordan mit udseende er. Så nej det vil jeg ikke sige, nej.

Så det er primært økologi der bliver brugt, kigget efter en gang i mellem?

Jaah, hvis det er noget jeg kan spise så er det det. Og hvis det er noget jeg skal bruge, alt kan jo nærmest være svanemærket, sengetøj og sådan noget. Igen, hvis det ikke koster mig mere, så tager jeg det.

Kunne du forestille at det vil ændre sig når du får en større disponibel indkomst igen?

Det er jeg rimelig overbevist om at jeg ville. Så tror jeg at jeg i langt højere grad vil købe økologisk og svanemærket og alt det der. Fordi altså. Jeg synes ikke at man kan undgå at blive påvirket eller komme til at tænke over det, når der er så meget i medier om omkring hvad det gør for dig. Ja nu min søster er gravid og skal til at købe ind til at skulle have det der barn og det er jo også sådan, er det der tøj svanemærket eller hvad det skulle være.

Så der er en stor opmærksomhed der?

Ja, så det det.. Havde jeg penge til det, så tror jeg kun at jeg købte økologisk, så kunne jeg ikke se nogen grund til ikke at gøre det. Men rammer det mig på pengepungen, så kan jeg ikke forsvare det.

I din nuværende situation altså?

Ja, i min nuværende situation. Og det er igen fordi, at så ville jeg tænke at så fik jeg bedre kvalitet og så fik jeg noget der ikke skadede mig og… Fik ikke parfume eller allergier. Eller alt sådan noget.

Så personlig sundhed er i høj grad motivator?

Ja, det vil det være.

Så kunne jeg godt tænke mig at vise dig her til sidst et eksempel på et mærke, øh og sådan høre hvad dine indtryk af det er. Tanken er at man kan illustrere varens CO2 aftryk igennem produktionen og transporten og indpakningen af varen, så man kan objektivt set sige hvad varen indeholder af CO2 (ups, CO2e udledt i løbet af produktion, indpakning og transport, red.). Se hvor meget CO2 pr kg det så også er. Men tanken er at det kan være svært at relatere til de her tal, og derfor vil jeg lave en relativ rangering, så man kunne tage produktgrupper og rangere i forhold til hinanden, så det kan på den måde bruges til at vælge det gode alternativ.

Så min holdning til hvis det var på indpakningen, mit oksekød, ved siden af fedtprocenten og ved siden af økologimærket?

Ja.

Jamen, hvis det var så simpelt som den skala der. Fordi de der tal de siger mig ikke noget og jeg tror heller aldrig at de vil komme til at gøre det, heller ikke pr kg. Det vil jeg aldrig få en forståelse for, jeg vil ikke kunne huske hvad er gennemsnittet eller hvad er højt for den her produktgruppe. Men sådan en skala, hvor det er ligesom at købe en opvaskemaskine og den er energimærket A eller C eller hvad end det er. Igen, hvis jeg kunne forsvare det prismæssigt, så tror jeg da at jeg tog, den der lå bedst på den skala. Om, altså, øh. Jo, det ville jeg gøre. Jeg sidder bare og tænker over hvorfor jeg ville gøre det. Men på et eller plan går jeg jo op i miljøet og vil ønske at jeg.. I min optimale verden der blev jeg ikke stillet overfor et produkt der ville ligge i den røde skala, der vil kun være et godt eller okay produkt. Så det er ud fra det. Og så er det måske, den ved jeg ikke om jeg vil sætte min kvalitet på som jeg ellers har gjort. Fordi det er igen, at jeg ikke ved nok om hvad sådan et carbon footprint indebærer, jeg ved ikke nok om hvilke faktorer. Altså lad os sige jeg ser noget økologisk kød og så viser det sig at det er pakket ind i 10 lag plastik, og derfor er footprintet stort. Hvad fanden var min pointe.. Jeg tror stadig der, i den situation, der vil økologien nok vægte højere end foot printet, fordi jeg ikke ved nok om det. Kødet kan være super kvalitet, men indpakningen elendig og det vil jeg have svært ved at skele ad. Er det fordi der

er blevet brugt sindssygt meget tid at den her høne skal have det godt, og er blevet fodret med alle mulige forskellige ting, og derfor er der blevet brugt meget energi på den. Jamen derfor kan den jo stadig smage bedre end en høne der har fået det samme mad hver dag og måske har et mindre aftryk.

Men det er svært at differentiere mellem hvad kommer fra produktet og hvad kommer fra processen?

Transporten og alt det der.

Det er en god pointe.

Hvor du egentlig taget er mest interesseret I produktet, men så kommer der nogle andre ting ind over som forstyrrer billedet lidt?

Det er produktet, fordi jeg kan godt lide mad og jeg kan godt lide altså. Der er intet bedre for mig end at få et fantastisk stykke kød eller et skide godt æble. Det er sådan det der vægter højest for mig, hvis jeg kan forsvare det prismæssigt igen. Men jeg synes at det er en god idé hvis der var sådan en på, det synes jeg helt klart. Hvis det var så nemt.

Jeg har ikke flere spørgsmål er der noget du er kommet i tanke om som du gerne vil nævne?

Øhhh, næhhh. Det tror jeg ikke. Kan ikke lige komme I tanke om flere.

Tak for interviewet!

Interview 3 – Lander

Jeg er i gang med at skrive en opgave om hvordan folk vælger varer, når de er ude og handle, og i den forbindelse, så har jeg lavet en liste af forskellige kvaliteter, som jeg gerne vil bede dig om at kigge igennem og overveje, hvilke af disse kvaliteter er vigtige for dig når du er nede i supermarked.

Læser listen igennem

Hvad mener du med naturligt indhold?

Ja, det er godt, bare spørg hvis der er noget du er i tvivl om. Naturligt indhold, det kan f.eks. være at nogle vil foretrække at der er naturlig citronsyre, i stedet for en citronsyre som er et E-nummer.

Sanseindtryk, hvad betyder det?

Det kan f.eks. være at du ser kødet, det er virkelig rødt, det ser lækkert ud. Uh, den her vare dufter godt.

Skal jeg give dem numre fra et til ti eller sådan noget?

Nej, hvis du bare kunne udvælge fem af dem, og så fortælle hvorfor de er vigtige.

Hvad er det indginsf?

Indpakning, emballage.

.. story telling.. det er sådan noget marketing noget?

Ja.

Hvordan man…. *pause* Tager deres… Pause

Vil du gerne have en historie om din vare, f.eks. en fortælling om den process den er skabt igennem

Dsfghsfd hvad er det?

Næringsværdi?

Nej, øhhh.. humør.. Hvad betyder det i forhold til mad?

Godt spørgsmål. Nogle folk snakker om at deres valg er meget påvirket af det humør de er i, når..

afbrudt Nåh ja, altså min humør. Og bekvemmelighed, hvor nemt det er?

Ja.

Købe det i et nært sted eller hvad?

Ja f.eks.

Kan jeg lige få øh…

Ja, sæt nogle krydser og gør hvad der skal der til

pause

griner

Jeg tror jeg har det nu.

Ja?

Sundhed, økologi, pris, naturligt indhold og lokal produceret

Ja.

Kan du prøve at gå igennem dem og fortælle mig hvorfor de er vigtige for dig.

Hmm.. Måske er.. er, altså jeg synes måske lidt at det svært at vurdere hvornår en produkt er sund.

Ja?

Men jeg tror bare at jeg vælger ting, altså f.eks. når jeg skal have en marmelade, så tager jeg en, hvis det findes uden sukker, men måske mere øhhh noget øhhh naturligt sødestoffer

Ja

Ja, sukker er jo selvfølgelig også naturligt, men måske lidt mindre sundt, så tager jeg måske Agave sirup, hvis det findes. Det findes kun få steder. Men det gør jeg i hvert fald hvis jeg kan se det.

Så sundhed det er meget i forhold til om du bliver tyk af eller?

Nej, for mig er det mere, det kan være at hvert menneske har sin egen sundhedsprofil eller sundhedsmåde og for mig er det mere, som jeg har sagt før (interviewet, red.), at jeg måler lige for tiden at det ikke er for surt, altså i den balance, hvad hedder det på dansk?

PH skala?

Ja, det ja. Det er bare på nuværende tidspunkt, at det er min orientering for sundhed. Og så sundhed kan også, for mig have noget at gøre med at det er økologisk, men det kommer så som næste punkt.

Ja, men de kan sagtens lappe over hinanden.

Skal jeg fortælle mere om sundhed eller?

Ja, hvis du har nogle andre tanker vedrørende sundhed, så vil jeg meget gerne høre dem.

Jeg tror det hænger sammen med de andre punkter måske.

Altså, at det naturlige indhold også bidrager til sundhed?

Jaaah..

Og at det lokal produceret bidrager til sundhed?

Jah, men prisen måske ikke så meget. hehe

Ja?

Måske på en omvendt måde.

Kan du godt forestille dig, nu hvor du siger omvendt, at et dyrere produkt også er et sundere produkt?

Mhm, ja, det er det meste eller det kan jeg godt mærke at det er mest øh virker på den måde

Ja

Men det kan også. Det kan sagtens være at et sundt produkt findes billigere end det samme som er mindre sundt, men så er det bare mærkeligt. Eller så har man bare lykken, øh, heldet med sig.

Ja.

Øhm jaaah. Jeg synes. Jeg går bare over til økologi. Altså jeg er bare lidt vokset op med det, det er lidt inde i mit system, så at jeg føler mig tryg med de økologiske produkter. Øhm.. Og… det er måske også fordi, at økologi passer bedre til min smag. De produkter de laver eller sælger i en økobutik, økomad butik så, så kan jeg øhhh. Næsten bedre finde den smag jeg godt kan lide. Det meste er også lavet med lidt mindre sukker, eller man kan finde noget med spelt i stedet for. Og alt det der. Bare sødestoffer som rosiner, øh.. ja.. Det er en slags æstetik eller en slags smag med de produkter man finder i økologi øhm som jeg kan lide og forholder mig til på en tryg måde, så… Det sker ret tit at jeg ikke kigger på bagsiden, når jeg ser at det er økologisk, så tænker jeg bare ”det er fint nok jeg tager den”. Jeg gør det også fordi, men økologi tager jeg også, hvis jeg har en spaghetti som er økologisk og ikke-økologiske, så tager jeg måske den økologiske alligevel selvom den er dyrere, hvis det er sindssygt meget mere, så tager jeg alligevel den ikke økologiske. Det kommer an på hvordan prisen forholder sig, men når jeg har et valg mellem økologiske og ikke økologisk, så tager jeg den økologiske, hvis den ikke er meget dyrere. Ja. Og øhm.. Hvis jeg har to ikke økologiske, så kigger jeg faktisk meget på prisen.

