EXPANDING THE BIG FIVE

Getting the UK to eat more seafood:
- **Lowering the carbon footprint of convenience products;**
- **Increasing the nutritional value of those convenience products; and**
- **Improving seafood consumption equity.**

"Omega-3 Rich Pasta Sauce" adding some mussels for more zinc, iron, and omega-3s.

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THINKAQUA

The FISHMONGERS' Company

INTRODUCTION

UK consumers eat little seafood, which generally has lower carbon footprints than terrestrial animal-source foods. When UK consumers do eat seafood, they eat the 'Big Five' (cod, haddock, salmon, tuna, shrimp), which have higher carbon footprints relative to low-trophic seafood products (LTSP), like mackerel, seaweed, and bivalves. Yet, many consumers (particularly lower-income ones) refrain from eating LTSP due to price, inconvenience, and unfamiliarity (of taste and cooking methods).

OBJECTIVES

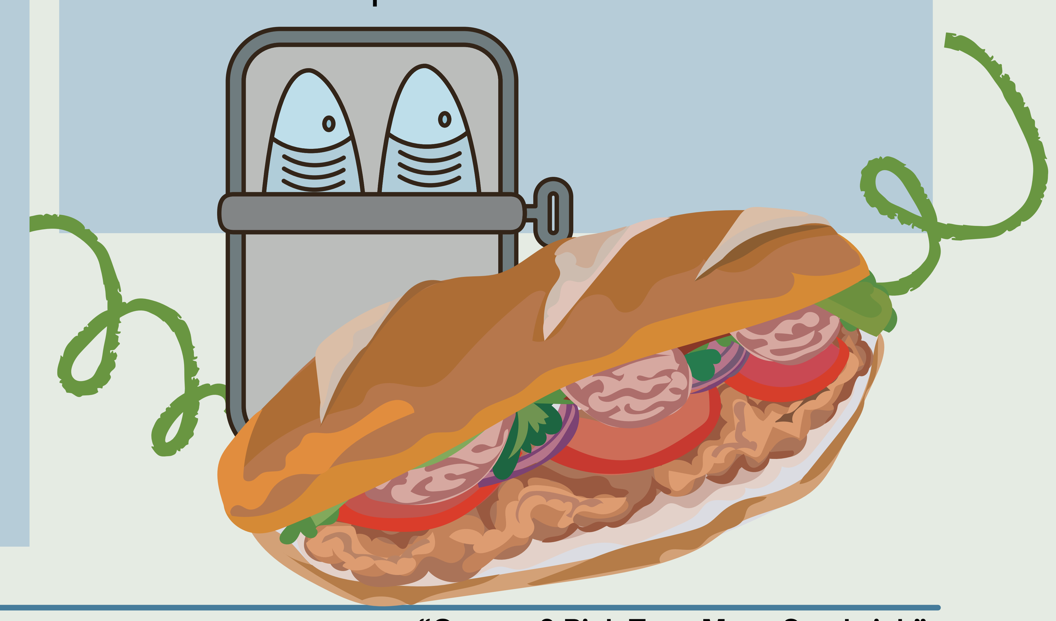
This project aims to scope convenience products commonly consumed among low-income demographics and assess which ones could include LTSP to lower their carbon footprints and increase the product's nutritional value.

RESEARCH QUESTIONS

1. What knowledge do retailers have about the barriers to lower-income consumers' LTSP consumption?
2. What existing convenience products are low-income consumers buying, to which we could add LTSP and how might that affect consumer acceptability?
3. What inclusion rate would significantly reduce the carbon footprint of the products and how would that affect nutrient intake for consumers?

