Review of evidence on consumer food-related behaviours that impact on sustainability: Final Report EVO541

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Disclaimer

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This report would like to recognise researchers Eleanor Cooksey and Hannah Rowlands for their contribution to the project and report output.
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## Glossary of Terms

<table>
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<tr>
<th>Term/Phrase</th>
<th>Definition</th>
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<tr>
<td>Hotspot</td>
<td>Hotspotting is an approach used to assess areas of negative impacts - most commonly this approach is deployed to assess relative product or service environmental impacts e.g. GHGs and/or Water. This approach has been adapted to additionally encompass indicators of social and economic impacts.</td>
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| Trendspot   | Trendspotting is an approach developed to assess an evidence base through the lens of cultural and societal norms. Trendsprts consider:  
  • **Access**: physical, psychological and financial drivers driving current behavioural trends/inhibitors to change  
  • **Appeal**: prevailing, emerging or changing attitudes impacting current behavioural trends  
  • **Awareness**: Education, knowledge (gaps) and ‘passed-on’ wisdom concerning current behavioural trends |
| Food Moment | A food occasion specifically linked to a time or activity – e.g. Breakfast, Lunch, Dinner, Supper, Snack |
| Food Practice | The practice involved in the acquisition, preparation and consumption of a food item or meal |
| Macro Theme | A theme which recurred with frequency across all ‘Key Themes’ |
| Key Theme | A theme which has been identified as high frequency within the Systematic Literature Review and of high negative impact through Hotspotting process |
Executive Summary

The primary aims of this project were to conduct a 12 week Rapid Evidence Assessment (REA) to:

1) critically assess and summarise the existing evidence surrounding (non-food-specific) food-related consumer behaviours impacting on sustainability;
2) explore the opportunities for increasing consumer uptake of (more) sustainable food-related behaviours (and practices);
3) identify evidence gaps where further research may be required to inform the creation of a robust and actionable roadmap and project recommendations.

This work was designed to draw upon existing Defra work, namely the Food Synthesis Review (2009) and the on-going work conducted by the Green Food Project (GFP). Currently, parallel GFP activity includes workstreams covering both dietary choices and consumer behaviour patterns in relation to the overall sustainability of the food system.

Report:

The principal purpose of this report is to detail the findings of the 12 week REA review process. Within the report we outline suggested routes towards the more detailed development and subsequent delivery of a comprehensive roadmap which might catalyse more sustainable food-related practices. Evidence gaps for further research are highlighted.

Scope:

This evidence review specifically addresses the topic of non-food-specific food-related behaviours. The focus is therefore on behaviours, rather than food-specific dietary choices. Whereas a study into sustainable diets might be concerned with the impacts of ‘dietary’ choice, e.g. meat vs. vegetarian ingredients, this research focuses on the sustainability of the food practice in isolation. For example, this study reviewed the evidence documenting the relative (social, environmental and economic) sustainability merits or demerits pertaining to the practice of in-home from scratch meal preparation and the consumption of fast food or pre-prepared ready meals.

In order to create workable project boundaries the following exclusions were agreed in collaboration with the Defra and Best Foot Forward project team: dietary (food item or category specific) choices, food waste and energy use.

Methodological Processes

The research for this project was conducted in two phases.

1. This research builds on Defra’s 2009 Food Synthesis Review which provides an overview of the factors driving consumer behaviours towards food. The project started from the basis of the Synthesis Review’s finding that “food-related behaviour is very complex and requires an understanding of many different behaviours across all phases of consumption from purchase through to disposal. The generic evidence base on food choice is vast and stresses factors which interact and impact at individual, social, contextual and societal levels”
2. The Green Food Project is a joint initiative between government and industry (food, farming and environmental) to find ways to increase food production while also improving the environment.
• Phase one provided an overview of the current consumer food behaviours landscape, the drivers for the current prevailing social norms, and the potential barriers to the mainstream adoption of ‘more’ sustainable food practices.

• Phase two assessed the practical tools and mechanisms for influencing behaviours and underlying barriers to change. Phase two produced an illustrative roadmap, designed to advance short-term mitigation strategies and longer-term consumer food behaviour, practice and attitudinal changes.

Process and Theme identification:

An initial systematic REA process was deployed over three phases in order to identify potential priority areas or themes for the project’s investigation. 296 sources were considered as priority literature sources within this process.

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Based upon the results of Phase #1, i.e. the UK Consumer Behaviour Assessment Literature Review (and the noted project boundaries), six themes were identified for further research. Theme selection was determined firstly by the frequency of the theme occurrence, and secondly, (where applicable) via the Hotspotting\(^3\) validation approach, which confirmed that the identified themes presented significant negative (a minimum of two or three impacts across social, environmental and/or economic criteria) impacts.

Theme development

The six themes highlighted in the initial literature review were categorised as either ‘macro’ or ‘key’ themes. Macro themes did not lend themselves to the hotspotting approach. However, they were selected on the basis of their primacy and frequency within the literature and for their evidenced cross-cut across and beyond (e.g. influence on waste) the key themes. These macro themes were:

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\(^3\) See Glossary of Terms
1. **Connection** - (or lack of) between consumers and food, in addition to food systems in general; and
2. **Value** - the dominant 'price and volume' lens through which food is valued.

The four key themes are:

1. Breakfast choices
2. Ready Meals (consumption patterns)
3. Fast Food (take-away and quick service restaurant (QSR) consumption patterns)
4. Cooking From Scratch (propensity⁴)

Defra’s Food Synthesis Review concluded that food behaviour is often based upon irrational choice. Moreover, the food synthesis review concludes that individual food and food practice choices are also constrained by contextual factors, including what food is available, accessible and affordable, as well as what food and food practice is culturally perceived as ‘normal’ within society.

Following the theme selections, the Trendspots⁵ methodological evaluation was deployed to identify the contextual factors and drivers which support the identified ‘poor’ behavioural norms. The behavioural drivers were assessed under the following criteria:

- **Access**: physical, psychological and financial drivers driving current behavioural trends and inhibitors to change.
- **Appeal**: prevailing, emerging or changing attitudes impacting current behavioural trends.
- **Awareness**: Education, knowledge and values/actions gaps concerning current behavioural trends.

**Key Findings:**

There is a significant (and growing) body of evidence to suggest that UK consumer food behaviours are currently misaligned to the building and maintenance of a more sustainable food system. The prevailing trends show inter-connected social, health, environmental and economic challenges on both personal and national levels, with far-reaching implications.

Drivers for less sustainable behaviour range from physical systems of food provision and financial access, through to changing work and leisure patterns, education, evolved taste preferences and declining access to and celebration of food preparation and consumption. The commoditisation and de-prioritisation of food and food occasions mitigate against more sustainable UK food lifestyles, food practices, dietary choices and long-term food behaviours and attitudes.

**Key findings by grouped themes**

**Connections and Value**

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⁴ 'Cooking From Scratch' is defined as the preparation of food using raw ingredients either from existing knowledge, received wisdom or with the use of recipe books or cards.

⁵ See Glossary of Terms
The research shows that the issues prevalent within the macro themes of Connections (discussed in Section 3) and Value (discussed in Section 4) heavily interlink.

The evidence suggests that unless these macro themes shift, any changes in consumer food-related behaviours facilitated by changes to more tactical interventions around, for example, access and infrastructure, may fail to endure.

A consumer, who has come to value food solely or primarily on the basis of its cost and volume, will typically be less inclined to ask questions about, or make demands in relation to, food quality or wider sustainability credentials. Whilst a consumer might, under research conditions, consider themselves concerned with a narrow (e.g. human health and nutrition) or broad (environmental concern) sustainability criteria, their decision making frequently demonstrates a significant ‘value/action gap’ in respect of food practices and food choices (Kollmuss et al, 2002, Maio et al, 2007, Webster et al, 2006).

Supporting the current disconnection from and narrow lens of valuing food, sits a host of complex factors: These include increased urban living, changes from a land and manufacturing-based to a desk-based work economy, food retail norms around price and multi-buy product promotions, and the rise of alternative (to growing and cooking) leisure pursuits, such as multi-media and digital device leisure time prioritisation.

Increasing connections to and engagement with food, over time, typically lends itself to more discerning decision-making across multiple metrics. Choices made with consideration of physical and mental health benefits, local economy, and animal and environmental welfare are more likely to occur where a consumer views food beyond its role as a commodity purchase.

**Barriers and approaches to change**

Barriers to change are considerable and any enduring change to social norms will take time to realise. However, the multiple levers of change (Govt, business and civil society), working together in pursuit of a shared goal can deliver significant short-term practice, longer-term behaviour and attitude change which can lead toward mainstream re-prioritisation of, and connection to food.

**Breakfast:**

As a nation the UK ranks poorly (compared to EU counterparts) in the numbers of adults and children (35%) routinely skipping breakfast (Kraft, 2010). Of those who do consume a regular breakfast, the breakfast choices are often high impact across a range of environmental, social, health and economic parameters.

Poor or skipped breakfasts are evidenced to lead to a range of environmental impacts and significant impacts in the areas of mental and physical wellbeing, education and workplace productivity, and resultant social and economic mobility.