Okay, så bliver det lige pludselig vigtigere?

Ja, øhm måske. Jeg har faktisk en stor fokus på pris tror jeg. Jeg er meget pris bevidst kan man sige. Altså så tager jeg nogle gange husmarked (budget serie vare???) fra en supermarked i stedet for den mærke som alle kender.

Husmarked?

Øh, i tyskland findes en butik, en supermarked der hedder DN, det har bare sådan, almindelig kosmetiske ting, men også fødevarer. Så har de nogle gange et produkt fra et marked som er meget kendt, men så har de også deres egen. For det samme. Det er bare det samme, men det er deres eget mærke og den er altid billigere og det synes jeg nogle gange er helt ligegyldigt, altså hvilket mærke det er. Øh, så tager jeg den billige pris eller den mærke fra supermarkedet selv.

Er det sådan, at når du føler at der er lighed mellem to produkter – at de er lige sunde, eller at de er lige økologiske – så begynder prisen at komme ind og afgøre valget?

Ja, hvis de begge to er økologiske, så kigger jeg også meget på prisen tror jeg. Eller så kommer jeg måske til at tænke ekstra på lokalt eller ikke(produceret, red.), så kommer der flere parameter, men i hvert fald også pris og… jeg kan godt mærke nogle gange, at produkter har sådan en ”story” som du siger. Eller de prøver at få et image, øh, ja. Så. Eller på den tidspunkt hvor jeg har to (produkter, red) og ikke kan vælge og.. prisen er ikke meget forskellig, først på det tidspunkt begynder jeg at kigge på story eller image, så der kan være at jeg kigger på hvad de har forskelligt imellem hinanden og så kan jeg ikke rigtigt forklare

hvorfor jeg skal vælge den ene eller den anden. Måske kan det være ting som lokalt, eller fair trade eller alt det der, eller hvor unge (???) de er… På en måde kan det også… Det er meget svært at tro på sådan en image der, men måske kan jeg få en, har jeg en svag innovation (??? intuiton, red) eller sådan noget. Så kigger jeg på emballagen, så siger jeg "når de har noget spændende kørende" ja, innovativt eller…

Så selvom det ikke nødvendigvis er troværdigt, så støtter man sig alligvel op af det – er det det jeg hører?

Øøøhm.. Jeg prøver at kigge igennem og se den virkelige historie, så jeg prøver ikke. Altså jeg tror at jeg som menneske ikke er særlig, altså man kan ikke få mig til at tro på en produkt, øhhh, fordi der findes reklame for det. Jeg tror at jeg har en omvendt effekt når der findes reklame til en produkt, så har jeg faktisk øhhh… *pause*

En skepsis?

Forstærkende en skepsis. Så tænker jeg nej, altså de spilder penge med advertisement. Det synes jeg ikke er spændende. Måske findes der et lille marked som har det samme og ikke fokusere så meget på marketing, for mig er marketing noget usympatisk. Men ja.. så jeg prøver at kigge igennem imaget og se hvem der står bag og hvordan det er lavet. Jeg ved ikke, det er bare meget afhængig fra sag til sag.

Det giver god mening for mig at du også interesser dig for hvordan det er lavet, når du også interesseret i økologi. Men hører jeg at du også interesserer dig for *hvem* der har lavet det?

Øhh iieiehuh puuuh…

Altså har du en blacklist over firmaer, hvor du kan sige dem støtter jeg i hvert fald ikke? Coca cola, nestle eller?

Det synes jeg at jeg skulle have, men det har jeg ikke. Jeg ved at der måske findes app, som tracker data fra et produkt, når du indtaster produktet, med hvilke større partnere de samarbejder. Alt det der. Men det har jeg ikke prøvet endnu, men det kunne være spændende, hvis det findes, så kunne jeg godt tænke mig at kigge på det, hvis alle produkter på en måde har sådan en CO2 afgift/balance eller hvad som helst… fairness eller bæredygtigheds grade (karakter, red) i forhold til andre. Også i forhold til tøj, jeg synes at det er så svært at sige. Det er måske lavet i Bangladesh, men det er måske lavet på en ikke alt for dårlig måde eller på en meget dårlig måde, men jeg synes ikke fordi at det er lavet i Bangladesh at det er dårligt med det samme. Det er bare svært at sige. Det kunne være fedt hvis der findes sådan noget lettilgængelig information om det i en app, men det har jeg ikke prøvet før. Det kan godt være at det findes, men så har jeg måske også en tanke om det ikke er til alle produkter, så skal man være heldig og finde noget information om det du lige skal bruge. Så ja.. Var det så prisen jeg talte om? *griner*

Ja, så med det her naturlige indhold, hvordan kan det være at det er vigtigt for dig?

Jeg ved at jeg nogle gange kigger på bagsiden af produktet, når jeg har sådan en situation hvor jeg skal vælge mellem to. Så kigger jeg godt nok på hvor mange E stoffer der er i den ene og den anden og så tager jeg den der har mindst af det. Jeg ved godt, at nogle E stoffer ikke er dårlige, men jeg ved ikke hvilke. Men som standard siger jeg bare at der er mindre i den ene, så må det være bedre, men måske er det jo ikke. Måske er den ene produkt, som har 10 E stoffer og den anden kun 5, men den ene med 10 E stoffer er bedre og de 5 er meget stærke. Det kan godt være, men jeg må sige at jeg indtil nu har valgt det på kvantiteten af E stoffer.

Altså minimere udsætning for dem?

Ja.

Er der andre ting du forbinder med naturligt indhold, end E stoffer?

Øhm. Mere sådan noget som uraffineret sukker, for eksempel i forhold til normal sukker.

Kunne det også gå videre til andre produkter, som f.eks. et æble der har fået et lag voks for at holde sig pæne?

Mhm. Ja selvfølgelig, men kan man se det med æbler? Altså.. På en måde øh. Ja faktisk, indpakningen synes jeg også er vigtigt, hvis jeg tænker på naturligt indhold. Så tænker jeg måske også lidt på indpakning. Det er.. ja… en naturlig måde at pakke det ind, altså ikke så meget plastik eller.. Det kommer jeg også mere og mere til at kigge på kan jeg mærke og øh. Men ellers, jeg synes at det er ret svært at hvilken ingrediens eller indhold der er naturligt. Jeg ved det ikke, hvis jeg nu kan tænke på mere end de der E stoffer. Men ja, det kan godt være at øhm at det på en visuel måde ser naturligt ud, at jeg så bliver lidt manipuleret af det, det kan faktisk godt være. Øhh jaah…

Og hvis vi så går videre til lokal produceret – hvordan kan det være at det vægter? Eller hvordan vægter det for dig?

Det er bare hvis de ikke skal have transport så meget. Ja det er lidt sjovt med lokalt, hvis der er mere end kun ikke transport. Hvis måske… Altså hvis det så mere er socialt eller sådan noget, det ved jeg ikke. Hvis det også indeholder det. Men jeg synes bare at det er fedt at det er lokalt så har man sådan.. Det er næsten lidt hyggeligt *griner*

Føler du at du har et tættere forhold til maden, hvis den er lokal?

Ja, måske.

Det er hr hansens æbler nede fra..

Ja! Lige præcis, så bliver det lidt mere personligt. Altså jeg synes det giver mening at det er lokalt produceret, men så på en emotionel måde er det også det der med at vide det. Øhm. *kigger afventende*

Ja, jeg synes det var super. Nå, så vil jeg gerne prøve at spørge dig om, når du er nede i supermarkedet, øhm, opsøger du så klimavenlig kost?

Ja, jeg tror faktisk. Jeg er ikke særlig konsekvent med at gøre det, men jeg kigger godt nok hvor det kommer fra, hvis det er Spanien eller Australien, det gør en stor forskel for mig. Øhm. Men hvis jeg nu har lyst til en banan, så køber jeg den alligevel. Øh, hvad var dit spørgsmål igen?

Om du opsøger klimavenlig kost når du er ude og handle ind?

Ja…

Altså hvordan du gør det?

Så er lokalt i hvert fald en stor del af det, jeg synes også at det er sjovt at kigge sæsonvarer. Øhm. Men jeg gør det faktisk baseret på prisen, når prisen er lav, så må det være sæson. *griner*

Ah, okay, jaja, altså sådan i forhold til grøntsager især?

Jaja, men det kan godt være at det kommer fra Kina eller jeg ved det ikke om Kina har noget med grøntsager at gøre. Men hvis jeg nu køber bukser, og de er billige, så må det være sæson *griner*. Ja, men det prøver jeg at gøre. Nu skal jeg tænke mig om, hvilke parametere der også er klimavigtigt. Udover hvor det kommer fra, jeg ved det faktisk ikke rigtigt…

Associerer du økologi med klimavenligt?

Ja, det gør jeg nok. Selvfølgelig.

På hvilken måde?

Fordi, øhm. Det er lidt sjovt fordi i går da jeg kørte i bil var der en samtale i radioen, hvor de snakkede om hvis man har en mark og bruger sprøjtestoffer, øh, så hvad man så egentlig gør er, man har kun et stof, som man giver mulighed for at overleve. Så er der faktisk mere død end der er liv. Og ja, det synes jeg bare lyder så mærkeligt eller bare som tanke er så mærkeligt, at der er så mange stoffer i jorden, at det på en eller anden må påvirke sundheden af jorden. På den måde tænker jeg godt nok at økologi giver mening. Jeg ved også godt, at fordi, fordi jeg har erfaring med økologisk landbrug og hvordan man arbejder der, at det nogle gange også. At prisen nogle gange, også kød, de midler de har, fordi de tager det i små mængder og de gør alt med hånden, at det så bliver dyrt. Det synes jeg nogle gange er lidt ærgeligt, fordi jeg kunne godt tænke mig at økologi er lavet professionelt med store midler. Selvfølgelig får man det i supermarked. Det der Euro, grønne label… øhhh..

Det europæiske økologimærke?