METHODOLOGY

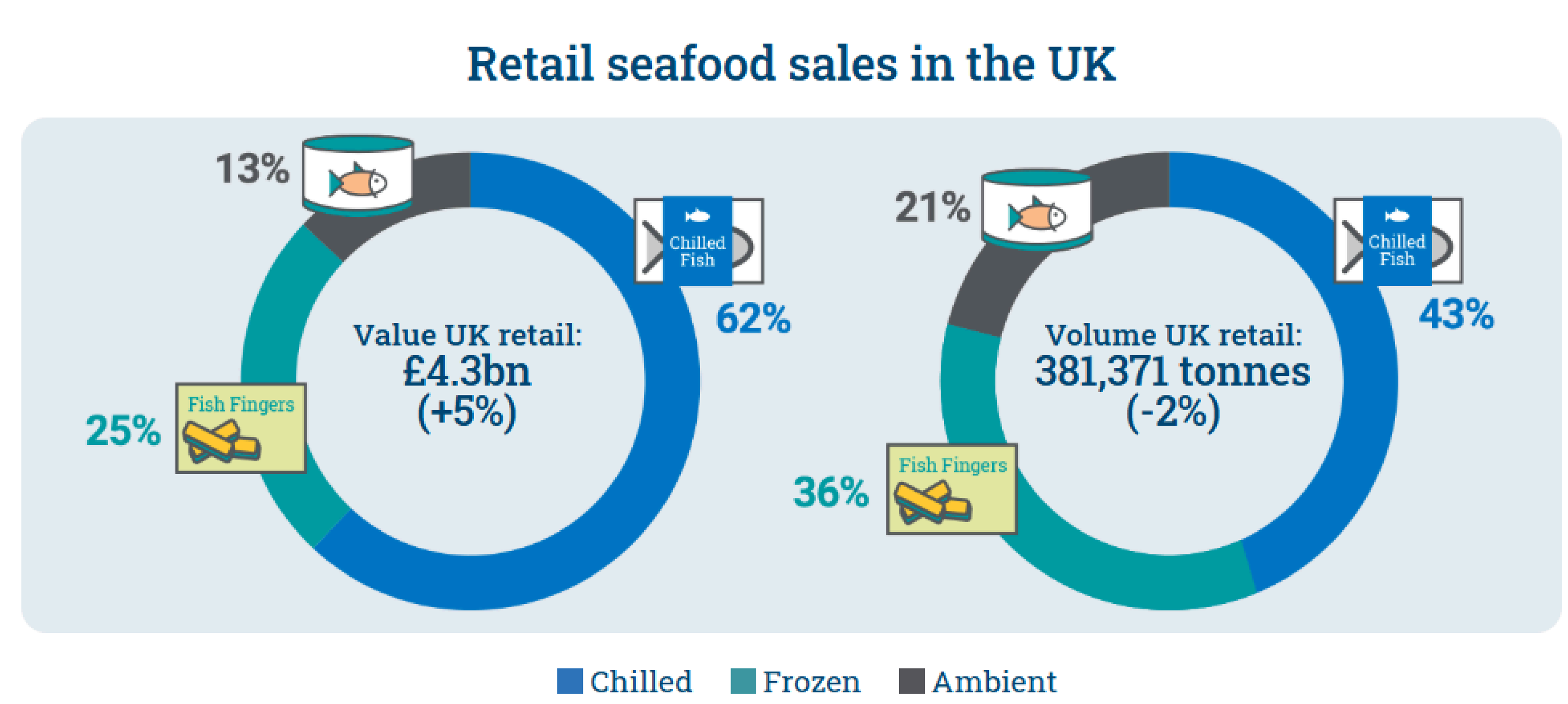
We will achieve this by accessing retailers' existing knowledge of consumer habits to identify appropriate convenience products, then use life-cycle assessment and nutritional modelling to understand what LTSP inclusion rates are required to significantly improve the products' nutrient to carbon footprint ratio.