**Barriers and approaches to change**

Barriers to change lie across all areas of physical, psychological and financial access in addition to the areas of awareness and appeal. Approaches to change would need to work towards improving the systems of provision through schools and workplace environments,
as well as through the promotion of more ‘positive’ and convenient breakfast choice product offerings. The ‘on-the-go’ breakfast category represents a significant opportunity to deliver new product innovations designed to better meet the desired social, environmental and economic outcomes. The commercial sector, NGOs, charities and policy makers all have a role to play in removing the access barriers, improving awareness and generating appeal for a new and more sustainable breakfast norm.

Ready Meals, Fast Food and Cooking from Scratch

The key findings across these grouped themes are 1) the rise in the purchase and consumption of pre-prepared meals and fast foods and 2) a decline in the number of UK adults skilled, willing and frequently cooking from scratch within the home, as evidenced by a selection of key statistics below:

- One in six people say that they cannot cook (Good Food, 2011).
- 57% say that they do not consider food important compared to other social and cultural activities they wish to engage in on a daily basis (Blythman, 2006).

A rise in the consumption of pre-prepared or fast foods and the decline in home cooking is not necessarily synonymous with poor health or high environmental impact. The pre-prepared foods category is capable of delivering favourable environmental and social outcomes e.g. food production standards; waste and portion control can be controlled within the value chain. However, the evidence suggests that a number of mainstream choices are still contributing to poor social (particularly health) wellbeing and significant environmental impacts. There are also potential knock-on economic impacts, including public health spending. Furthermore, softer measures of societal and wider wellbeing impacts, such as the demise in social eating, and cooking as a shared or solo pastime are frequently evidenced impacts.

Barriers and approaches to change

Key barriers to more sustainable food practices with respect to the three themes of Ready Meals, Fast Food and Cooking from Scratch are evidenced across all areas of physical, psychological and financial access, as well as in the areas of awareness and appeal. A growing demand and expectation for the availability of low-cost convenience foods, and a demonstrable reluctance on the part of some mainstream food manufacturers and retailers to choice edit or choice limit beyond some very baseline targets combine to perpetuate the multiple high impacts of the pre-prepared meal sector.

Furthermore, perceptions of access to raw ingredients, the relative costs and difficulty of home cooking, coupled with the well-evidenced decline in basic cooking skills, all combine to reinforce a ‘no cook’ culture. This serves to perpetuate social norms which deliver a range of social, environmental and economic impacts that are incongruous to more sustainable food behaviours or supporting systems.

Approaches to change would need to consider ways in which to re-balance the typical UK food behaviour towards access to and appeal of a more ‘blended social norm’ that encompasses demand for, and supply of, more sustainable (social, environmental) pre-prepared meal choices AND advocacy and enablement of a return to basic cooking skills.
Interventions Review

The Phase #2 evidence highlighted a wide body of interventions which may be considered and examined further to ascertain relative abilities to deliver, at scale, more sustainable food behaviours.

Many of the interventions reviewed displayed a linear view i.e. tackling breakfast in isolation from wider food practices. Furthermore, many lacked clear, coherent and consistent messages, and there was often a lack of standard evaluation criteria with which to assess their relative effectiveness.

Beyond a small number of strong examples such as the ‘5-a-day’ campaign, there lies an array of complex and sometimes contradictory messaging as to what is ‘good’ or ‘better’. A plethora of messages around food miles, local food, organic, Fairtrade etc. have generated a degree of market place confusion and consumer dissonance.

Whilst small scale targeted interventions can create important and often very immediate shifts in behaviour at a grass roots level, these smaller scale tactical interventions do not necessarily lead to widespread and sustained behaviour change.

Recommendations

The macro themes of Value and Connection point towards a need to look in parallel at both tactical grass roots interventions by food practice and a longer-term cohesive map of cross-theme interventions designed to tackle multi-demographic, multi-food-practice attitudinal and behavioural shifts.

These interventions should seek to convene business, retail and NGO/charity partners to create ‘joined-up’ approaches with shared directions or visions of what ‘good’ might look like across social, environmental and economic long-term interest.

The Illustrative Roadmap provides a guide as to how further DEFRA work might be undertaken in order to drive positive change and rebalance unsustainable food behaviours (see Section 9).

Evidence gaps, trade-offs and limitations of the study

A number of evidence gaps have been detailed within the main report, with recommendations for further study. The study was limited by time and scope and the literature cannot be considered to be comprehensive in its analysis of behaviours, drivers or trends.

It is important that future work addresses these gaps and diversifies the scope of the food related behaviour topics in consideration. Currently food behaviours are viewed through a relatively narrow lens, with limited context in respect of wider attitudinal dispositions, quantitative impacts, behavioural assessment models and systems thinking.

Further consideration should be given to the potential for unintended consequences or rebound effects which might result from the deployment of interventions.

In certain cases, personal, national, social, governmental, environmental and economic interests will be in conflict and the short, medium or long-term view taken will necessarily
influence the degree to which any given party is deemed to be a beneficiary, or to suffer detriment.

For the project to fully and comprehensively meet the project aims it would be necessary to create and agree a **definitive vision** of what these ‘more sustainable food-related behaviours’ are. This was not possible within the 12 week time frame using a secondary evidence base.

To meaningfully achieve this definitive vision it would be necessary to develop and deploy universally agreed criteria for evaluation and weighting across sustainability metrics. Further weightings would need to be developed and applied for short vs. medium vs. long-term priority of each metric, relative to another.
1. **Project Overview**

1.1 **Project Aim, Scope and Limitations**

The primary aims of this research were to:

1) Critically assess and summarise the existing evidence base surrounding (non-food-specific) food-related consumer behaviours via a Rapid Evidence Assessment (REA) over a 12 week review period;
2) Explore the opportunities for increasing consumer uptake of (more) sustainable food-related behaviours (and practices);
3) Identify evidence gaps where further research may be required to inform the creation of a robust and actionable roadmap and project recommendations.

This work was designed to draw significantly upon pre-existing Defra work, including the Food Synthesis Review (2009)1 and the on-going work conducted by the Green Food Project (GFP)2. Both programmes of work consider the opportunities to influence consumer behaviour towards a central and unifying end goal i.e. the demand for and delivery of a more sustainable food system.

Currently, parallel GFP activity is focussed on the roles of both dietary choices and consumption patterns, in relation to the overall sustainability of the food system. In order to facilitate knowledge sharing across parallel programmes of work project lead Vicky Grinnell-Wright was seconded to The Green Food Project, working particularly with the Behaviours workstream.

**Report Function:**

The purpose of this report is to deliver the key research findings to date, identify evidence gaps and offer subsequent recommendations for further research. A key focus of further research surrounds the validation and prioritisation of the social, economic and environmental impacts of identified food-related behaviours and the intervention opportunities that might best enable the delivery or stimulation of more sustainable food behaviour outcomes.

**Project Scope:**

This project specifically addresses the topic of non-food-specific food-related behaviours and the focus is firmly on behaviours, rather than food-specific dietary choices. In order to create workable project boundaries the following exclusions were agreed in collaboration with the Defra and Best Foot Forward project team:

- **Dietary (food item or category specific) Choices** - The GFP is currently undertaking parallel work around the definition of a ‘sustainable diet’.

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2. Green Food Project (GFP)
• **Food Waste** - Food waste remains an important issue arising frequently within the evidence reviewed, however, an extensive programme of work on food waste and waste mitigation is currently being executed by the WRAP team and other external parties, e.g. Waste Watch and the Fabian Society. It was therefore concluded that waste is out-of-scope for this project.

• **Energy in use** - Exploring the impact of refrigeration/freezing and cooking of food items has been excluded. This has been covered in recent WRAP work programmes and reports such as Reducing Waste Through the Chill Chain (Wrap, 2010).

### 2. Methodological Tools

In delivery to the stated project aims, the research project drew upon a wide body of existing literature in order to:

1) identify prevalent high negative (environmental, social, economic) impact food behaviours and practices;
2) identify potential intervention opportunities to positively influence behaviours with proven negative environmental and/or socio-economic impacts;
3) identify evidence-gaps and areas for further longitudinal evaluations.

#### 2.1 Methodology

The research for this project was conducted in two phases (see Figure 1).

- **Phase one** provided an overview of the current consumer food behaviours landscape, the drivers for the current prevailing social norms, and the potential barriers to the mainstream adoption of ‘more’ sustainable food practices.
- **Phase two** assessed the practical tools and mechanisms for influencing behaviours and underlying barriers to change. Phase two produced an illustrative roadmap, designed to advance short-term mitigation strategies and longer-term consumer food behaviour, practice and attitudinal changes.

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Figure 1: Overview of methodology process flow
Within the broader two phase methodological approach there are a series of sub headings which capture each core process step in more detail.

- **Phase #1 Stage #1 UK Consumer Behaviour Assessment**
  Phase one used the project’s REA process to identify ‘occurring with high-frequency’ consumer food behavioural themes.
  In order to inform the final selection of the themes for the short 12 week study focus, these high-frequency themes were then assessed for their relative (high, medium, low) impacts using a ‘Hotspotting’ approach. For a detailed overview of all the high frequency theme impacts found during the REA process please refer to the impact matrix which can be found in Section 3 of the Appendix.

- **Phase #1 Stage #2 Behavioural Drivers Review**
  Having confirmed the identified themes as relatively ‘high impact’ through the Hotspotting process, a second process, ‘Trendspotting’, was then used to identify the drivers of, or barriers to, consumer adoption of ‘more’ sustainable food practices.