Ja. Jeg synes, at de har ret billige produkter nogle gange. Det må være at de har stor produktion med mange kvadratmeter pr vare. Øhhh. Det synes jeg.. Eller jeg vil sige, jeg er lidt nysgerrig hvordan kvaliteten er der. Fordi jeg vil sige jeg synes at monokultur er lidt det samme som sprøjtestoffer. Det er også ikke rigtigt sundt for jorden. Hvis du virkelig bare kører alt ned og planter et stof, altså en vare, det er måske også ikke særlig godt for øko.. øh.. området.. eller biodiversiteten. Det er også et parameter, biodiversitet måske. Øhm… Ja, så jeg synes det der med de mindre virksomheder som laver dyre produkter. Det har også noget hyggeligt. Det har jeg også lidt mere .. et… *pause*

.. et forhold til dem?

Lidt, så kan jeg godt betale lidt mere for det. De, øh, økologiske produkter som man finder billigt i super markedet, dem køber jeg alligevel i forhold til ikke økologiske, fordi de kun er små.. æhm.. mere dyre. Æhm. Men ja. Økologi til øh klimavenlig, det synes jeg bidrager.

Jeg er lidt nysgerrig nu, i forhold til økologi, at du kommer ind på det europæiske økologimærke. Føler du at der er nogle forskelle i de smage du oplever? Eller du du på nogen måde i forhold til det røde danske Ø mærke og den grønne europæiske Ø mærke?

Hvis jeg kan smage?

Hvis du simpelthen har oplevet nogen forskel eller at du har en idé om at der er nogen forskel imellem de to? Eller har du helt sidestillet dem, og økologi er bare økologi? Om det hedder demeter, Ø mærke eller Europæisk ø mærke.

Altså jeg ved at Demeter der faktisk ret høj kvalitet. Så for mig, er det lidt over euro. Altså med den danske, ja nu kan jeg sige, jeg synes også at den er lidt højere end euro. For mig, altså , den indtryk jeg har at det betyder lidt mere. Øh fordi øh. Så kan jeg snart tænke at det er en mindre virksomhed, som har lidt mere lokalt og alt muligt med i deres historie, så det synes jeg er lidt mere økologisk. Findes der flere mærker?

Øh, jeg kender ikke til flere.

Der findes tror jeg andre, med andre fokus. F.eks. har jeg en sæbe til mit hår hvor der står "vegan", det synes jeg er meget mærkeligt fordi så må det bare betyde at de ikke har prøvet det på dyr eller hvad? Jeg ved ikke hvad det nu kan betyde.

Der er vel ingen animalske rester i produkter?

Ja, måske kan det også være det. Altså jeg kan ikke tænke mig til at der i andre sæber at der findes dyreprodukter, men ja der findes mange.

Det er også en god marketingsteknik, fordi lige pludselig er så er de den eneste veganske sæbe, selvom alle er det, fordi de er de første der skriver det.

Lige præcis.

Det er meget sjovt. Nå ja, så vil jeg gerne spørge dig om det er værdifuldt for dig at en vare er klimavenlig?

Ja. Spørgsmålet er hvordan man måler det eller hvordan man opdager det, hvis det er overbevist, så er det ja. Selvfølgelig.

Det er rigtig at sætte ord på ens pris elastisk, men mit indtryk er at du har en pris elastisitet, hvis du har to vare og føler den ene er klimavenlig og den anden er ikke, så vil du være villig til at betale ekstra for den vare der er klimavenlig?

Mhm, ja. Det kommer an på hvor meget. Jeg synes, at det er lidt ubehageligt når den er 3 gange så dyr. Det kommer an på hvilket produkt, men ja måske… måske bliver det et hårdt valg der. Ja.. det det. Er.. øh.. Jeg ville ønske, at det ikke betød noget, prisen, når det handler om klimavenlighed. Hvis jeg nu kunne tænke mig at det var en rigtig stor forskel, fordi det er et bestemt produkt, der laver meget indflydelse, så kunne jeg måske tænke mig at købe den tre gange så dyr, men ellers så ja… f.eks. med spaghetti eller sådan noget, så tror jeg ikke at jeg gerne vil.

Der findes altså nogle rimelighedens grænser?

Ja.

Går du efter nogle mærker når du er ude og handle?

Ikke særlig meget. Men, f.eks. med marmelade, så kommer jeg lige til at tænke at jeg kunne, fordi ja. Når man handler i den samme butik i lang, så kan man jo prøve forskellige og så mærker man lige pludselige nåh de har altid en god smag. Så kan jeg måske også prøve et andet produkt for dem og så være lidt sikker på at det også kommer til at smage godt.

Hvad med i forhold til, hvis du ligesom ser økologi som et mærke? Er der så andre mærker du vil gå efter? Svanemærket eller øh, bæredygtig fiskeri eller…

Ja det gør jeg. Altså, selvfølgelig når jeg køber fisk, så prøver jeg at kigge på det. Eller æg og sådan noget, at det ikke er …*pause*

Skrabeæg?

Ja, netop. Men jeg synes faktisk at jeg ikke har særlig stor styr på i hvilken virkelighed altså hvis man får sådan en navn, at… hvad var det du kaldte det før?

Øh, fuldkornsmærket, nøglehulsmærket eller hvad?

Øh, de æg….

Nåh. Skrabeæg, undskyld!

Så ved jeg faktisk ikke helt præcis hvad det nu …

Hvor forskellen helt ligger?

Ja, så det er nogle gange tager man det bare for nemt. Og kigger nåh ja, det må være noget godt.

Så helt emotionelt, det må være bedre og det vil jeg hellere have?

Ja, men jeg ved godt, at de nogen gange ikke ved hvad det konkret er. Øhm. Hvad var spørgsmålet.

Om du går efter nogle bestemte mærker når du er ude og handle?

Hm, jeg prøver faktisk ikke at gøre det, men ja hm.. måske har jeg, hvis et mærke har en bestemt story som du sagde, og jeg kan godt lide det, så tager jeg måske også et andet produkt fra det (mærke, red). Sidst har jeg også købt tøj som var økologisk, og det synes jeg var sjovt, at få den viden om, at det jeg køber ikke er lavet af børnearbejdere eller store kemiske ting.

Så økologimærket er sådan set det primære mærke du bruger?

Det kan være det være at det er mit fokus, ja.

Hvis du hurtigt skulle opsummere igen, hvorfor er det at du bruger det her økologi mærke?

Hmm.. Det er bare fordi, at… Det må være noget politisk, det må være min filosofi. Det er mit ønske for verden, at det virker mere på den måde.

Du stemmer med fødderne?

Huh?

Du stemmer med fødderne, øh, med din pung?

Ja.

Så vil jeg gerne prøve at vise dig sådan et CO2 mærke jeg har lavet.

Har du lavet det?

Det er tyvstjålet, der er en organisation der hedder "Carbon footprint trust" og de har lavet den her fod, hvor der er lavet eksempler med at skrive CO2 indholdet ind for produktet. Og så synes jeg at det var værd at skrive CO2 indholdet per kg produkt ind også fordi ellers så bliver det svært at sammenligne lige pludselig og folk skal til at lave hovedregning og det dur ikke. Så tanken med den her, er faktisk at der skal være to aspekter af. Der skal være et objektivt aspekt, hvor du kan sige i løbet af produktionen, indpakningen og transporten af den her vare, der er blevet udledt så meget CO2 og så meget CO2 pr kg produkt. Øhm, men samtidigt med det, så vil jeg gerne prøve at have en relativ rangering af produkterne, så du kan have en kategori der hedder *oksekød, morgenmadsprodukter* fordi det kan være svært at forholde sig til de her tal, hvis man ikke har set dem før, så man kunne få sådan en grøn til rød skala, så man kan se hvor godt er det her produkt i forhold til andre produkter i den her kategori. Så det er tanken at blande det objektive og det relative sammen. Så vil jeg gerne spørge dig, hvis du kunne se sådan et mærke nede på produkter i supermarkedet, vil det så gøre en forskel for din forbruger adfærd?

Ja, i hvert fald synes jeg at det giver meget mening. Jeg synes, at det ville være super spændende hvis det kommer på alle produkter.

Hvad gør du dig af tanker om det, når du ser sådan et her mærke?

Altså, øh visuelt?

Ja, eller styker og svagheder. Hvad falder dig ind?

Jeg synes, at den pil skulle indenfor rammen.

Ja, det var en god idé.

Ellers, ja, jeg tror måske at det skulle være bygget op af en grafisk designer, men jeg synes at idéen giver rigtig god mening, at få de tre *synspunkter* på en let overskuelig måde. Jeg tror måske at en kunne være lidt større end den anden. Jeg tror måske at den CO2 pr kg skulle være større. Jeg tror den pr kilogram giver mere mening som du sagde i forhold til at sammenligne, men ellers jeg ved ikke. Hvis man køber cornflakes f.eks. det vejer ikke noget i forhold til…. Hvad nu… øh, tung mad…

Havregryn f.eks.?

Ja måske, måske vejer det forskelligt. Man spiser jo ikke. Hvis man spiste den samme mængde, altså, følelsmæssigt, så en tallerken cornflakes ift. en tallerken havregryn, det er en stor forskel i tunghed. Så.. øhm, hvad var det nu jeg ville sige? Ja, jeg vil bare sige at det giver mening det der kilogram. Stort set synes jeg det giver meget mening.

Hvad skulle der til for at du kunne få tillid til sådan et mærke?

Hvad, altså? Hvad siger du med andre ord?

Hvad skulle der til for at du ville stole på at det var korrekte oplysninger eller at det var en god måde at vise det på?

Ja, det kan man selvfølgelig give en lille vejledning hvor man kan finde mere information om det. Måske har de mere plads på emballagen, så man kan helt kort forklare hvad der indeni. Transport, indpakning og det du sagde, så kunderne kan se at CO2 prisen er baseret på den her livscyklus. Og så de helt kan de finde et andet sted, det kunne være meget sjovt hvis det er så let tilgængelig, at det bliver lidt interaktivt

næsten, hvis man ser det i supermarkedet at man så på den app eller hjemmeside finder forslag til et andet produkt som har et mindre CO2 udslip. Jeg ved ikke, at det kan lade sig gøre, altså på fri markeds måde. Men hvorfor ikke? Hvorfor ikke være ærlig om produktet og give kunderne en mulighed for at bidrage til bæredygtighed.

Tusind tak for din tid. Er der noget du vil spørge om inden vi slutter af?

Hm, nej det tror jeg ikke. Jeg synes, bare at du skal tage og gå videre med projektet.

Interview 4 – Lars

Først og fremmest tak fordi du vil snakke med mig.

Det var så lidt.

Jeg vil gerne starte med at præsentere dig for en række forskellige kvaliteter og så vil jeg gerne høre hvad der vigtigt for dig når du er ude og handle. Hvilke kvaliteter ligger du vægt på når du træffer et valg?