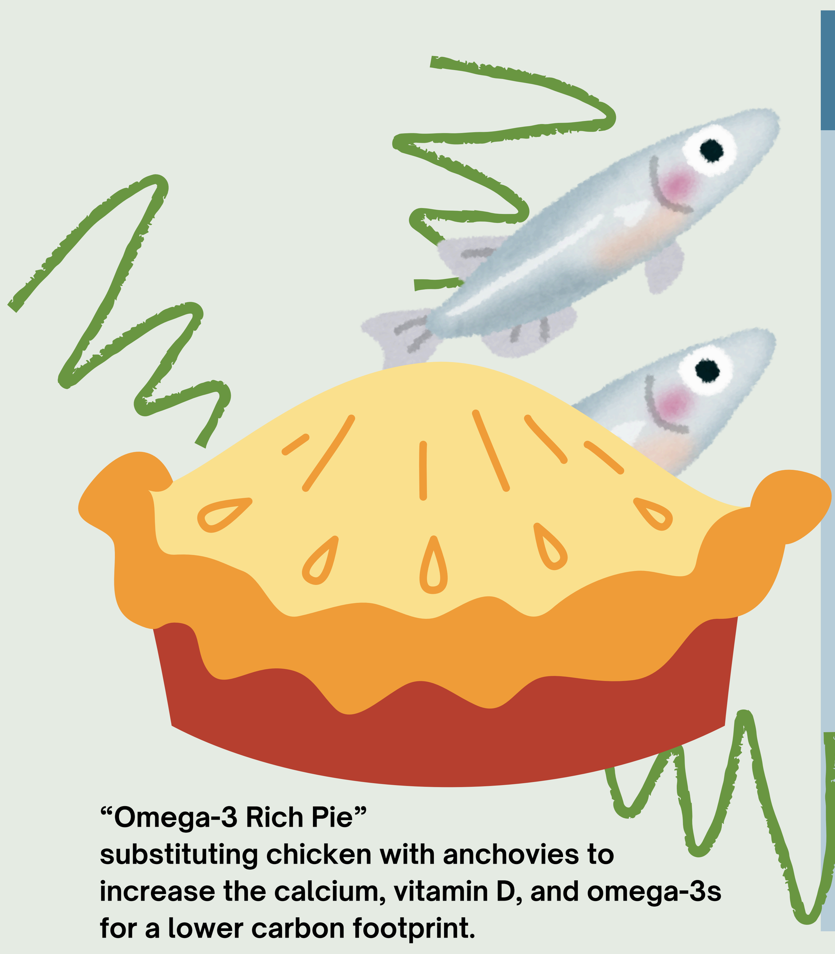
"Omega-3 Rich Tuna Mayo Sandwich" substituting tuna with mackerel to lower the carbon footprint and increase the omega-3s.

ACTIVITIES

1. Literature Review on UK seafood consumption and lower-income demographic consumer behaviour
2. Qualitative interviews with retailers.
3. Life-cycle assessment modelling of products with and without LTSP inclusion (led by UoS).
4. Consumer questionnaire to establish acceptability of LTSP inclusion.
5. The results will be circulated to retailers, government, consumers, and academics.



Seafish infographic showing the distribution of purchased seafood in the UK in 2023.
Available at: https://www.seafish.org/insight-and-research/seafood-retail-data-and-insight/



"Omega-3 Rich Pie"
substituting chicken with anchovies to increase the calcium, vitamin D, and omega-3s for a lower carbon footprint.

STATE OF THE ART

Other researchers are already trialling novel mussel products, like 'mussel burgers' to increase consumption among all socio-economic classes while others are introducing mussels into school meals; however, there is a lack of targeted research on appropriate strategies to reach lower-income consumers particularly and LTSP more broadly. We're hoping this scoping review will begin to address that!

IMPACT GOALS

Altering convenience product recipes to include LTSP will theoretically require only a slight behaviour change for consumers (e.g., purchasing a fish pie with mussels instead of one without). Even a small portion of consumers choosing convenience products including LTSP could lead to a rapid increase in demand for LTSP. This would support the UK LTSP industry, which requires a larger demand to increase their production that provides ecosystem benefits (e.g., mussels filter water and LTSP farms provide aquatic habitats). Additionally, increased consumption of LTSP in convenience foods should improve nutritional value of convenience meals and lower the carbon footprint of those ready-to-eat products.