- **Phase #2 Stages #3 & #4 Behaviour Interventions Analysis and Recommendations**
  **Stage #3**
  This process stage centred on the review of the ‘Interventions and Mechanism’ evidence base provided by the overarching REA process and a light-touch assessment of the effectiveness or likely effectiveness of existing and recent historical intervention programmes in influencing behaviours. It must be noted that a considerable evidence gap was found here in relation to the evaluation of success typically applied to existing and historical interventions programmes. No common evaluation approach was found and the scoring, where used, is often subjective and lacking in comparative and normative samples.
  **Stage #4**
  Stage #4 of the project delivered sample Illustrative Interventions Roadmaps, designed to outline possible combinations of both short-term mitigation strategies and longer-term consumer food behaviour change, across all identified research themes. The Interventions Roadmap is comprised of historical, current and innovations interventions ideas and should not be considered as a de facto or approved Defra Roadmap. Please refer to Section 9 and Section 6 of the Appendix for more information.

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Where it was feasible to do so via a proxy product and/or using available evidence in support of environmental, social and economic impacts.
2.1.1 Literature Review overview

For the purpose of this project a large scale rapid evidence assessment\(^7\) (REA) of secondary literature (academic, grey, market reports, business reports etc.) was conducted. This process was used to identify literature sources which could inform three specific goals:

1) consumer behaviour identification and assessment;
2) identification of behavioural drivers; and
3) identification of the mechanisms and interventions used to influence consumer food-related behaviours.

This REA process resulted in 403 literature sources for review\(^8\). A top level theme and content filtration analysis was then performed on the accumulated literature in order to establish key themes for investigation. This initial filtration process reduced the evidence pool to 296 significant resources selected across six key themes.

To distil the literature further, applicability and quality analysis was applied by the project team to the remaining 296 sources. The criteria set by the BFF team comprised of content, applicability and source quality scores. Both applicability (environmental, economic, social impact and specific food-related behaviour application) and quality (credibility of literature source)\(^9\) were scored on a scale of one (low) to five (high). To warrant a more detailed in-depth assessment the REA sources were required to achieve top scores across all metrics (content, applicability and quality). Those with the highest score were then prioritised for review. At the end of this second filtration process 57 sources of literature were identified for more detailed assessment.

2.2 Hotspot Methodology

The ‘Hotspots’\(^{10}\) methodology was developed by the Best Foot Forward team in order to enable the assessment of product, service or ingredient level environmental impacts on either a narrow spectrum (focus on single metrics e.g. carbon), or a more wide-ranging one (to include biodiversity, water, waste, land use, etc.).

Hotspotting can be used to assess quantifiable and relative impacts e.g. the GHG emission differences between meat or vegetarian products or ingredient choices, or the relative impacts of a supply chain decision on transport or production methods. This methodology has been used extensively by Best Foot Forward clients including The Product Sustainability Forum (WRAP) and Tesco.

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\(^7\) A REA is defined as the systematic review, search and critical appraisal of existing research. They aim to be rigorous and explicit in method and thus systematic but make concessions to the breadth or depth of the process by limiting particular aspects of the systematic review process (Civil Service, 2011).

\(^8\) The age of food-related behaviours literature reviewed ranged from 2009 to the present date, as a key project scope parameter included the use of the 2009 Defra Food Synthesis Review as a benchmark for literature inclusion and exclusion search boundaries. Additional literature sources (specifically sociology and psychology) spanned a thirty year period (1983-2013).

\(^9\) Evidence sources gathered cover a variety of mediums such as academic journals, government publications, official research institutions, market intelligence agencies, retailer and manufacturer publications and wider media such as news paper articles, blogs and press releases.

\(^{10}\) For the purpose of this project the definition of a Hotspot is: ‘an identified area of high negative impact in relation to People, Planet, and Profit’.
To move the assessment beyond the singular assessment of the environmental impacts of food-related behaviours, this project required a broader approach, measuring impacts across the following criteria: 1) environmental impacts 2) societal wellbeing, including health and 3) economic impacts. The occurring-with-high-frequency themes identified during the Phase #1 literature review had to also, during the Hotspotting process, display negative impacts across two or more of the agreed sustainability criteria, in order to proceed to Trendspotting analysis. For example, the frequently occurring theme of ‘poor’ breakfast choice was found during Phase #1 stage #1 literature reviews however the quantifiable impact of the behaviour might be found using a proxy product. Using a proxy product the behaviour of ‘poor’ breakfasts would be assessed using hotspot metrics, with a view to assess high negative environmental impact and high personal health and societal (social mobility affected by poor diet and resultant educational or work place attainment) impacts. As such it would then self-qualify as a behavioural theme for further study.

The Hotspotting process produced a short-list of four specific food-related behaviours that might be targeted for further investigation and potential intervention. Only themes for which it was practical to use a proxy food item were assessed against firm environmental impacts. A significant limitation of the Hotspot methodology is that this process is impervious to psychology and social context which governs a particular behaviour, habit, pattern or social norm. It is also unable to quantify the aggregation of subjective impacts such as human connections to food: a cross-cutting and recurring theme across the literature reviewed.

### 2.3 Trendspot Methodology

In addition to the use of the Hotspot methodology the BFF project team deployed a secondary methodology: Trendspot. The multi-method approach enabled:

1) assessment of the quantifiable and relative environmental impacts of food behaviour product choices (Hotspots), and

2) assessment of the wider sociological, financial, cultural and psychological behavioural influences and impacts (Trendspot).

The Trendspotting approach is a newly developed methodology through which to assess the behavioural drivers and impacts of current food behaviours in the UK. The methodology is underpinned by sociological and cultural theories and works by creating a lens through which to view and interpret literature in addition to the creation of a critical categorisation process to structure evidence.

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11 It must be noted that the data provided within the hotpotting process is indicative and not absolute as the hotpotting process uses proxy food products that are representative of the outlined food behaviours. Therefore the findings are used to create a top-level baseline to inform and develop an impact hypothesis which can broadly be applied to the food-related behaviour under assessment. Additionally, as the social metrics assessed are in many instances subjective and open to interpretation, the project team used established methodology, literature review findings and their own judgement to make informed social metric impact assessments.

12 Please refer to Section 4 of the Appendix for the sample and proxy hotspots work.
The Trendspot methodology has been influenced by (amongst others) the renowned sociologist Max Weber and his (non-food-specific) theory of group status and the categorisation of subculture (Swindler, 1986). Weber’s work focuses on cultural groups asserting that the members of social, racial, ethnic and other groups live a certain lifestyle based on particular values and norms, and therefore operate as a culture within a culture, i.e. a subculture (ibid, 1986).

Within the UK there are evidenced subcultures of food behaviours and trends. Engaging with this lens of sociological and culture awareness allows the literature and evidence base to be reviewed over a broad spectrum contextualising and grounding findings within typologies of behavioural drivers and influencing factors.

The Trendspot methodology uses a barrier/drivers classification referred to as the “3 A’s”. The 3 A’s are:

- **Access**: physical, psychological and financial drivers influencing current behavioural trends/inhibitors to change.
- **Appeal**: prevailing, emerging or changing attitudes impacting current behavioural trends.
- **Awareness**: education, knowledge (gaps) and ‘passed-on’ wisdom concerning current behavioural trends.

An output of the Trendspotting 3 As process is the population of the Behaviour Drivers tables which unite all of the food behaviours examined as illustrated in sections 5 and 6. Outlined below in figure two is an illustrative representation of the trendspot process and its key process steps.

Figure 2 Trendspot Methodology Overview

The subheadings used within the Behavioural Drivers tables have been created and included within the Trendspot methodology due to their high frequency occurrence within the literature assessed and the cross cutting nature of their influence. For an example of completed food behaviour driver Trendspot table please see tables 3 (page 18) and 4 (page 26).
2.3.1 Assumptions and limitations to note:

Of the hotspot and trendspot methodology the following assumptions and limitations have been identified:

- An assumed causal link has been made between food behaviours and social norms.
- The behaviour change theories applied within the main report are not exhaustive and excludes detailed application of, for example, Practice theory. This theory limitation is addressed within the technical report.

The adoption of the Hotspot and Trendspot methodologies helps to further understanding the identified negative food-related behaviours, in particular enabling assessment of:

- The areas of highest negative impact (Hotspots);
- The opportunity for the highest impact intervention and mechanism per behaviour; and
- Evaluation of the likely efficacy of scalability and barriers to these interventions.

Outlined below in figure three is a diagrammatic representation of how the two project methodologies interconnect. As demonstrated the hotspot methodology on the right assesses the impacts of specific food choices whereas the trendspot methodology analyses the value and external variables which feed into value creation on the left side of the diagram.

Figure 3: Methodology interaction and application in the assessment of food-related behaviours

2.4 Project Themes

As discussed in Section 2.1.1, the 12 week REA assessment of secondary literature captured 296 literature sources of note spanning both the Phase #1 Stage #1 Behaviour Assessment Literature Review (used to guide the areas of hotspots i.e. high impact
investigation) and the subsequent Phase #1 Stage #2 Behavioural Drivers Literature Reviews against which trends were identified and assessed. From this review process six themes were identified as ‘high impact’. These themes formed the basis for subsequent interventions roadmap research and planning. This part of the project process is illustrated below in Figure 4:

Figure 4: Project theme development overview

2.4.1 Macro themes

The literature review and Trendspotting process revealed two commonly recurring macro themes which cut across all of the included (and many of the excluded themes, please refer to Section 3 of the Appendix) consumer food-related behaviours. These themes were:

a. ‘Connection’ to food
b. ‘Value’ attached to food

Whilst it was not possible to ‘Hotspot’ generic themes or concepts (there can be no proxy generic product linked to a concept such as ‘value’), the frequency of their occurrence within the literature reviews called for their prioritisation.