Ja.

Så jeg har en liste her med kvaliteter som andre folk har budt ind med i interviews og nogle kvaliteter jeg har fundet i litteraturen, og hvis det er noget du ligger vægt, som ikke er her, skal du være velkommen til at tilføje det.

Ja. Jeg løber dem lige igennem her.

Ja, giv dig endelig lidt tid

Pause

Øh ja. Det er dem her ovre, ikke?

Ja.

Så du vil gerne vide hvilke af dem der betyder noget når jeg handler fødevarer?

Ja lige præcis…. Eller hvis der er andre der også har indflydelse på dit valg.

Pause Øhm… Skal jeg bare vælge ud eller vil du have at jeg går dem igennem en af gangen og siger hvad jeg tænker om hver enkelt eller?

Ja, hvis det hjælper så kan du sætte et kryds, så du ikke behøver at huske dem i hovedet og så kan vi snakke om dem en af gangen.

Ja. Det kan jeg da lige, sådan umiddelbart i hvert fald. Den her. Jeg skal nok lige tage dem om lidt. Den der. Den der. Jeg har lige sat nogle prikker, i hvert fald lokal produceret er vi begyndt at prøve at være opmærksomme på hvis det er muligt, når vi køber fødevarer. Det er jo ikke alt pålæg der er nemt at finde lokal produceret, vi har trods alt fundet noget, men det er ikke altid nemt, men vi prøver at finde det. Specielt grøntsager til vores mad, prøver vi at finde lokal produceret, og hvis vi kan (finde det, red) også pålæg.

Ja. Hvordan kan det være at det er vigtigt?

Øhm… Det er hovedsagligt fordi vi tror at vi på den måde kan gøre noget godt for klima/miljø hvad pokker det end må hedde, ved at det ikke skal være produceret enormt mange kilometer her fra. Så prøver vi at købe noget der er produceret tættere på, så det ikke transport og så videre og alle de her ting og sager ikke. Så kan man sige at det kan også give nogle lokale arbejdspladser til vores lille nærområde. Det er også et parameter der spiller, men hovedsagligt at prøve at gøre noget for miljøet.

Ikraft af transport?

Transport ja, så vi har også set på et tidspunkt en udsendelse omkring noget fremstilling af fødevarer, og der synes vi også at fremstilling af fødevarer, nu skal jeg ikke hænge dem ud, men i det her pågældende land hvor de blev fremstillet. De var ikke særlig rare de her fremstillingsvilkår. Der er nogle danske virksomheder der kan gøre det bedre. Men hovedsagligt ja, som du siger noget med transport.

Men også noget med selve fremstillingsprocessen simpelthen?

Ja.

Der er større tillid til lokale, danske producenter?

Ja, lige i det her tilfælde. Det fyldte i hvert fald for os i en periode at der var større tillid til dem (danske producenter, red) end det vi så i den her udsendelse. Så ja, derfor lokal produceret.

Gør du dig nogle tanker om, altså lokal produceret, er det nabomarken, eller er det dansk eller er det europæisk?

Øh det. Øh..

For dig altså.

Vi kan jo ikke få det hele fra nabomarken, det vi kan få fra nabomarken eller hvis det er æg fra naboen, så er det fint, så er det det vi gør, men der er noget vi ikke kan få, så må vi udvide de her cirkler, alt efter hvad det er vi skal have og hvilke årstider vi skal have det på. Så det kan godt være at der er noget hvor vi må udvide cirklen til, det ved jeg ikke, Europa, det kunne være vin eller et eller andet, så udvider vi cirklen til Europa og prøver at købe Europæisk, hvis det nu igen er vin, så prøver vi at købe det europæisk vin, fremfor vin der skal transporteres fra New Zealand eller Argentina, som også laver fantastiske vine, men det gør de også i Europa. Så, så tæt på som muligt, hvis vi kan finde det, ellers må vi udvide cirklen. Hvis der f.eks. ikke er nogle der havde, bare som et eksempel, havde lammekød i vores nærområde, så må vi udvide det til sønder jylland f.eks. fremfor New Zealand lam.

Ja. Og jeg kan se at du også har krydset økologi af?

Ja. Det er også noget vi prøver at være opmærksom på. Jeg ved ikke om det er dyrkningsmetoden må det jo også være, hvad bruges der når man driver de her grøntsager frem, brokolli, gulerødder, der er vi også – prøver vi at være opmærksom på at finde økologi, så det, der ikke er tilført for meget ting man ikke har overblik over. Og det er jo sundhed, højst sandsynligt, måske er det sundhed og så videre. Også når vi tænker på det måde vi slider jorden på, miljøet eller hvad pokker det hedder ikke.

Så det er både hvad der kommer ind i dig og hvad der kommer ud i miljøet?

Ja. Og det.. Jeg ved ikke hvad der er vigtigst, nogle gange er jeg i tvivl om hvad der kommer ind i mig, det er jeg simpelthen ikke klog nok på det område til at vide noget om, jeg tror at det er godt at spise noget økologi, øh, så det gør jeg gerne. Men med hensyn til hvad vi kommer i jorden er det i hvert fald vigtigt for os. Så det er både, du har skrevet den på, sundhed ja, men det er helt sikkert også øh, den står her måske ikke, måske ligger den under økologi, men sådan noget med miljø eller hvad hedder det klima-miljø. Det kunne også stå på listen, det betyder meget for os.

Forstår jeg det rigtigt, hvis jeg summere det op som et forsigtighedsprincip?

Øh hvordan mener du?

Du sagde at du ikke havde så meget ind i, eller at du ikke var ekspert på det her område, men du havde en idé om at det var godt for jer eller en idé om at det var godt for miljøet?

Ja, det kunne man godt kalde et forsigtighedsprincip vil jeg tro, ja. Det kunne det egentlig meget godt være ja, øh….

Og du har et stærkt link imellem økologi og sundhed, eller de hører sammen… for dig?

pause

Det tror jeg, at det gør ja. Fordi økologi, det er som sagt to retninger. Det er både det som jeg håber og tror at det er sundere for mig at spise det i kraft af at der er en masse tilsætningsstoffer som ikke er gode for mennesker at jeg så slipper for. Og så er det også sundhed i vores, hvis man kan sige det, jord, altså på jordkloden. Der hvor vi dyrker tingene, der også betyder noget. Jeg er måske vokset op i en tid hvor at der lige pludselig en masse muligheder og medikamenter ift at drive afgrøder frem og det blev satme bare pumpet ned i, var jeg ved at sige, ud i jorden eller et eller andet og det var fantastisk hvad de kunne drive frem lige pludselig pr hektar eller pr kvadratmeter. Og det er så efterfølgende vist sig, ved at eksperter siger, at det ikke er sundt det hele og det er det jeg har svært ved i forhold til mig selv at vide, er det rigtigt/ forkert, men jeg tror at det er rigtigt at det ikke er sundt med alle de der mange ting der kommer i. Og specielt ikke i vores jord som skal afleveres til…. *pause*

Næste generation?

Generation efter generation efter generation, så hvis man kunne gøre noget der, så den kunne blive ved med at være god. Så det er sundhed begge steder. På det der jord derude og i os selv, så kan det godt være at jeg bliver snydt på nogle områder, men det er det jeg tror på.

Så kan jeg se at du også har markeret friskhed?

Ja.

Hænger det sammen med.. Ja, hvorfor er det vigtigt for dig? Kan du sætte nogle ord på?

Hm… Ja, det kan jeg godt. Jeg sad også lige og kiggede efter.. jeg kunne måske linke det lidt sammen med sanseindtryk, er der også en der hedder, den har jeg ikke mærket op, men jeg sad og tænkte på den sammen med friskhed. Vi kan godt lide friske råvarer, der er selvfølgelig nogle ting der ikke kan være friske, noget der skal bearbejdes, noget der skal ligge og hænge længe, oste og sådan noget, men øh, hovedsagelig grøntsager og brød og ting og sager af en hvis friskhed, kan vi godt lide. Det .. Sanseindtryk det giver en god smag. OG vi kan godt lide smagen af friskhed, det har en helt anden smag synes vi end nogen fødevarer, især grøntsager kan vi godt lide det. Og der er det igen tilbage til noget nærhed, noget lokalt, at det ikke er plukket før det er modent og så skal det modne under transporten eller via kemikalier. Jamen, øh, det er friskplukket eller høstet og så videre. Det kan vi godt lide.

Føler du også at det hænger sammen med lokalt produceret?

Absolut, ja at det netop slipper for den længere tids opbevaring og transport og at de ikke skal emballere det i speciel emballage for det ikke når at blive råddent og alt muligt, ikke eller kedeligt. Øhm. Det kan vi godt lide, og det er vi blevet mere og mere opmærksom på med alle mulige grøntsager. Fra gulerødder til brokolli til rødbeder og jeg ved ikke hvad, noget kan holde længere end andre. Ja.

Nu nævnte du emballage, gør du dig nogle tanker om hvordan en vare er indpakket?

Når jeg handler?

Ja.

pause

Jeg tror måske at jeg vil sige nej, men alligevel ja kan det godt være at det betyder noget hvordan det er emballeret. For når du spørger har jeg på det sidste valgt nogle emballager, hvor jeg ud fra min viden, som kan være meget mangelfuld, tror kan være lettere omsættelig i vores natur, øh i vores system. Så det noget der belaster mindst muligt i fremstilling og hvad hedder sådan noget, når det skal smides ud igen.

Kan du fortælle hvad det så er du har valgt?

Jeg har prøvet at vælge noget jeg kan transportere hjem uden emballage eller med min egen emballage eller noget der har været øh, kunne pakkes ind i genbrugspapir, pap, papir pose, andet end plast og lignende ikke.

Tænker du at det skal være bionedbrydeligt? Eller tænker du at det skal kunne brænde godt i vores forbrændingsanlæg?

Bionedbrydeligt om muligt, det jeg forstand på og og jeg tror på at det er bionedbrydeligt. Så når du spørger om jeg tænker på emballage, så lige umiddelbart nej, men det har jeg alligevel gjort. Jeg begynder, eller indpakning, der begynder jeg at prøve på at gøre. Og ligge mærke til.

Kunne du fravælge en vare pga. emballage?

Fremfor en anden eller fuldstændigt?

Sådan set, fuldstændigt. Eller også bare hvis du har to lignende vare og du så vælger ud fra emballage?

Det kunne jeg godt ja.

Du kunne godt vælge ud fra det?

