Zero-waste grocery stores

A case study

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Innovation:	**Zero-waste grocery stores**
Intervention:	**Gram (Malmö) and Løs Market (Copenhagen)**
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Methodology:	16 interviews carried out between May 2018 and February 2019
	Focus on the Öresund region, with a field trip to Brussels to examine the European regulatory scene and broader developments within zero-waste
	Site visits to 3 different zero-waste grocery stores and 2 food cooperatives with zero-waste elements:
	- Zero-waste stores
	  o Gram, Malmö
	  o Løs Market, Copenhagen
	  o Yes Future!, Barcelona
	- Food cooperatives with zero-waste elements
	  o Färm, Brussels
	  o New Leaf Coop, Edinburgh

Case Study Overview	
Sector(s):	Plastics
Value Chain Stage(s):	Consumption
Type of Intervention:	Social
Date & Duration:	First zero-waste grocery stores (in their modern iteration) opened in United Kingdom, Germany, and Italy in late 2000s. Explosive growth in the amount and geographical spread throughout Western Europe starting in 2011, but especially from 2016 onwards.
Location:	Öresund region (Copenhagen and Malmö) – chosen for expedience and two recent openings of zero-waste stores (both in 2016) that received much media attention.
Initiating Actors:	Løs Market (Copenhagen) and Gram (Malmö)
Actor Constellation:	Producers/suppliers: farmers and food producers Distributors/wholesalers: intermediaries between farmers and stores Zero-waste grocery store owners and employees Consumers Competitors (conventional retail): including Coop, Salling Group, ICA Gruppen Regulators: European Union, Danish and Swedish state, municipal and local authorities
Short Description of Intervention:	The purpose of the zero-waste grocery store is to sell retail goods primarily in bulk without the use of plastic or other single-use packaging. They are small grocery stores laid out with inventory and displays to support the use of containers brought from home by the shoppers. They include a scale to weigh containers and the products being bought in bulk. Often, they are financed through crowdfunding and emphasise the local neighbourhood, building relationships to local consumers and suppliers, using social media and blogging to build customer base, and feature membership or loyalty programs.
Research Theme Summaries	
1. Innovation History & Dynamics:	Zero-waste as a lifestyle has been gaining popularity from 2010 onwards. Zero-waste stores have been growing exponentially in Europe, especially in Germany, Italy, Belgium, France. Barriers seen from zero-waste storeowners' perspective include profitability and balancing scalability with commitment to zero-waste principles. Barriers seen from the perspective of conventional supermarkets include hygiene, food waste, investments in existing structures and supply chains, and the role of plastic in facilitating long supply chains. Consumers and retailers want convenience, and retailers want to sell products - sustainability should be addressed in food production and in waste management. Packaging experts view the food plus the package as a highly engineered value proposition: it preserves quality. There is a systemic stalemate in moving the entire retail sector to package-free or less packaged models.
2. Governance Arrangements &	The 'local' is emphasized as the critical scale of operations and governance: local connections to employees, consumers, and producers, and especially to organic producers.

Agents of Change:	There are local food networks, working directly with producers, but also with wholesalers in some cases. Financing is also done locally through crowd funding, especially from local consumers. In the stores, vegetarian products are predominantly sold, and there is a promotion of sustainable lifestyles through non-food products. The zero-waste lifestyle and stores are a form of protest against industrial, globalized food production and overconsumption. Conventional retail instead focuses on plastic strategies and showing consumers that they are taking the packaging challenge seriously - most initiatives focus on bio-plastics, recycling, and the circular economy. Policymakers are looking at the systemic level and organising policy initiatives around the circular economy, trying to move all actors together towards systems with increased recycling rates and more reusable packaging. Much of this is driven by consumption becoming increasingly value-laden. Environmental NGOs raised much awareness on the plastics issue, bolstered by Blue Planet 2. Consumers draw connections from personal consumption habits to plastics in the ocean and pesticides in the environment. This results in forms of sustainable and political consumption. Retailers want to be relevant to young consumers. Meanwhile, packaging experts and companies resist the categorization of packaging as waste, instead arguing that packaging is a part of the product.
3. Transformative Capacities:	Zero-waste stores thrive on the basis of strong social connections to producers, consumers, and the zero-waste movement. A main figure in this movement is Bea Johnson, author of Zero Waste Home. Founders of zero-waste stores stress the importance of the awakening of their own ecological consciousness and personal responsibility as a motivation for establishing their stores. The appeal of the zero-waste lifestyle is a necessary condition for the establishment of zero-waste stores – that appeal, in turn, is sustained by a thriving online ecology of zero-waste bloggers, influencers, authors, and personalities. The concepts of local, organic, and unpackaged goods are inextricable from each other, intertwined with each other. Media and political attention have helped build momentum behind zero-waste stores and initiatives. In contrast, conventional retail is mobilising around circularity instead of zero-waste, mainly because it is understood in terms of incremental moves to realise profits from the waste stream and in packaging. The main obstacle is understood to be a lacking policy framework to support systemic shifts towards the circular economy. The low-carbon qualities of zero-waste stores are not strongly communicated and not a key component of their value proposition. Zero-waste stores are successful when they are highly visible (legible) in local settings and in the media (especially social media), and when their distinction as a sustainable way to shop is recognised and valued by consumers.
4. Assessment & Evaluation:	There are very few assessments of the social, environmental, and economic impacts of zero-waste stores. Experts emphasise the need to do LCAs of food and packaging as a system, and not look only at packaging - the shelf life of food and prevention of food waste are highlighted. At the same time, many experts note the limitations of LCAs and the many assumptions and simplifications that go into producing them, meaning that LCAs are not directly comparable. Zero-waste storeowners are not overly concerned with these assessments or evaluations - in their own words, the stores are understood as social spaces that allow individuals to exercise responsibility towards the collective, and as talking points or concept stores that raise awareness of and promote the zero-waste lifestyle. This makes it harder to assess their impact, because they should not be judged on purely technical terms, but also on their capacity to promote social change and spillover effects. The politicization of plastics and packaging and the attention to these issues within conventional retail are good evidence that some of these social changes and spillover effects are making their impact felt. Rather than metrics of impact, zero-wasters are arguing for absolute reductions to plastic packaging use and waste - in response, retailers are arguing for circular economy initiatives where materials are re-used and loops are closed. The key difference is that zero-waste questions the growth paradigm, but the circular economy sustains it.
5. Uptake & Consequences:	There has been significant upscaling of zero-waste stores and activism in recent years, showing exponential growth in the number of stores since the early 2010s. The form that this upscaling has taken is not the expansion of individual stores into bigger stores, but