Both within the project boundaries and beyond (i.e. taking into account wider GFP workstreams which might include waste, food and dietary choices), these two macro themes show a high degree of inter-connectivity. Throughout the literature it was common for links to occur between lack of a connection to food on a physical, emotional, or psychological level and the reinforcement of the low priority often ascribed to food. There were frequently occurring associations made between the continued disconnection between food producer, food quality and short, medium and longer-term health, environmental and economic impacts.

2.4.2 Key themes

In addition to the two macro themes, the REA evidence base produced four further food practice-based themes. These themes were first identified through the behavioural assessment literature review and subsequently validated through the Hotspotting process.\(^{13}\)

\(^{13}\) Noting the project exclusions of other high-frequency themes such as waste and dietary choices, these were the areas with demonstrable negative impacts across two or more of the criteria: social, environmental, economic.
(as discussed in Section 2.2). For a detailed overview of the negative impacts of the behaviours assessed please refer to the behaviour impact matrix in Section 3 of the Appendix.

The key themes are:

1. Breakfast choices
2. Ready Meals (consumption patterns)
3. Fast Food (take-away and Quick Service Restaurant (QSR) consumption patterns)
4. Cooking From Scratch (propensity)

2.5 Theoretical Points of Note

Due to the limited time frame and scope of this project, i.e. the constraints of the literature search phrases defining the scope and breadth of evidence reviewed (for a comprehensive list of all search terms used please refer to appendix 2), there are inevitably behavioural theories and bodies of work not included within, or explored in great depth directly within this project’s evidence synthesis. Examples include Practice theory perspective on consumption and the normalisation of everyday consumption, the role of identity and related values e.g. threaten identities in shaping attitudes towards food choices and behavioural influencers such as income and class and food security. These evidence bases are known to the project team and have been incorporated within the analysis and critic of evidence where practically (time, budget, scope and resources) possible. It is recommended that further research broaden the scope and search terms used to incorporate the above outlined topics within the review.

3. Macro Themes Explored: Connection

**Full version of theme included within the technical report

3.1 What is the theme?

The literature review revealed a frequently recurring theme around people’s connection (or lack of) with food and food systems.

As described later in Section 4, the evidence suggests a strong causal relationship between ‘lack of connection’ with food and the basis upon and degree to which food is then valued.

Much of the literature reviewed focussed on the increasingly weak connection between food producers and food consumers (Clonan et al, 2010, Coley et al, 2009, Spector, 2002, Sims et al, 2010). The results of this ‘disconnect’ include decreased levels of consumer knowledge about the production practices used by food producers and the impact of these practices on health and the environment. Particular areas of ‘disconnect’ were evident in relation to farming with the general population becoming increasingly removed from the supply chain that ‘puts food on plates’ (Aertsens et al, 2009, Janssen et al, 2011, Sims, 2010).

The evidence highlighted two dominant trends in the area of connections with food. The first is a downward trend in the numbers of adults and children ‘connected’ (physically, mentally,
and emotionally) to food, food systems and food preparation (Angus et al, 2009, Gliessman, 2000, SDC, 2007). The second counter-trend suggests that there is, however, a new emerging consciousness around food and food choices (Seyfang, 2006, Jones, 2012, Tenacati et al, 2012).

For the purposes of this report, these trends are referred to as:

1. Disconnected food consumers
2. Conscious food consumers

The remainder of the work will assume that those interventions which move towards the creation of a more engaged, conscious, intuitive and empowered consumer with a stronger connection to food are desirable.

3.2 Why does it matter?

Connection with food, together with the other macro theme of Value, acts as a significant driver and influencer for other in-scope food-related behaviours. There is an increasing ‘connection gap’ between food producers and food consumers (Clonan et al, 2010, Coley et al, 2009, Spector, 2002, Sims et al, 2010). The results of this ‘disconnect’ has led to decreased levels of consumer knowledge surrounding food production, its impact on human health and on the environment. The recent (2013) horsemeat supply chain challenges demonstrate a current example of the food connections and supply chain awareness challenges covered within the literature reviewed (Aertsens et al, 2009, Janssen et al, 2011, Simms, 2010).

There are multiple supporting social, environmental and economic arguments advocating for interventions designed to re-establish human connections with food. It is well evidenced that a poor understanding of food production and food systems directly impacts food behaviours (Maio et al, 2009). The wide ‘values action gap’ demonstrated by the UK food consumers is a key challenge to be met with. According to the evidence base, many consumers describe themselves as having pro-environmental attitudes and as being deeply concerned with food provenance issues. However, this belief does not necessarily always translate into actions, such as purchasing sustainable products or maintaining sustainable food behaviours (ibid, 2009). The findings

Figure 5: The virtuous cycle of value & connection
support behavioural theories that context, habits and social norms all contribute heavily to consumer behaviours and that awareness does not equate to action or behaviour change, short-term or sustained (Maio et al, 2011, Crompton 2008).

Figure 5 serves to illustrate a sample of the possible inter-connected and aggregating benefits of re-establishing consumer connections with food, via multiple and co-ordinated interventions programmes. The diagram takes the example of a primary school age child and explores the multiple touch points at which positive food connections might be introduced and nurtured to create a virtuous circle of positive messaging, behaviour change and longer-term attitude change. This example has been chosen as the evidence base reviewed revealed that schools represent a significant opportunity to create and deliver national scale multiple interventions ranging from the growing of food, to its preparation and cooking (Caroline Walker Trust, 2009). Taking the child into their other spheres of life there is evidence that children’s influence on their families can be significant and that the role of schools in delivering positive food connections, behaviours and attitudes is crucial to deliver pass-on effects within the child’s familial surroundings (Maio et al, 2011, Rhee, 2008). This might manifest itself beyond the home or school environment and create positive conversation and choices within the food acquisition and shopping practices (ibid, 2008).

3.3 **What are the drivers of the current behaviours/trends?**

Using the Trendspots assessment criteria during the behavioural drivers literature review, the following drivers emerged as contributing to poor food connections.

N.B. Please note ALL behaviour driver tables’ formats are identical, where completed identified drivers for the assessed behaviour have been found.

<table>
<thead>
<tr>
<th>Table 1: Identified behavioural drivers for connection theme</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Access</th>
<th>Physical (Geographical)</th>
<th>Psychological (Perceived)</th>
<th>Financial (Fiscal)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Physical</strong> access to positive food choices which more consciously take into account environmental, social and economic factors. This might mean urban and suburban dwelling, access to land, and access to alternative food retail options.</td>
<td>Psychological barriers impeding greater and more positive connection with food, including the relative priority and value ascribed to food, food provenance, food quality (nutritional merit), food growing, preparation and consumption.</td>
<td>The risk of market place confusion caused by multiple sustainability initiatives (such as organic/ethical/ Fairtrade /local/products).</td>
</tr>
</tbody>
</table>
**Appeal**

<table>
<thead>
<tr>
<th>Taste Preferences</th>
<th>Social Norm</th>
<th>Financial (Fiscal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual taste preferences which appear to suggest a gradual shift towards a preference for easy and convenient more disconnected food shopping options. Perception that healthier and ‘worthier’ food choices will not taste as good.</td>
<td>Over time, the normalisation of disconnected food consumption.</td>
<td>Perceptions that more ‘connected’ choices are more expensive and/or complicated (less convenient) therefore less appealing (Janssen et al, 2011).</td>
</tr>
</tbody>
</table>

**Awareness**

<table>
<thead>
<tr>
<th>Knowledge (Health)</th>
<th>Skills (Cooking/Food Preparation)</th>
<th>Understanding (3 P’s impacts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value action gaps in relation to ‘known facts’ vs. behaviour, e.g. we know/think/feel that organic food is linked to improved health benefits, but the perceived price premium and cost prevents the regular purchase of organic products (Assema et al, 2002, Frank, 2009).</td>
<td>‘Can’t cook, won’t cook’ suggests that lack of connection to food is self-reinforcing (Caracher et al, 1999). A lack of ‘touch time’ with food and food ingredients creates a declining awareness of and relationship with food i.e. disconnection</td>
<td>Awareness/knowledge gaps in relation to personal, social, environmental and economic impacts associated with unconscious and disconnected food choices.</td>
</tr>
</tbody>
</table>

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4. **Macro Themes Explored: Value**

**Full version of theme included within the technical report**

4.1 **What is the theme?**

The recurring theme of ‘Value’ relates to the lens through which consumers typically measure the value of food in purchasing (and other acquisition) or consumption decision making.

The literature review highlighted a strong trend towards food being bought on a ‘price’ (cheaper is better) and ‘volume’ (bigger/more is better) basis, leading to the erosion, or, in some cases, elimination of other value measures such as quality, context, contribution to local economy, and nutritional value (Sims, 2013, IFDP, 2000, Mathienson, 2010).