Ja

Om jeg kunne fravælge det. *pause* Hvis det var f.eks. en tomat, bare for at tage et eller andet, fuldstændigt fravælge tomat. Hm… Det ved jeg ikke, hvis jeg ikke kunne få den et andet sted og jeg skulle bruge tomat… *pause* Jeg kunne selvfølgelig godt leve uden tomat, men… det ved jeg faktisk ikke. Jeg vil udelukke at jeg kunne fravælge det. Hvis jeg har noget viden om at den her emballage er dum, skadelig, så tror jeg godt at jeg vil kunne fravælge det. *pause* det tror jeg egentligt godt.

Så, selvom det står på indkøbslisten, så komme hjem uden?

Ja. Det . det. Jeg har ikke tænkt på det før. Måske har vi gjort det, fordi det var på et tidspunkt for nogle år siden at der var en emballage form som var enorm usund og den overførte et eller andet til det produkt der var i og som man så spiste og da vi fandt ud af det og fik det at vide og sådan noget, der har vi fravalgt det. Jeg kan ikke huske detaljerne, der var et eller andet man coatede den her emballage med som ikke var god. Så der har vi måske fravalgt pga en emballage.

Men det kræver noget specialviden for at kunne tage stilling til det?

Ja, jeg skal jo have en grund til det, og kunne vide det og et eller andet.

Hvis jeg lige skal summere op, så har vi snakket om økologi og derunder sundhed, friskhed og derunder sanseindtryk og lokal produceret, som også hang sammen med friskhed. Er der andre ting der påvirker dit valg nede i et supermarked?

Ja. *Pause*

Du har mærke eller mærker?

Ja, det er.. Det vil jeg gerne specificere som værende to ting. Det ene det er et firma's brand eller en serie af f.eks. budget serie, levevis, mesterhakker, som har en genkendelsesværdi, men det kan også en mærkningsordning tilsvarende økologi, f.eks. hvis man er gluten allergiker, så er glutenfri mærkningen vigtig.

Altså, mærket det… Det vil jeg også gerne kunne bruge, f.eks. økologimærket, eller hvis jeg havde gluten allergi eller astma, det vil jeg gerne kunne bruge, øh… Så jeg bruger også mærker og jeg kunne godt tænke mig en forbindelse i mellem øh mærke og bekvemmelighed, sådan at mærkningsordningen gør at jeg har tillid til det, så det bliver bekvemt for mig på den måde at jeg ikke skal stå og læse 10 bøger for at finde ud af hvilket produkt jeg skal vælge eller en helt masse linjer på produkterne i forvejen. Så på den måde bekvemmelighed, at have et mærke som jeg kan have tillid til, som jeg kan forstå og bruge, så jeg kan vælge, få det valgt både økologisk f.eks. og lokalt og noget sundhed og så kan også komme noget nærings øh.. værdi ind i det. I hvert fald i første omgang i forhold til klima, miljø på en eller anden facon. Det kunne jeg godt tænke mig, også selvom jeg køber noget usundt. Øh det behøver ikke at være næringsværdien der skal være lige i skabet, men også hvis jeg køber noget der er usundt.

Bruger du aktivt nogle andre mærkningsordninger end økologi?

Øhh… Gør jeg det.. Altså, du tænker på det røde økologimærke?

Ja. Altså der findes også et andet, jeg tror det hedder, vi handler også nogle gange i italien jo, der bruger vi også et mærke der også noget med økologi og bioøkologi, det bruger vi også nogle gange når vi handler dernede.

Okay. Det er så en ækvivalent af Ø mærket for jer?

Øhhh. Jjaaah ja. Jeg har ikke fået undersøgt hvad der ligger i det andet end at det er noget EU halløj, men jeg kan også se det herhjemme på flere og flere produkter. Men ja, det er at sammenligne med økologimærket herhjemme, det røde økologimærke, så bruger jeg også nogle mærkningsordninger, prøver og bruge på andet end fødevarer, tøj f.eks. og det er mere fremstillingsprocessen og materialerne der er brugt.

Hvis vi holder os til mærker, bruger du også firma mærker?

Det tror jeg. Ja, altså lige nøjagtig *deres* tomatsovs, den ved jeg at jeg kan lide. Det vil jeg tro jeg gør. Jeg er ikke bange for at prøve nogle andre og jeg gør det ofte, men i øh selvfølge ja. Eller ikke selvfølgelig. Jeg bruger også mærker hvor jeg ved at det her er, de laver en god det ene eller andet, en god rødbede. Lidt ligesom jeg også vil tror at jeg også bruger lokale producenter, man kan også sige at de er en form for et

mærke, så ved jeg at hende her har nogle gode grøntsager, god slagter eller et eller andet. Det gør jeg. Jeg ville gerne med mærker, der ville jeg gerne have nogle der var mere specifikke med det vi var inde på før med miljøbelastning, hvad kan man kalde sådan noget klima-miljø, så det igen bliver mere bekvemt for mig, så det nemmere for mig at vælge den ene frem for den anden.

Jeg synes, at det var rigtig fint. Mange tak. Jeg vil gerne prøve at gå videre fra de her kvaliteter, og så vil jeg gerne prøve at spørge ind til hvad du forstår ved klimavenlig kost?

Hm… *pause* ja. Ja det må jo være, kost, nogen fødevarer, det vi spiser for at holde os i live som er mest muligt. Øh.. eller mindst muligt belastende for vores jord, altså det klima vi lever i. Vil jeg tro at det er noget i den stil jeg forstår, altså hvis jeg køber noget der belaster mindst muligt, hvis det er klimavenligt.

Gør du dig nogle tanker om hvad den her belastning er for en størrelse?

Ja, det tror jeg, men det er jo ikke akademiske tanker, da jeg ikke har forstand på det, men jeg prøver på forbruger niveau at gøre mig nogle tanker om at øhm at som jeg var inde på før, hvis det skal transporteres mindst muligt i kæmpe store fly, færger øh diselbiler og et eller andet, så kan det være at jeg kan forurene mindst muligt. Eller drivhuse, ting der året rundt skal pumpes igennem drivhuse og sådan noget der. Øh eller.. der har også været meget fokus på kød, hvordan det kan belaste vores klima, specielt oksekød så vidt jeg husker. Så det prøver jeg at gøre mig nogle tanker om ja, så jeg kan gøre en lille bitte forskel der. Jeg tror ikke at vi helt vil, eller det vil vi ikke, vi vil ikke stoppe helt med at spise en bøf en gang i mellem, men måske kan vi gøre det bedre alligevel.

Så jeg hører det lidt som transport behov, emissioner og ressourceforbrug – er det de tre ting du forbinder med klimabelastning?

Ja, umiddelbart. Det vil jeg tro.

Så vil jeg gerne spørge om det er værdifuldt for dig at en vare er klimavenlig?

Absolut. Værdifuldt, ja det er det. Jeg vil godt give lidt mere for hvis det er relevant og give mere for den, ikke bare fordi den er klimavenlig. Det kan være at det kræver noget en anden form for produktion, som er lidt dyrere og det vil jeg gerne betale for og jeg vil også gerne vælge den til den her fødevare. Og det er jo det jeg godt kunne tænke mig måske lidt hjælp til, som vi var inde på før med en mærkning eller sådan noget.

Men der skal altså være en rimelighed i en eventuelt omkostning, den skal kunne rationelt begrundes, det er ikke nok at den bare er klimavenlig, men at den er ikke dyrere og lave…. Er det sådan jeg skal forstå det?

Ja, det er mere det med at hvis man har en gulerod som er klimavenlig og man har en som ikke er det, lad os sige at den klimavenlige gulerod faktisk var en krone billigere at fremstille, så har jeg jo ikke lyst til at betale 10 kroner mere for den, det er mere det

Så bliver det optrækkeri?

Ja, så bliver det det som vi oplever rigeligt af i forvejen synes jeg, men hvis det til gengæld koster en krone mere at fremstille vil jeg gerne betale, hvis jeg ved at den er mere klimavenlig.

Hvordan vurderer du om det er dyrere at fremstille en vare klimavenligt eller ej? Så hvordan afgør du om det er en retfærdig merpris eller ej?

Det har jeg enormt svært ved, der må jeg læne mig op ad nogle der kan regne den ud, så jeg prøver at møde op med tillid til produktet, hvis jeg ser den koster en krone mere den her, jamen den er klimavenlig, så hvis jeg læner mig op af det, så betaler jeg gerne for det. Men jeg vil jo til en hver tid forsøge at søge oplysninger om det nu er rigtig, men jeg kan jo ikke gøre andet end at følge med i dagspressen, aviser, måske surfe inde på nettet og spørge mig omkring. Og normalt plejer det jo at komme frem med produktionsforhold og priser, ikke. Så, jeg vil prøve at finde oplysninger om, men jeg er jo ikke ekspert på, så jeg vil ønske at oplysninger fulgte med på en eller anden måde. Og jeg har jo fundet ud af at - nu nogle der er også forskel – nu er vi inde på økologi for at dyrke produkter økologisk ved at samtale med folk har jeg fundet ud af at der er forskellige måder at driver økologi på. Og jeg kan jo godt regne ud at en af de måder som jeg synes er fed er enormt timekrævende, altså kræver meget mere arbejde, men jeg synes at det er en god måde at dyrke på. Så der har jeg kunne finde ud af det, håber jeg og tror jeg, så jeg prøver ud fra min lægmandsviden om sådan noget. Jeg ved ikke om det var svar på…

Jo, det synes jeg var rigtig spændende. Vi har været lidt inde på det før, men jeg vil gerne stille spørgsmålet igen, om du går efter nogle mærker?

Det gør jeg jo nok, altså udover økologimærket tænker du?

Ja.

Ja, det mener jeg at jeg gør, men jeg er lige blankt på mærker lige nu. Det er fødevarer vi snakker om her, ikke?

Jo

Pause

Ja, det gør jeg. Også fabrikanter, eller producenter. Det gør jeg også. Og så kan man sige hvorfor det? Ja, der kan være noget der er vane eller noget der er lidt bekvemt eller noget der smager godt, men noget der begynder at fylde mere og mere det er producenter som jeg tror og synes jeg have fundet ud af adskiller sig lidt etiske, informerende og lidt mere ærlige på en eller anden måde i deres information på produkt emballage og så videre øh og i produktionsmetoder osv. Det kan være brands som jeg hæfter mig ved og prøver at vælge til. Øh.

Så det er vigtigt både hvad det er, hvordan det er blevet lavet, men det er også vigtigt hvem der laver det? Altså fabrikanterne

pause

Ja, det kunne det være, hvis jeg får en oplevelse af at de er bare i orden de der.