	rather a multiplication of many small individual stores opening in new neighbourhoods. In most cases, these are new stores with new owners, but in some cases, the same owners open multiple stores. Upscaling is difficult from the perspective of store owners because it runs the risk of compromising on their values of sustainability: it can be difficult to secure sufficient supply of unpackaged, local, and organic food. Most actors across the entire sector believe zero-waste stores will remain niche, even if conventional retail takes on some elements from the stores (such as more bulk purchase options). Even so, the maintenance and expansion of the niche will put more pressure on conventional supermarkets, which are recognized as the key actors in the supply chain if you want to realize sustainability gains. Business-as-usual has largely been delegitimized: the options presented through the interviews are circular economy or zero-waste, but these have areas of overlap and are not completely mutually exclusive. The circular economy narrative redeems plastics and is pro-growth, while zero-waste problematizes plastics and growth. Bio-plastics are easier to communicate to consumers, but not everyone in conventional retail is convinced that there are sustainability benefits to be realized here - they are less important than the circular economy, and may in some cases be integrated within it. The politicisation of plastics and packaging have led to a large number of plastics strategies and circular economy initiatives being developed by cities, companies, nation-states, and regions. Zero-waste stores and the zero-waste movement have been instrumental in getting this on the agenda.
Conclusion & Outlook	
Key Learnings:	The case study on zero-waste grocery stores has demonstrated the decarbonisation potential of consumer-facing social innovations in the retail sector and how these connect to the REINVENT sectors of plastics and meat/dairy. Zero-waste grocery stores are likely to remain niche actors in the retail sector, and their individual carbon and sustainability benefits at the store-level will therefore not add up to sizeable savings, especially if we consider only the impact on the plastic sector. Most sustainability gains from the innovation are related to how it promotes local food networks, organic production, and vegetarian diets. More broadly, the close connection between zero-waste grocery stores and the zero-waste movement (NGOs, activists, social media personalities) has played an instrumental role in politicising plastic pollution, and it is in large part thanks to them that we are seeing high-level policy and corporate attention to plastics. The response from incumbent actors has been to resist the narrative of zero-waste in favour of a circular economy approach, in which growth is not questioned and the redemption of plastics is possible through increased re-use and recycling. Ultimately, zero-waste stores should be assessed not on technically determined metrics of environmental performance, but on their socially determined capacity to promote ecological citizenship and sustainable consumption among the broader public.
Open Questions & Further Research Requirements:	The right question to ask is not: can zero-waste grocery stores scale up as a business model, but can zero-waste grocery stores create more ecological citizens? Can zero-waste grocery stores bridge the divide between individual and collective action? Probably not. It is primarily an individualizing expression of ecological citizenship and does not actively promote the formation of closer ties among consumers and producers. Commercial relations between consumers and producers are not interrogated, tested, or experimented with. It is still straightforward sales with a mark-up benefiting the store. Where is the collective action? Where is the mobilisation and demand for change? But then again, should this be the responsibility of zero-waste stores? If they are concept stores and talking points for the zero-waste lifestyle, then yes. Key tension between individualising responsibility and promoting collective action for decarbonisation and sustainability.

For Europe to achieve its long-term climate objectives, carbon-intensive industries have to reduce their emissions.

REINVENT focuses on plastics, steel, paper and meat & dairy – industrial sectors that are key to our daily lives, but where low-carbon transitions are still relatively unexplored.

To gain a broader understanding of the possibilities of transition, entire value chains of the industries are studied. This includes non-technical factors such as supply chains, financing, trade, and social and economic impacts. Together with forward-looking industry leaders and policy-makers, we explore potentials and capabilities for making transitions in these resource-intensive industries.

PARTICIPANTS & FUNDING

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