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14 3 P’s refer to the impacts across People, Planet and Profit metrics.
There appears to be a strong causal link between a lack of connection with food and the degree to which food itself is then valued. This is an impact picked up frequently in (albeit excluded from scope) the wider literature surrounding food waste. The related impacts of ‘poor connection’ to and with food, food production and food benefits to human, societal and planetary health and the subsequent ‘low value’ we place on food are cause for concern. Negative impacts can be evidenced across multiple social, environmental and economic parameters (Defra, 2008). The impacts of a consumer expectation that food should be cheap are wide-ranging, and include environmental degradation, the potential loss of small-scale quality food producers and retailers, as well as increasing negative social and health outcomes (e.g. obesity and diabetes) and resultant public spending (Defra, 2008, IFDP, 2000, SDC, 2009, Wrap, 2011).

It is important to seek to balance economic growth with sustainable consumption that works to the shared benefit of long-term social, environmental and economic value. The literature advocates for a move towards a more balanced and wider (beyond price and volume, towards quality, sustainability, health and societal benefit) lens for the valuing of food.

4.2 Why does it matter?

How food is valued is inextricably linked to personal values and is supported by prevailing social norms (Defra, 2009). An individual’s past food-related experiences, habits, cultural and social norms, and financial circumstances are amongst the many factors that can influence food-related behaviours (ibid, 2009). Contextual factors such as systems of provision and access all further guide and shape consumer behaviours, attitudes and accepted social norms.

Moving beyond the ‘value’ ascribed to food itself, connected to our context and social norms lies a complex interplay of personal values creation and reinforcement. Evidence shows that our values influence every facet of
our behaviours: from how we cook our food, our willingness to participate in specific activities, our political persuasions to how much money we spend on food (Schwartz, 2011).

As illustrated in figure 7 the repeated engagement of values is one of the main ways in which values are strengthened (Crompton, 2010). Given the continual reinforcement of a price and volume driven definition of value, the need to provide a broader ‘value’ perspective is of considerable importance. Consumers experience food value messaging at multiple touch points in the course of their everyday lives (e.g. school, work, in-store) through a variety of communication channels. Of particular relevance are consumers’ experiences within particular institutions such as shops and the promotional policies that these institutions adopt (i.e. supermarket and retailer BOGOFs). Approaches to pricing can change or reinforce our attitudes, behaviours and perceptions of what is normal, possible and desirable - a process known as Framing (Darnton, 2008).

The marketing strategies and approaches adopted by major food institutions have the power to propagate and reinforce, or change particular value messages. There is a current dominance of ‘value’ routinely promoted as synonymous with ‘low price and high volume’. The continued use of such value messaging encourages the cultivation and entrenchment of those values (and discourages or deprivileges opposing values) and associated behaviours over time (Crompton, 2010). The implications of this extend beyond the direct food-specific behaviour impacts, such as the preference for cheap poor quality food, to affect wider societal values. Within the literature reviewed it was argued that there is a deliberate move to promote materialism and stimulate the desire for conformity and self-enhancement through the continual consumption of goods (Schwartz, 2007, Kasser et al, 2007). The idea expressed was that consumers feel they can (and should) purchase goods because they are cheap. Health, waste and related public spending consequences of this conspicuous consumption norm are very significant.

Good (strong, sustainable, enduring) growth vs. short-term growth at all costs is an issue for government, business and civil society to grapple with. Short-term advocacy for conspicuous, disconnected and over-consumption, without balance of mid-long-term impacts come with significant trade-offs and risk of unintended consequences to UK and beyond to the Global food systems.

4.3 What are the drivers of the current behaviours/trends?

Using the Trendspots assessment criteria during the behavioural drivers literature review, the following drivers emerged as contributing to a social norm in which food is valued primarily on price and volume.
Table 2: Identified behavioural drivers for value theme

<table>
<thead>
<tr>
<th></th>
<th>Physical (Geographical)</th>
<th>Psychological (Perceived)</th>
<th>Financial (Fiscal)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access</strong></td>
<td>Access to alternative food retailers matters as they often encourage a wider range of food value criteria, e.g. independent retail and local markets, focus on local, seasonal, quality etc.</td>
<td>As a default response, consumers will look for (perceived) ‘good value’ as their top criterion when they are making decisions about food (The Futures Company, 2010).</td>
<td>In today’s challenging economic climate, many consumers are looking for inexpensive food as they cannot afford to spend more (Halligan, 2013).</td>
</tr>
<tr>
<td><strong>Appeal</strong></td>
<td>The products most commonly offered as BOGOF/other discount mechanisms are most commonly those of high impact and high consumer appeal (Office of Fair Trading, 2010).</td>
<td>Mainstream consumer norm is to value food increasingly using the parameters <strong>price and volume</strong> (e.g. BOGOF – buy one get one free)</td>
<td>The idea of being a savvy shopper, able to get a ‘good deal’, has become popular amongst all socio-economic groups (IGD, 2012). Consumers may behave like this regardless of their actual need or desire for the products on offer (Wrap, 2011).</td>
</tr>
<tr>
<td><strong>Knowledge (Health)</strong></td>
<td></td>
<td>The decline in everyday cooking from scratch is symptomatic of the low priority ascribed to food. This only serves to reinforce the idea of food as a commodity. It is also a reflection of our modern ‘throw-away’ culture in which the acquisition of goods with little thought to their long-term use is normal (Sims, 2013).</td>
<td></td>
</tr>
<tr>
<td><strong>Skills (Cooking/Food Preparation)</strong></td>
<td></td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td><strong>Understanding (3 P’s impacts)</strong></td>
<td></td>
<td></td>
<td>NA</td>
</tr>
</tbody>
</table>

5. **Key Theme: Breakfast**

**Full version of theme included within the technical report**

**NB:** ‘Breakfast’ was the highest frequency food moment or mealtime highlighted within the literature reviewed. Other food moments or mealtimes\(^{15}\) were referenced predominantly by the food consumption which would be indirectly correlated to a specific mealtime e.g. takeaway would most usually pertain to a lunchtime or evening meal choice.

\(^{15}\) Mealtimes are defined as a set meal such as an evening meal, lunch time or breakfast. In comparison food moments are defined as other occasions when food is and can be consumed such as snacking.
5.1 What is the trend?

The literature reviewed revealed three key trends across the Breakfast theme. The first trend is a significant (35%) and rising number of adults and children regularly skipping breakfast. The second trend is the increased consumption of processed, high-sugar, high-salt breakfast goods. An emerging minor trend which may prove of medium to long-term significance is that of more ‘positive breakfasting’, defined as high in nutritional value, regular, and relatively low environmental impact (International Food Information Council Foundation, 2008; NHS, 2012; Rasmussen et al, 2006). These trends vary across socio-demographics and there is an evidence gap in relation to robust and meaningful, beyond-green-dispositions, Breakfast (and other food consumption behaviours) segmentation.

For the purposes of this report, these three trends are referred to as:

1) Skipped breakfast
2) Poor breakfast choices
3) Positive breakfasting

Skipping breakfast and poor breakfast choices are the focus of this theme. These behaviours drive negative multiple impacts across the environmental (in relation to specific food choice and upstream agricultural impacts) and health (physical health, nutrition and wellbeing) metrics. The case for shifting breakfast behaviours is assessed in more detail in the next section.

Headline statistics that illustrate current breakfast trends:

- 20 million people (35% in the UK) regularly skip breakfast. Reasons cited include lack of time, low priority (more important things to do in the morning) and breakfast simply not fitting in with lifestyles (Kraft, 2010).
- We consume an average of 6.7kg cereal per person per year in the UK and 8.4kg each in Ireland (Lawrence, 2004, Lawrence, 2008).
- In the past decade the number of ‘drop in’ food purveyors such as branded and unbranded coffee shops has risen from 1,382 to 14,842 in 2011 (Ehrlich, 2011).
- The average consumer spends £400 per year* on ‘on-the-go’ food items (breakfast snacks, coffee etc.) per annum, adding up to almost £16,000 over a lifetime (Wallop, 2013) (*this figure excludes lunch).

5.2 Why does a skipped or ‘poor’ breakfast choice matter?

Research shows that there are significant implications to skipping breakfast and to making poor breakfast choices. These vary (i.e. not eating breakfast equates to eating less food and

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16 A ‘poor’ breakfast is defined, for the purposes of this project, as one with low or inferior nutritional value, negative health, social and environmental impact.

17 Positive breakfasting is defined as high in nutritional value, regular, and relatively low environmental impact.
could be argued to have environmentally net positive\(^{18}\) in the balance of their impacts across environmental, social, and economic areas, but are captured together and categorised in the below table.