Er det, hvis du har en fabrikant, du har det godt med, er det så en genvej til at sige jeg har det godt med det fordi de laver et godt produkt og jeg ved at de laver det på en god måde eller er der noget indenover?

Om det er en genvej? Hvis nu fabrikant A laver et eller andet om det er en genvej til fordi at jeg ved at de gør det godt osv og ordentlig, at jeg så bruger dem?

Ja

Det kunne det sagtens være, sådan en bekvemmelighed, så jeg ikke starter forfra, ja det kunne det godt være. Ligesom et stempel, et økologistempel eller et eller andet, ja det kunne det godt.

Bruger du det modsatte? Altså en blacklist af folk du ikke handler med?

Ja, det gør jeg. Ingen tvivl. Det er jo en måde jeg orientere mig på, hvis der ligger 20 forskellige spegepølser og jeg har fundet ud af at der er nogle producenter der har været nogle lidt uheldige nogen eller et eller andet så fravælger jeghelt klart nogen af dem.

Kan du fortælle mig om nogle af dem du har fravalgt? Og hvorfor du har fravalgt dem?

Ja, der er nogle kødproducenter jeg har fravalgt, øh. Hvad hedder det, ja kød og der var også noget fisk på et tidspunkt.

Hvad var grunden til at du fravalgte dem?

Øhm, de havde lavet noget fusk med noget opbevaring af deres råvarer, som de blev ved med at påstå at det var ikke noget problem, men de overskred nogle regler og grænser, som der var fastsat, så derfor har jeg simpelthen ikke lyst til at støtte, hvis jeg kan slippe for, har jeg ikke lyst til at støtte den type af producenter eller mennesker. Der har også været noget, det har så ikke været fødevarer, nogle andre produkter jeg har fravalgt pga. de har fået fremstilt på steder og måder jeg som jeg synes er horrible, så fravælger jeg at købe deres produkt.

Kan du sætte lidt flere ord hvad det er der sker når du har en negativ oplevelse og fravælger dem?

Altså sådan personligt, hvis jeg siger en eller anden producent, den er dælme frameldt?

Ja, er det et tillidsbrud, er du forarget, er det etisk uansvarligt, øhm, er det politisk forbrug?

Det er en god blanding. Mange gange har det været at jeg synes at de er nogle svindlere. Mange gange har det været noget etisk, hvor jeg synes at de leger med folks helbred og sådan noget ikke. Fuskere og svindlere, man kan komme mange ord på det. Det er nok de pænere af dem og der har jeg ikke lyst til at støtte, så må man lade fødderne tale og så går jeg væk fra deres produkter.

Bliver det nulsat den her blacklist eller gror den bare?

Øh gror?

Jeg mener kommer folk nogensinde væk fra den igen?

Hm *pause* Det tvivler jeg på. Jamen, så kan man også sige, at du må da tilgive hvis de rydder fuldstændigt op og det ene og det andet. Jamen, det kan jeg i og for sig også godt tilgive, hvis man kan bruge det ord her, men mange gange så er der jo så mange andre, som jeg håber der har rent mel i posen og gør det ordentlig og godt og så har jeg jo blot valgt nogle andre og så ligger jeg mine mønter der. Så det er ikke fordi jeg ikke kan tilgive eller sige nå ja nu er de sikkert fine nok igen. Så er jeg sikkert bare videre

Så er du et andet sted, ja.

Ja højst sandsynligt, det vil jeg tror umiddelbart. Når nu du spørger jeg har faktisk aldrig tænkt over det. Øh. Og jeg har været i en situation, hvor at jeg skulle købe et produkt og der var kun fra den producent

jeg ikke ville købe fra mere og så fravalgte jeg helt det produkt og så måtte vi lave noget andet mad, værre er det jo ikke. Jeg synes at jeg står på mål for det. Selvfølgelig kan man blive snydt og svindlet.

Så vil jeg rigtig gerne prøve at vise dig sådan et mærke. Ja, det er så mit design forslag. Der er tre elementer som jeg gerne vil kommunikere med det her mærke, den ene side er det er objektivt, hvor jeg gerne vil udtrykke den klimabelastning som et givent produkt har haft igennem sin produktion, emballering og transport til supermarkedet.

Så helt derhen hvor jeg går hen og vælger det?

Ja. Og så måden jeg vil udtrykke det på er ved at bruge CO2e, så f.eks. hvis de har brugt diesel til deres mejetærsker, så vil jeg have det indregnet i, hvad hedder det det nu, altså jeg vil have det omregnet til CO2e energimæssigt og tilsvarende med alle andre energikrævende processer. Tilsvarende med alle relaterede emissioner, f.eks. ved kød, så er der en masse græs der bliver spist og pruttet ud igen i form af metangas, som er en drivhusgas, og det vil jeg omregner og indkludere i produktets regnskab. Og du kan se to tal, og det er fordi jeg føler at det vil være en god idé at det specifikke indhold for produktet, så nu har vi en pakke der vejer 350g, så vil jeg have hvad der lige præcis er for den pakke, men samtidigt med det så vil jeg gerne give et udtryk for hvor meget CO2e det er pr kg produkt, så det bliver lettere sammenlignligt, så det ikke kræver at forbruger skal i gang med hovedregning. De to ting er den ene side af det, det objektive, der kan måles og vejes og så vil jeg gerne samtidig med gerne prøve at vise en relativ indflydelse af det her, eller ja, relativ rangering af det her produkt i forhold til andre produkter. Der tænker jeg at jeg gerne vil lave det i forhold til produkt grupper, så man ikke sammenlignede oksekød med havregryn, fordi så vil alt oksekød altid være helt oppe i det røde felt og havregryn altid nede i det grønne felt. Og differencen imellem forskellige typer oksekød eller forskellige typer havregryn, vil være så at du ikke kan skelne dem fra hinanden, så derfor vil jeg have indelt nogle produkt grupper og så rangere de produkter i forhold til hinanden, hvor rød repræsentere produktgruppens værste produkt og grøn er produktgruppens bedste produkt og alt andet det ligger der i mellem. Så vil jeg rigtig gerne høre, hvis du så sådan et mærke på en fødevare, vil det kunne påvirke din forbruger adfærd?

Pause

I aller højeste grad, hvis jeg forstår det rigtigt. Øh. *pause*

Hvad gør du dig af tanker?

Lige nu der sidder jeg lige og går det igennem du har fortalt og prøver at, i forhold til de spørgsmål du stilte mig før, så vil det jo kunne løse mange af de almindelige forbruger udfordringer jeg står med, hvis jeg gerne vil prøve at være en bevidst forbruger der vælger produkter ift. de udfordringer vi har som forbruger med f.eks. klima, miljø og så videre. Så vil det her kunne hjælpe mig en stor del af vejen. Øh økologimærket føler jeg jo også har kunne hjælpe mig, så kan det være en kombination eller er det to helt vidt forskellige mærkninger der vil kunne arbejde tæt og godt sammen. Det er det jeg lige sad og tænkte på. Men mit umiddelbare skud er at det i hvert fald kunne hjælpe mig i forhold til mange af de usikkerheder jeg tror måske også gav udtryk for, da vi gik listen igennem, her jeg står med som almindeligt menneske, der i den der jungle, hvor de prøver at få mig til at putte varer i kurven. Så vil jeg med sådan en mærkningsordning som den her eller lignende vil jeg kunne let, hurtigt gå ind og vælge det stykke oksekød der måtte rangere bedst på den her skala. Uanset om det som kommer fra nabomarken eller frankrig, vil jeg kunne få en indikation af hvad der er klogt at vælge ift klima. Det kunne jeg i den grad godt

bruge, hvis det er muligt og det samme hvis det var en tomat osv ikke. Ja, det var sådan lige de tanker der fisser igennem og det vil jo også kunne ramme ind på den som øh her på listen bekvemmelighed. Fordi at det gør det bekvemt og nemt for mig at jeg lige kan kigge på produktet i butikken. For det har jeg ikke en chance for at regne ud alt det der, overhovedet.

Vi snakkede om før, at du ville være villig til at betale lidt ekstra, hvis det kostede ekstra at producere. Hvordan vil du have det med at betale lidt ekstra at udregne og have et bureaukrati omkring at vise, visualisere og frembringe de her data?

Det vil jeg have det fint med. Da vi talte om det der med den krone ekstra, eller hvad det måtte være, det vil jeg have det fint med, fordi egentlig betragter jeg det som det samme. Hvis jeg kunne få en mærkningsordning ala det der, så vil jeg betragte det som om det var det samme som ude hos landmanden der producere det, at der er en ekstra omkostning ved det. Det vil jeg godt betale.

Også selvom man kan sige at det er hvad det er med eller uden det her mærke, så er det det værd at betale for at man får informationen at vælge ud fra?

Det er vigtigt for at jeg har noget, der kan hjælpe mig med at tage det valg, altså en information til at jeg kan tage det valg, og det er lidt svært i dag. Jeg kan købe .. øh… der er forskellige svanemærker og økologi stempel og nøglehuller og det ene og det andet, men det her det giver lidt mere mening ikke. Og det vil jeg gerne betale for, jeg har ingen idé om det vil femdoble produktets værdi, så … må den jo tages derfra ikke, det tror jeg ikke at det gør.

Er der nogle andre ting, som , noget som du savner eller noget som tænker er overflødigt eller…? F.eks. har jeg haft tænkt på at tilføje en lille procentsats, hvor du kan se hvor CO2e kommer fra produktionen, hvor meget kommer fra indpakningen og hvor meget kommer fra transporten. Ville det være interessant data for dig eller vil du hellere have et simpelt enkelt udtryk for det hele?

Hvis jeg sad og tænkte på produktet, du kan jo godt have et produkt der er fantastisk her på den grønne linje og så kunne det komme det i en pose der var vildt forfærdelig, ikke. Og så vil den komme op til den røde, det var det jeg sad og tænkte på lige inden du … Det er meget interessant og halvnørdet at have det delt ind og se nå hvad kommer fra transport og hvad kommer fra emballage og sådan noget der, men måske vil jeg som forbruger foretrække at have et samlet hele. Det tror jeg. Øhm. Umiddelbart. Nu skal jeg lige tænke engang. Ja, øh det kunne være meget fedt at vide at posen også er god, bionedbrydelig, fremstillet på en eller anden måde. Ja, der er jeg lidt i tvivl, umiddelbart er mit bud et samlet tal for det hele. Hvis det er muligt, så er der nogle ting man først emballere, hvis det kommer fra spanien f.eks. og kommer til danmark, så emballere man det nogle gange først det der. Så ved jeg ikke hvordan man kan finde ud af det, men det kan man jo godt, hvis det er en fast valgt emballage på forhånd.