<table>
<thead>
<tr>
<th>Relevance to Macro Themes – Value and Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>❖ Reinforcement of the low priority and low value given to food in relation to other uses of time/money.</td>
</tr>
<tr>
<td>❖ Reinforcement of the prevailing lack of connection to food and lack of interest in making ‘positive’ food choices (Ehrlich, 2011, Wallop, 2013).</td>
</tr>
<tr>
<td>❖ Missed opportunity for quality family/social time, perpetuating the demise of the shared family meal times, contributing to undermined parental influence/familial relations, decreased social wellbeing, as well as possible increased physical and ‘digital’ obesity(^{19}) (Mellin et al, 2002, Vermeir et al, 2006).</td>
</tr>
</tbody>
</table>

**Social**

❖ Educational and workplace productivity and attainment levels are lower (Cole et al, 2006, Mhurchu et al, 2010).
❖ Linked to this: risk of perpetuating child poverty (one in four children in the UK receives only one hot meal per day). 3,800,000 UK children are growing up in poverty (Magic Breakfast Club, 2011). Breakfast provision is a key mechanism to mitigate the worst effects of this form of child poverty and resultant social mobility impacts

**Economic**

❖ Contributes to increased risk of low attainment levels limiting social mobility and ultimately impacting UK GDP (Furlong et al, 2007, Anderson, 1999, NHS (Change 4 Life), 2012).

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\(^{18}\) When food is not consumed within a set mealtime or food moment there is the potential for negative rebound effects as studies indicate that when food is skipped there is an increased likelihood that food higher in fat, salt and sugar will be consumed at the next meal time or food moment as the body craves calorically dense food options (Nelson, 2011).

\(^{19}\) Defined as people who have excessively and/or increasingly high digital media usage (e.g. social media, iPods, phones, laptops, computers, interactive gaming devices etc.), all of which influence the priority given to time for positive direct (preparing, cooking and consuming) and indirect (social meal times) food behaviours. This in turn has been shown to have wider negative social, environmental and economic trends/impacts.
Environmental

- Environmental impact of poor breakfast choices and skipped breakfasts includes the impact of the subsequent replacement meals/snacks, as well as overall diet/taste preference evolution towards nutritionally poor but high environmental impact food choices. For a more detailed assessment of the hotspots conducted per identified breakfast behaviour please refer to Section 4.1 of the Appendix.

Health and Wellbeing


5.3 What are the drivers of the current behaviours/trends?

Using the Trendspots assessment criteria during the behavioural drivers literature review, the following drivers emerged as contributing to a social norm in which the transition to more sustainable and positive breakfasting behaviours might be impeded.

Table 3: Identified behavioural drivers for breakfast theme

<table>
<thead>
<tr>
<th>Access</th>
<th>Physical (Geographical)</th>
<th>Psychological (Perceived)</th>
<th>Financial (Fiscal)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appeal</td>
<td>Taste preferences which appear to have evolved towards finding poor breakfast choices more appealing than positive breakfasting choices (Kraft, 2010, Mintel, 2013).</td>
<td>Over time, the normalisation of skipped breakfasts/poor breakfast choices/breakfasts-on-the-go' (Lawrence 2004, Lawrence, 2008, Nicklas et al, 1998).</td>
<td>Re-allocation of family budget to other food and non-food priority items (Donald et al, 2010)</td>
</tr>
</tbody>
</table>
### Awareness

<table>
<thead>
<tr>
<th>Knowledge (Health)</th>
<th>Skills (Cooking/Food Preparation)</th>
<th>Understanding (3 P’s impacts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational/information gaps in relation to the benefits of positive breakfasting/ risks and impacts of routine skipped or poor breakfast choices (Contoyannis et al, 2004, Wallop, 2013, Vermeir et al, 2006). Value action e.g. we know the importance of eating breakfast and the importance of eating a healthy breakfast. However, a large proportion of the population regularly skip breakfast and those that don’t often consume ‘poor’ breakfast choices (Assema et al, 2002, Frank, 2009).</td>
<td>Limited range of breakfast repertoires leading to low awareness of more appealing choices and low interest levels in breakfast consumption (Jeyanthi et al, 2004).</td>
<td>Little engagement with impacts of breakfast choices</td>
</tr>
</tbody>
</table>

### 6. Food Practice Key Themes

*Abridged version of the themes*

The three food practice themes (Ready Meals, Take-Aways and Cooking From Scratch) have been addressed together as they share commonality of behavioural drivers and impacts.

### 6.1 Ready Meals: What is the trend?

The literature review highlighted two key and frequently interconnected trends. The first is an upward trend in the numbers and frequency of adults consuming ready meals. The second trend is an evidenced decline in cooking from scratch (Short, 2003).

For the purposes of this report these trends are referred to as:

1) Ready Meals  
2) Cooking From Scratch

The ready meal and pre-prepared meal sector is a high growth industry with ready meals making up 57% of the UK prepared meals market (Mintel, 2013). On average “The UK spent
around 2.6 billion on ready meals in 2012, double the amount than that of France and six times as much as Spain” (BBC, 2013).

Within the literature these food practice norms were frequently polarised as ‘good vs. bad’ and yet collectively served to highlight genuine and significant shifts between historical and current behavioural trends. Author or author organisational bias was frequently evident with subjective and self-interested weightings ascribed to the relative importance of environmental concern, human or public health, commercial interest, social mobility etc. The relevance of this theme lies in an aggregation of complex social, economic and environmental impacts and trade-offs. Evidence gaps exist in the provision of direct like-for-like comparisons; ready meal and cooking from scratch meal choices both cover a near inexhaustible range of choices that vary in all aspects of social, environmental and economic impacts.

Predominantly environmental impacts are associated with the efficiency or inefficiencies and priorities given to environmental stewardship within a pre-prepared meal end to end value chain. Impacts range from food production and manufacture, to waste and packaging. However, consumer behaviours, whilst influenced by the degree to which the practice of voluntary or mandated choice editing\textsuperscript{20} restricts choice, are otherwise not predicated upon these types of evaluations. Nor do traditional approaches to value chain assessment typically factor in social impacts beyond health.

Socially, the impacts of disproportionate ready meal consumption spans a diverse range of potentially negative impacts. These range from the potential health and nutrition impacts, to wider social aspects of pre-prepared vs. self-prepared food consumption and the range of associated mental and emotional positive or negative wellbeing impacts.

### Headline statistics that illustrate current ready meal trends:

- In 2001, only 3.36 evening meals consumed per week per household within the UK were prepared from scratch using fresh ingredients (Nestle, 2001). In a recent survey conducted by Euromonitor, the average evening meal cooked from scratch is now estimated at one meal a week (2011).
- One in two meals are now eaten alone in the UK\textsuperscript{21} (Blythman, 2006).
- 48% of UK households do not currently share a meal together every day (DCA, 2011).
- 75% of our weekly meals are eaten whilst performing another (primary) activity, for example watching television (Raisingkids, 2004).
- One in six people say that they cannot cook (Good Food, 2011).
- 57% say that they do not consider food important compared to other social and cultural activities they wish to engage in on a daily basis (Blythman, 2006).
- One in three adults say that they do not consider cooking enjoyable/consider cooking a chore (ibid, 2006).

\textsuperscript{20} Choice editing refers to the active process of controlling or limiting the choices available to consumers so as to drive to an end goal. The Sustainable Development Commission define choice editing as “shifting the field of choice for mainstream consumers: cutting out unnecessarily damaging products and getting real sustainable choices on the shelves” (2012)

\textsuperscript{21} One third of adults live alone in the UK (Blythman, 2006)
6.2 Fast Food: What is the trend?

**Full version of theme included within the technical report**

The broad theme of ‘informal eating’ was prevalent throughout the literature reviews. The theme is heavily linked to the rise in fluidity of our eating patterns which are moving away from the more rigid/formal ‘three meals a day’ patterns of the past.

Historically, the term ‘fast food’ has been applied in relation to bought heated food products that were eaten instead of a home prepared evening or lunch time main meal. However, the evidence suggested an emerging distinction between the following:

1) Main meal choices
2) Food on-the-go

The main meal choices theme included eating out in quick service restaurants (QSRs), take-aways, restaurants, cafés and work canteens.

‘Food on-the-go’ is a relatively new and less well explored area within the evidence reviewed. This term refers predominately to pre-packed lunch products, ranging from sandwiches to sushi, which can be purchased and eaten on-the-go. The dominant behavioural trend is that of consuming fast food as a main meal substitute. The widely advocated behavioural shift and change in practice highlighted within the literature review centres around highly profiled negative health impacts associated with the excessive consumption of fast food (assumed high fat, salt and sugar) food products. Wellbeing impacts were evidenced by many prolific empirical quantitative studies.

There is an evidence gap in relation to the environmental impacts of fast food consumption at a category level; such assessments to date have been linked directly to specific food product choice and due to the diversity of product choice within the fast food sector there is an infinite amount of food choices to assess against fast food alternatives.

Positive impacts associated to the consumption of fast food and QSRs were derived from a strong focus on the role that local independent fast food businesses play in communities. Ultimately the negative health impacts and potential positive economic impacts present a trade-off that must be navigated with care.

**Headline statistics that illustrate current fast food trends:**

- One in six meals are now eaten outside of the home, amounting to more than £10 billion annually spent on fast food and food on-the-go products (Heart of the Mersey (HOM), 2011).
- Three billion pre-packed sandwiches are purchased per year from retail and catering outlets, accumulating to an annual category spend of £6 billion per annum (British Sandwich Association (BSA), 2011).
- In 2012, 5.54 billion visits were made to fast food restaurants in the UK, with classic poor fast food choices (burgers, fried chicken and pizzas) accounting for 50% of all meals bought outside the home (NPD, 2012).