Ja, så længe at det bliver emballeret før supermarkedet, så jo. Hvorimod løse kartoffler du putter i en plastik pose, det vil højst sandsynligt ikke være med i sådan et mærke her, fordi du ved ikke hvor mange kartoffler kommer ned i en pose, så du kan ikke forholde indpakning til mængden af produkt.

Men så må man måske finde ud af noget med supermarkederne med noget papirposer er bionedbrydelige.

Ja, så må der optimeres et andet sted simpelthen.

Men alt i alt, som en hele samlet når jeg går ned og tager det her flåede tomater eller gulerødder eller hvad det er, at jeg kan få en indikation af, nå ja. Så kan det godt være at den står lidt højt fordi der er noget der er i metal emballage f.eks., men så ved jeg hvordan at jeg kan aflevere metal emballagen på en god måde, så den bedst muligt kan komme ind i et godt system der, ikke?

Ville… Kunne du forestille dig at du vil begynde at interesse dig for tallene her, altså de objektive tal, eller tror du at du i højere grad vil bruge den relative rangering?

I højere grad rangeringen i hverdagen når man går og handler, men som person tror jeg godt at jeg kunne hygge mig med at kigge lidt på nogen af de der detaljetal, ikke for mange, men dem du har valgt her, tror jeg godt at jeg vil kunne finde interessante.

Vil det virke forvirrende at der lå et produkt med oksekød helt nede i den grønne ende, hvis du samtidigt ved at oksekød det mest klimaintensive produkt der findes overhovedet? Eller.. ja øh… Det var bare det.

Eller omvendt, at det lå oppe i det røde?

Ja, det var en kartoffel, men det var bare uheldigvis den kom for sønder jylland og så havde den kørt længere med lastbil, så slem er den heller ikke, men den er altså knaldrød.

Om det vil virke forvirrende… øh.. ikke for mig umiddelbart. For du havde jo inddelt det i de her grupper sagde du før, og oksekød… men jeg kan jo godt se hvis der er nogen der ikke gider at sætte sig ind i det eller ikke har fået de informationer, så kan det være misvisende, det kan jeg godt se. Men ikke for mig, hvis du spørger mig personligt, så vil det ikke, jeg ved godt, at hvis jeg skal ned og have noget der belaster en oksebøf eller en steg, så ved jeg godt på forhånd af information fra vores medier og alle mulige ting og sager, at, øh, at oksekød er belastende. Men når jeg så skal ud vælge noget der er belastende, så vil jeg gerne prøve at finde noget der er mindst belastende. Det er det jeg gerne vil, jeg ved jo godt at de er belastende, men jeg vil gerne have muligheden for at vælge noget der er mindst belastende, hvis jeg køber en oksebøf en gang om måneden, ikke. Så forvirrende, ikke umiddelbart for mig, men jeg tror at der skal noget information med, en kampagne med, jeg synes at det vil være passende at man prøvede at gå på tværs og lod være med at spørge branchen, producenterne, hvad de synes og egentlig bare valgte det. Det tror jeg vil være interessant, at det bare skulle komme. Nå det var bare en personlig…

I forhold til den her rød til grøn skala, vil det hjælpe på forståelsen hvis der stod f.eks. for det dårligste produkt, den røde, den her produktgruppe det starter på 3 CO2e – for f.eks. müsli – og den ved grønne, det bedste produkt, det er 1,5 CO2e. For hver produktgruppe altså, lige ridser op hvad er er det bedste og dårligste produkt her.

Om det vil gøre det nemmere for mig?

Ja, eller om det bare vil være et ekstra lag af komplexitet, der bare er unødigt, så når jeg vælger en produktgruppe, müsli, kød eller et eller andet, så er der lige en opridsning hvad det er jeg går ind i?

Ja netop, så du kan se at kartofflen er knald rød, men den ligger stadigvæk kun på 3 CO2e og så kan jeg gå over til oksekød, og se at den er helt grøn, men den ligger på 12 CO2e.

Altså, det vil jo kunne være. Igen hvis der følger information med så folk forstår at bruge det vil det jo kunne støtte hjælpe, men jeg forstår godt din idé med produktgrupper, så jeg har ikke umiddelbart brug

for det, men det ville kunne hjælpe i en indkøringsfase eller et eller andet. Det er en meget god pointe, men jeg tror ikke at jeg har brug for den for at kunne vælge ud fra det der system.

Så har jeg ikke flere spørgsmål, er der nogle andre ting du er kommet i tanke om eller gerne vil spørge om, gerne vil sige?

pause

Altså de her punkter tilbage, hvor vi startede på listen her, øh, er jo gode alle sammen. Jeg kan jo sagtens finde noget til alle sammen jeg synes der er interessant og vigtigt, men nu har jeg valgt nogle ud og holdt fast i dem. Det er jo ikke fordi at jeg ikke tænker noget med story telling eller og så videre eller næringsværdi. Så de er jo vigtige og gode alle sammen, men jeg synes at det er, ud fra vores snak om de her punkter koblet sammen med den du viser mig på skærmen her, den mærkningside forslag du har lavet her, synes jeg er super og virkelig spændende. Og for mig gøre det nemmere at vælge noget der er klimavenligt eller miljøvenligt, eller hvad pokker det hedder i dag, for det kan godt være lidt svært og de kan godt løbe om hjørner med en, så det det vil gøre det nemmere for mig. Det vil jeg gerne betale for.

Det var rigtigt dejligt at høre. Tak skal du have.

Appendix 4 – Climate friendly food consumption

Tabel 9 Klimavenligt fødevareforbrug (Garnett, 2008).

Prioritet	**Handling**	**Hvad påvirkes heraf**	**Bemærkninger**
Høj	Spis mindre kød og mejeriprodukter	Lattergas og metan emission, CO_2 tab fra skovrydning	Reduktion i produktion og import
Høj	Spis mindre, spis kun det der behøves for at opretholde en sund vægt	Forekomst af overvægt,	
Medium, måske høj	Undgå madspild, anvendt det uundgåelige spild	Alle emissioner, i terorien kan produktionen så reduceres	
Medium	Spis sæsonens robuste frilandsgrøntsager (foretræk sæsonens frem for lokalt) frem for letfordærvelige fødevarer, hvor kort transporttid er nødvendig, og måske behov for varme og lys i væksten	Køling, transport, fødevarespild	Reduceret flytransport af fødevarer
Medium	Tilbered mad til flere personer og for flere dage	Effektivitet og energiforbrug	Kræver planlægning, risiko for øget madspild hvis det tilberedte ikke bliver spist
Medium	Accepter variation i fødevarekvaliteten	Alle emissioner, i teorien kan produktionen så reduceres	Fødevarer, der er spiselige, men af lavere kvalitet bruges normalt til forarbejdning eller som dyrefoder
Medium	Accepter variation i fødevareudbuddet		Den nuværende situation, hvor alle varer er tilgængelig til alle tider, betyder at fødevarer er tilgængelige også når miljøbelastningen ved at fremstille dem er meget høj
Medium	Indtag færre fødevarer med lav næringsstofværdi som f.eks. alkohol, slik og chokolade	Unødvendige fødevarer, der ikke er behov for i vores kost	
Medium	Opbevar og tilbered fødevarer vha. energivenlige metoder	Energiforbruget i hjemmet	Simpel at gennemføre, sparer samtidig penge
Lavere	Køb ind til fods eller over Internettet	Reduceret energiforbrug	

Appendix 5 – Climate advice example

Spis mindre kød

mest fisk og fjerkræ og mindst oksekød.

Kød har et højt klimaaftryk i forhold til frugt og grønt. Lyst kød som fx kylling har et klimaaftryk, der er ca. ¼ af klimaaftrykket for oksekød. Køer er drøvtyggende dyr, som belaster klimaet meget, fordi de udleder store mængder drivhusgasser under deres opvækst.

Spis rigeligt af årstidens frugt og grøntsager

Grøntsager er den type mad, som belaster klimaet mindst. Specielt grove grøntsager, der er dyrket på friland, har et lavt klimaaftryk, mens fine grøntsager, der ofte er dyrket i drivhus, har et højere klimaaftryk. Ved at spise efter årstiderne mindskes energiforbruget til køl og frys.

Frugt har generelt et lavt klimaaftryk. Især fx danske æbler og pærer har et lavt klimaaftryk mens bær har et højere klimaaftryk.

Spis kartofler og pasta frem for ris.

Ris har et klimaaftryk, der er ca. 12 gange større en aftrykket for kartofler og fire gange større en aftrykket for pasta.

Drik vand fra hanen.

Vand på flaske har et klimaaftryk der er over 35 gange større, end aftrykket fra vand der er tappet fra hanen. Det skyldes bl.a. at der er brugt energi til produktionen og distribution af vand på flaske.

Tilbered ikke mere mad, end du skal bruge.

Alternativt brug rester dagen efter og undgå madspild.

Knap en halv million tons mad ryger hvert år i skraldespanden og det største spild er hjemme hos forbrugerne. Madspild er spild af penge men også spild af energi både til produktion, transport, tilberedning og bortskaffelsen af maden.

Brug lokale varer

Lokale fødevarer kan være et godt klimavalg, men det er ikke altid tilfældet. Generelt gælder det for kød, at klimaaftrykket fra produktionen af kødet er så højt, at bidraget fra transporten har mindre betydning. For grøntsager og frugt er klimaaftrykket fra produktionen mindre, hvorved bidraget fra transporten får større betydning. Oplagte eksempler på lokale varer med lavt klimaaftryk er grøntsager fra friland som fx broccoli, rodfrugter, bønner og kål

Appendix 6 – Food labels

Varefakta

Varefakta is an organization created in 1957 as a "collaboration between organization and institutions within trade, craftsmanship, industry and consumers" (Varefakta, 2015b), which is intended to ensure accurate information on labeled products. The logo of Varefakta works like a stamp of approval, which backs up the manufacturers claim of the products attributes. Any product can be labeled, as the label solely represents a confirmation of the products content, and says nothing about the products value.

They also give advice to the government based Varefakta's assessment of the industry needs(Varefakta, 2015a). They publish a magazine called "ærlighed", which may indicate how they want to be perceived.

Organization

The organization of Varefakta is supported by the Danish government financially. Besides that Varefakta works with manufacturers, who pays them for certifying their products, though the metrological work is conducted by a 3rd party independent laboratory.

Quality assurance

The quality assurance is handled by a 3. party laboratory, which Varefakta ask to purchase and test specific products labelled with the Varefakta label. This selection of goods occurs through random sampling, however there is no information available on how frequently this sampling occurs. If there are any deviation Varefakta states that either they change the information on the product or the manufacturer changes the product, no further information is specified.

Values

Varefakta promote themselves with the following five reasons to use their label on their website.

Awareness	– 94% of consumers recognize the label.
Overview	– All relevant information in one place
Legislative	– They guarantee the legal work is in order
Quality assurance	– Varefakta is audited by independent laboratories
Preference	– 85% prefer food labeled with Varefakta's logo

No references were found in connection to the claims made above.

Financing

The state contributes with a flat annual lump of cash, the newest data acquired stated a donation of 700.000 kroner in 2013 (Konkurrence & Forbrugerstyrelsen, 2014)

Besides it is stated in Varefakta's regulations, that their income is generated through the following six areas.

1. De af Varefakta fastsatte afgifter for anvendelse af Varefaktamærket.
2. Indtægter ved konsulent- og rådgivningsvirksomhed vedrørende mærkning og anden virksomhed relateret til Varefaktas kompetencer.
3. Indtægter ved administration af andre mærkningsordninger end de af Varefakta indregistrerede mærkningsordninger.
4. Salg af Varemærkerelaterede ydelser.
5. Indtægter fra institutioner og andre, der måtte være interesseret i at købe og/eller benytte varemærkerelaterede ydelser.
6. Tilskud og/eller investeringer fra institutioner og andre, der måtte være interesseret i Varefaktas arbejde og ydelser herunder fra offentlige myndigheder.

Acquisition

A company who wishes to label their products with Varefakta's logo must subscribe to Varefakta's services and then supply their data for inspection.

Critique

It is presented as an independent and impartial business, however they essentially run a mini monopoly and are state sponsored in doing so, which seems shady considering their lack of transparency.

Their annual report is not publicly available (Bibase.dk, 2016), which makes their cost structure less transparent. It is strange that they accept donations and simultaneously can give advice to the government. This could easily lead to biased situations, where they might prioritize the people donating over the ones who aren't. There is no clear indication of the steps taken to correct any errors that might be other than "the manufacturer changes the product or varefakta changes the declaration". Well, in which cases does what happen? It remains unclear. The quality assurance is also dubious, as there is no accessible information regarding how it is conducted, other than random sampling occurs approx. once a year, unless there is similar products, in which cases only a single product will be tested. It would be more trustworthy to have publicly available results, and see the difference between what is measured and what is written on the label.

Appendix 7 – Framing of LCA

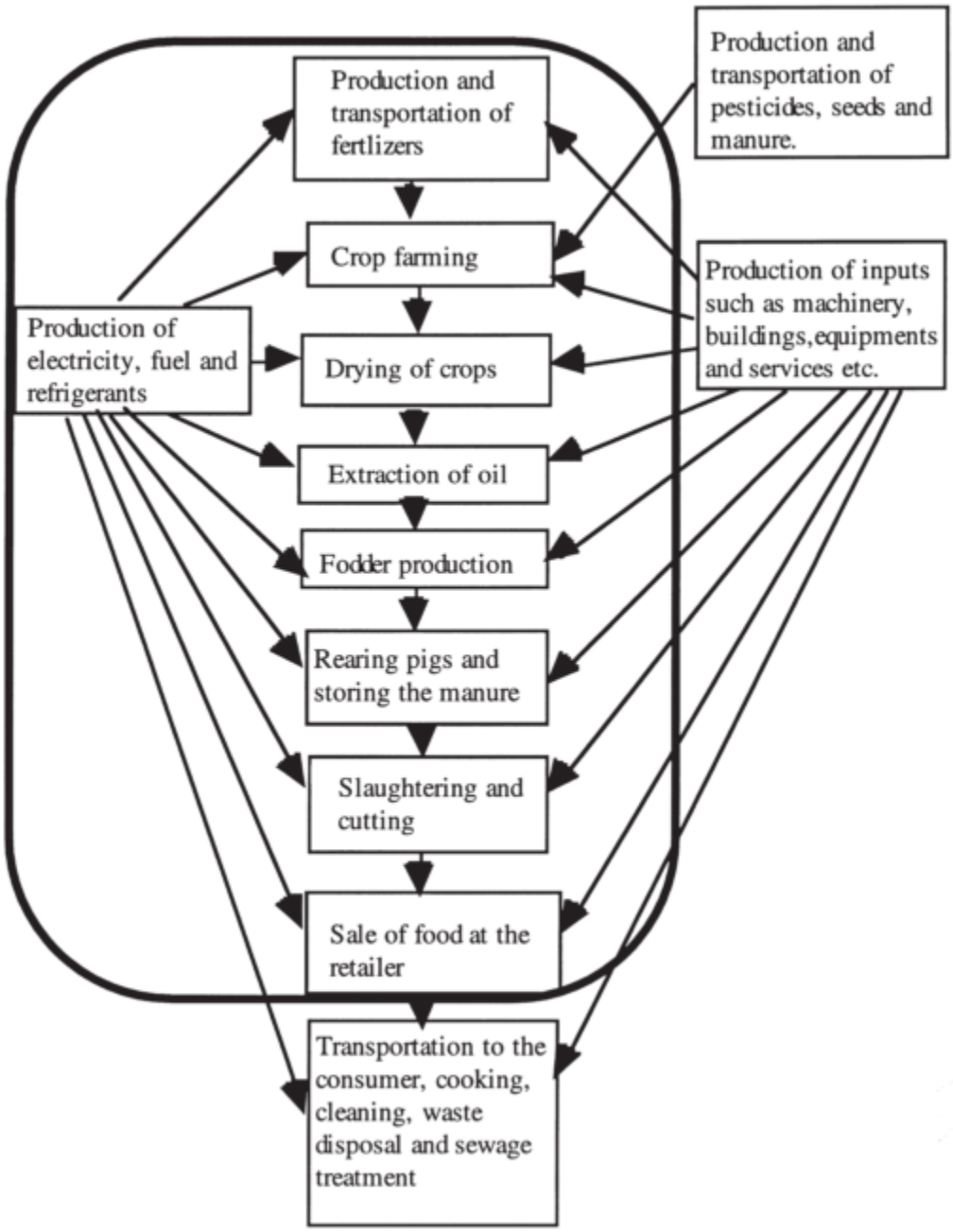

Figure 25 System boundary for LCA of pig production. (Carlsson-Kanyama, 1998, p. 281)

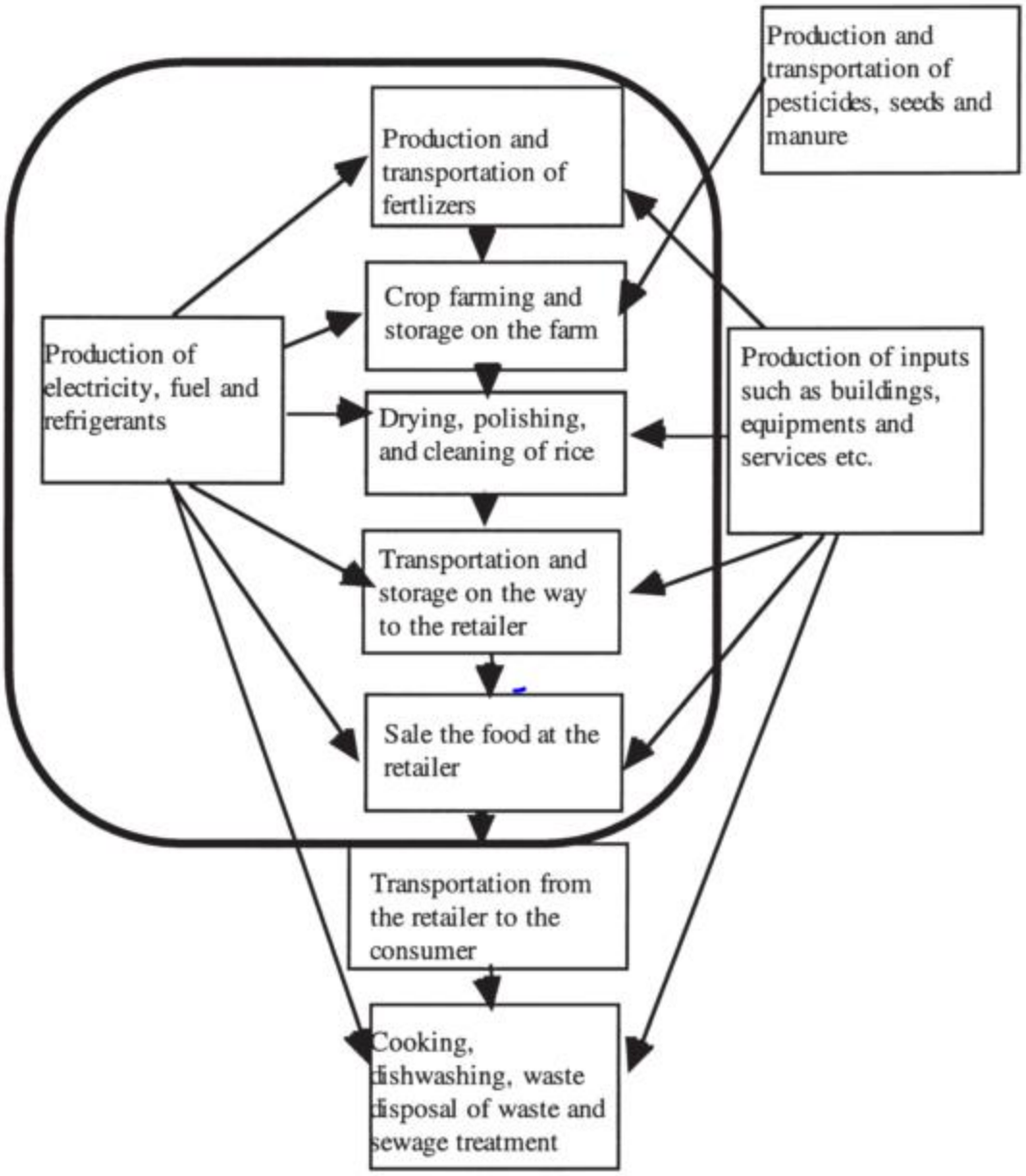

Figure 26 System boundary for LCA of rice. (Carlsson-Kanyama, 1998, p. 280)