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22 Breakfast on-the-go products also form part of this category.
• One in three Britons eat fast food at least once a week, with 7% (3 million people) eating with fast food as a main meal replacement twice a week (HOM, 2011).
• A third of children under three eat a take-away meal once a week (HOM, 2011).
• 10% of children are obese by the time of starting primary school (17% in deprived areas) (Bleichs et al, 2008)

6.3 Cooking From Scratch: What is the trend?

Within the reviewed body of literature, cooking from scratch trends highlighted a move towards increased ready meal and fast food consumption and away from home cooking as a social norm. These two food practices (ready meal and fast food) are frequently polarised within the literature with the more ‘traditional practice’ of cooking from scratch often pitted against more recent eating practices. This polarisation is not necessarily helpful and can lead to commercial and industry dissent where, more helpfully, shared solutions might be developed and deployed against shared economic, social and environmental goals.

The key trend of note is towards a decrease in the practice of, desire to, and skills required, to cook from scratch. This trend has extensive direct and indirect knock-on impacts evidenced across economic, social (health and wellbeing) and environment parameters. Economic and social impacts represent a further evidence gap as normative data around complex purchasing and cooking patterns and long-term societal wellbeing allows for significant self-interest in the manipulation of the data. For example, an advocate of pre-prepared convenience meals might meaningfully argue that portion control and resultant health impacts are best controlled via the supply chain or that convenience foods serve to increase social wellbeing by ‘freeing time’ from cooking ‘chores’. Conversely, it could also be argued that ‘the family that eats (and cooks) together, stays together’ and that any up-weight in relative portion control can be offset by both the practical human ingredient control and the individual, collective and societal wellbeing gains of a connected and united family. The rise of the disconnected and over-scheduled family represents an evidenced range of very significant social impacts which are hard to measure or advocate for in the same way that a low carbon or healthier diet can be argued for. However, the impacts can be far reaching in scale. An evidence gap exists to build a clearer picture of the likely medium to long-term social (mental, physical and emotional health included) impacts and trade-offs presented by a continuance of the current trend away from cooking from scratch skills, practice or persuasions.

To mitigate and prevent these impacts a more sustainable version of this behaviour is envisioned to be an increase in cooking from scratch in the home and sharing meals with others.

Headline statistics that illustrate current cooking from scratch trends:

• 8 minutes is now the average amount of time spent on cooking a main evening meal (Earnest et al, 2002).
• 69% of Britons are still confused as to which foods are healthy (Blythman, 2006).

- 96% of mothers are increasingly turning to pre-prepared foods (e.g. pizza, chicken nuggets) to feed their families with only 16% of mothers cooking from scratch every day (Change4Life, 2013).
- One in three people do not eat vegetables because they require too much effort to prepare (Blythman, 2006).
- 7.2 million British adults now watch food and cookery programmes; however those that usually watch the cookery shows are more likely to spend increased amounts of money on ready prepared products, such as cooking sauces (Kantar Worldpanel, 2012).

In addition to the current and future health and environmental concerns surrounding the decline in cooking from scratch, there was a trend towards a reduction in cooking skills across generations. The move away from cooking from scratch has been exacerbated and accelerated by both the growth in the consumption of convenience products such as ready meals and cooking sauces, and the arrival of time-saving kitchen equipment such as the microwave. The culmination of these factors is an increasingly limited intergenerational knowledge transfer leading to the decline of current and future generations of consumers cooking from scratch (Meah et al, 2011).

### 6.4 Ready Meals, Fast Food and Cooking From Scratch: Why does it matter?

Research shows that there are significant individual, social, environmental and economic implications stemming from the decline in cooking from scratch, aspects of increased consumption of ready meals, and the increased uptake of fast food as a main meal substitute.

These impacts are captured and categorised in the table below.

<table>
<thead>
<tr>
<th>Impact on Macro Themes – Value and Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Food commoditised and sold on price and/or volume, resulting in stressed and sometimes unscrupulous or rogue supply chains, as evidenced by the recent horsemeat supply chain challenges.</td>
</tr>
<tr>
<td>- Reinforcement of the low priority and low value given to food in relation to other uses of time/money.</td>
</tr>
<tr>
<td>- Reinforcement of the prevailing lack of connection to ‘real’ food and lack of interest in making ‘positive’ food choices (Ehrlich, 2011, Wallop, 2013).</td>
</tr>
<tr>
<td>- Missed opportunity for quality family time, perpetuating the demise of the shared family meal times, leading to potential decreased social wellbeing. (Ying lee et al, 2013, Olsen et al, 2009, Schubert et al, 2010)</td>
</tr>
</tbody>
</table>
### Environmental

- Please refer to Section 4 of the Appendix for individual ready meal, fast food and cooking from scratch proxy hotspots.

### Economic

- There can be cost savings associated with cooking from scratch (Reese, 2012).
- The ready meals industry creates employment., but trade-offs should be considered regarding local economy food producers and retail, as well as potential for increased public spending where contributions are made to decreased physical and or mental wellbeing.
- Convenience foods potentially allow more free time to be available to employers which might increase productivity and/or leisure time and resultant spending.

### Social

- Educational and workplace productivity and attainment levels associated with 'poor diets'.
- Ready meals means more than the demise of cooking from scratch but also the loss of an opportunity to make meals together as people do not prepare and cook the food together removing a key ‘received wisdoms’ interaction point (Elinor et al, 2006).

### Health and Wellbeing

- Increased physical and ‘digital’ obesity leading to risk of breakdown of family unit and parental influence (Elinor et al, 2006).
- Negative health impacts are diminishing due to activity of FSA e.g. on salt and fat content of ready meals.
### 6.5 What are the drivers of the current Ready Meal, Fast Food and Cooking From Scratch behaviours/trends?

Using the Trendspots assessment criteria the following drivers emerged as contributing across the three food practice themes.

Table 4: Identified behavioural drivers for food practices

<table>
<thead>
<tr>
<th>Identified Behavioural Drivers</th>
<th>Specific Food Practice Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access</strong></td>
<td></td>
</tr>
<tr>
<td>Physical (Geographical)</td>
<td>Ready Meals</td>
</tr>
<tr>
<td>Access</td>
<td>Cooking From Scratch</td>
</tr>
<tr>
<td>Access to positive choices:</td>
<td>Fast Food/QSR's</td>
</tr>
<tr>
<td>challenge is in food swamps</td>
<td></td>
</tr>
<tr>
<td>and food deserts where</td>
<td></td>
</tr>
<tr>
<td>cheap, low quality food</td>
<td></td>
</tr>
<tr>
<td>dominates (Short, 2006, Meah et al, 2011).</td>
<td></td>
</tr>
<tr>
<td>Perceived time scarcity is a</td>
<td>Challenge is in food swamps and</td>
</tr>
<tr>
<td>key driver (Celnik et al, 2012).</td>
<td>food deserts where cheap, low</td>
</tr>
<tr>
<td>Additionally, some may feel</td>
<td>quality ready meals are</td>
</tr>
<tr>
<td>a lack of, or perceived lack</td>
<td>dominant (Short, 2006, Meah et</td>
</tr>
<tr>
<td>Physical (Perceived)</td>
<td></td>
</tr>
<tr>
<td>Genuine economic influence/</td>
<td></td>
</tr>
<tr>
<td>constraints</td>
<td></td>
</tr>
<tr>
<td>Financial (Fiscal)</td>
<td></td>
</tr>
<tr>
<td>Readymade</td>
<td></td>
</tr>
<tr>
<td>Genuine (low income) and</td>
<td></td>
</tr>
<tr>
<td>Psychological (Perceived)</td>
<td></td>
</tr>
<tr>
<td>Taste Preferences</td>
<td></td>
</tr>
<tr>
<td>Taste preferences shifting</td>
<td></td>
</tr>
<tr>
<td>towards processed meals which</td>
<td></td>
</tr>
<tr>
<td>are higher in sugar, salt,</td>
<td></td>
</tr>
<tr>
<td>and fat content in many cases,</td>
<td></td>
</tr>
<tr>
<td>compared to freshly home-cooked equivalents (Lawrence, 2008, Meah et al, 2011).</td>
<td></td>
</tr>
<tr>
<td>Over time, the normalisation</td>
<td></td>
</tr>
<tr>
<td>of 'no-cook' households</td>
<td></td>
</tr>
<tr>
<td>reliant on ready meals across</td>
<td></td>
</tr>
<tr>
<td>all social demographics</td>
<td></td>
</tr>
<tr>
<td>(Ahlgren et al, 2006).</td>
<td></td>
</tr>
<tr>
<td>Social Norm</td>
<td></td>
</tr>
<tr>
<td>Convenience time-saving</td>
<td></td>
</tr>
<tr>
<td>option, allowing consumers to</td>
<td></td>
</tr>
<tr>
<td>dedicate time to other socially important endeavours (Blythman, 2006).</td>
<td></td>
</tr>
<tr>
<td>Financial (Fiscal)</td>
<td></td>
</tr>
<tr>
<td>NA</td>
<td></td>
</tr>
<tr>
<td>Appeal</td>
<td></td>
</tr>
<tr>
<td>Values/action gap evidenced</td>
<td></td>
</tr>
<tr>
<td>by the escalating cookery</td>
<td></td>
</tr>
<tr>
<td>book and equipment sales,</td>
<td></td>
</tr>
<tr>
<td>un-matched by corresponding</td>
<td></td>
</tr>
<tr>
<td>rises in the sales of</td>
<td></td>
</tr>
<tr>
<td>ingredients (Lawrence, 2008,</td>
<td></td>
</tr>
<tr>
<td>Wallop, 2013).</td>
<td></td>
</tr>
<tr>
<td>Restaurant trends with direct</td>
<td></td>
</tr>
<tr>
<td>and indirect impacts on in the</td>
<td></td>
</tr>
<tr>
<td>home food behaviours; e.g.</td>
<td></td>
</tr>
<tr>
<td>meals eaten out of the home</td>
<td></td>
</tr>
<tr>
<td>(HOM, 2011).</td>
<td></td>
</tr>
<tr>
<td>Identified Behavioural Drivers</td>
<td>Specific Food Practice Drivers</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td><strong>Food Practices</strong></td>
<td><strong>Skills (Cooking/Food Preparation)</strong></td>
</tr>
<tr>
<td><strong>Awareness</strong></td>
<td>Educational/information gaps in relation to the health and social benefits of cooking from scratch, as well as the risks and impacts of a processed food habit (Brzozowski 2006).</td>
</tr>
<tr>
<td><strong>Received, changing and lost wisdoms</strong> around the importance, priority and benefits of cooking from scratch.</td>
<td>Awareness/knowledge gaps in relation to personal, social, environmental and economic impacts associated with food choices.</td>
</tr>
</tbody>
</table>
7. Evidence

As discussed throughout the individual theme explorations, the relative weightings of social, economic and environmental priority will be key determiners of what ‘good’ looks like. Any shift from one behaviour to another will potentially create a series of trade-offs. These trade-offs occur both across and within environmental, social and economic metrics, and are open to the bias of those who shape, interpret and determine the ‘vision’ of what constitutes these ‘more’ sustainable food behaviours.

For the project to fully and comprehensively meet the project aim of exploring the opportunities for increasing consumer uptake of (more) sustainable food-related behaviours (and practices) it would first be necessary to create and agree a definitive vision of what these ‘more sustainable food-related behaviours’ are. This was not possible within the 12 week time frame using a secondary evidence base.

Therefore to meaningfully achieve this definitive vision the development and deployment of a universally (Govt, business and civil society) agreed criteria for evaluating and weighting all sustainability metrics from social impacts (personal mental, physical and emotional health through to community cohesion and social mobility), to environmental (including any and all areas of trade-off from water to GHGs, land use and biodiversity) through to economic (including UK plc., commercial interest, public spending, personal and community, local and global implications) would be required. Further weightings would need to be developed and applied for short vs. medium vs. long-term priority of each metric relative to another.

Additionally, in relation to the Green Food Project work, it is perhaps more productive to work towards some ‘principles’ of sustainable behaviours (and in the case of GFP, healthy and sustainable diet) rather than to pursue absolutes.

In absence of the time or mandate to develop a firm definition of ‘sustainable food-related behaviours’, the Best Foot Forward project team proposes a working model that works towards a broad ‘re-balancing’ of UK consumer food-related behaviour. The ambition for moving towards more sustainable food-related behaviour is to set a broad goal of a more ‘conscious, empowered and intuitive food consumer’ who values food beyond pure price and volume.

A practical demonstration of this goal realised might be:

- Public and private goals are aligned around a ‘north star’ which is improving the nation’s relationship with food (manifest in behaviours and food choices that deliver long-term, enduring wellbeing across social, environmental and economic goals)
- UK consumers are demonstrably connected, throughout life-stages and life roles, to food. This might take the form of grow and cook in schools, through to supermarket vouchers to equip school gardens and kitchens or alternatively the average UK citizen (adult and child) regularly (daily) consumes a healthy breakfast
- The average consumer has a ‘blended meal model’, using ready meals and cooking from scratch as part of their food practice norms and possesses both an ability and a desire to cook from scratch, which is also considered a social norm
The average consumer chooses healthy and sustainable diet alternatives and fast food is consumed consciously and in moderation.

8. Mechanisms and Interventions

As outlined in Section 1, the project brief was to identify and review current and potential consumer behaviour interventions, with a view to establishing an interventions roadmap designed to increase sustainable food behaviours. The 12 week time frame, evidence base and evidence gaps meant that it is not possible to produce a formal roadmap recommendation, however, a review of pre-existing interventions (UK and global examples) was undertaken to best inform a potential selection of interventions which might deliver to the identified six themes.

8.1 Mechanism and Intervention Review Methodology

The interventions and mechanism review process was designed to explore documented interventions, designed and deployed in pursuit of the promotion of more sustainable food-related behaviours. The scope of this review was UK based interventions, with an additional REA carried out to pick up on any noteworthy international mechanisms. The mechanism and interventions search used key search terms (for a list of the search terms used please refer to Section 2 of the Appendix) to drive a review of mechanisms and interventions in line with our identified food-related behaviours.

Findings from the Phase #2 Stage #3 literature review showed that interventions to date have been numerous but often relatively small in scale. It is unlikely that any single intervention (or collection of single interventions not replicable at national scale) will be sufficient to bring about systematic change at a societal level. Moreover, efforts to address individual barriers to behavioural change—in isolation of the broader context—are likewise unlikely to radically alter long-term food behaviours and attitudes among consumers.

We advocate a strategic approach to any final roadmap, operating across short, medium and longer-term intervention time horizons. We propose the further development and end deployment of a comprehensive cross-theme solution which can deliver a short, medium and long-term package of inter-connected interventions. This should be delivered at national scale in order to provide the greatest scope for positively influencing both short-term behaviour change and longer-term sustained values and attitudes change within the UK mainstream. This is not to dismiss the work of local and community-based intervention, but to compliment this work with a Defra-supported programme for interventions meeting the brief of a programme designed to create the greatest impact for change.
8.2 Mechanisms and Interventions Review Discussion

Theoretical understanding of human behaviour tends to be dominated by models from social psychology (see, for example, Darnton, 2008). The area of food is a case in point and popular models applied to food choice include the Health Belief Model and Ajzen’s Theory of Planned Behaviour (Azjen, 1991). Some of the interventions available at policy makers’ disposal, for example sustainability labelling, are predicated on these theories: targeting the individual and relying on rational motivations or a reasoned process of change. Taking the example of labelling, this would mean that new information is presented on product labels; consumers notice this information, weigh up the costs and benefits, and change their behaviour accordingly.

However, social psychology models of this kind have been criticised for this dependence on rational decision making. One reason for criticism is that there is much evidence which demonstrates that environmental concerns are not a high priority for consumer food choice and that food labelling often ends up being overlooked in the act of purchasing.

Furthermore, Defra's Food Synthesis Review (2009) concluded that those actions targeting individuals alone will be insufficient and that much food behaviour is not based on rational choice. Instead, habit strongly influences dietary intake, and emotional dimensions, such as preference and pleasure, are central to food behaviour. Moreover, individual food choices are also constrained by contextual factors, including what food is available, accessible and affordable, as well as what food is culturally perceived as ‘normal’ within society. These top level factors create the environment within which individual food choices are made and many of these factors—and the interactions between them—serve to limit the potential for self-directed change.

Multi-level models which take into these wider factors are used in public health policy and are known as ‘social ecological’ models. This is because they approach individual behaviour through the ecology or environment in which the individual is situated. The seminal classification of factors in ecological models is drawn from Brofenbrenner, who identified four interacting levels of influence: ‘microsystems’, ‘mesosystems’, ‘exosystems’ and ‘macrosystems’ (Brofenbrenner, 1979, in Story et al, 2002). The four tiers can be briefly described as follows:

**Individual factors** - these relate to the physiological and psychological factors that determine individuals’ behaviours. These are further classified into biological factors which determine physical processes (for example, genetic or metabolic factors), and social psychological factors, which influence behavioural choices (for example, beliefs, attitudes and sense of control).

**Social Factors** - these factors relate to the individual’s interactions with others, both in terms of the social psychological variables arising in the individual from those social relations (for example, social norms), and the actual influence of those others on their behaviour (for example, parental control over young people).

**Environmental Factors** - these are often described as ‘community settings’ (i.e. factors relating to the physical environment in which individuals live). The influence of the local
environment on behaviour is increasingly prominent in research on obesity, where it is termed the ‘obesogenic environment’ (see, for example, Foresight, 2007).

**Societal Factors** - these factors relate to the highest level of societal forces which shape the individual’s behaviour and often circumscribe the choices individuals can make. Culture, in particular, is important (and it is noteworthy that both cooking and eating are heavily embedded in wider cultural patterns).

The implications of Defra’s 2009 Food Synthesis Review are clear: the evidence base on food choice is vast and stresses factors which interact and impact at individual, social, contextual and societal levels. As a result, food-related behaviour is very complex and difficult to intervene in, both because of the number of factors and the interactions between them.

One of the key implications of this expanded understanding of the theoretical drivers of food behaviour is that substantial individual behaviour change requires cultural change. Culture can be thought of as multi-stranded and change will be required in each strand. For example, media plays a key role in setting cultural norms, but can influence in different ways. Food advertising tends to promote high impact food items, for example, processed and packaged food items, and as such represents a barrier to low impact diets. By contrast, television chefs have been key in promoting localism in food. Media is also influential in constructing and maintaining the appeal of certain approaches to lifestyle, for example, the ‘River Cottage lifestyle’, which allow individuals to identify and define themselves in relation to others.
8.3 Summary of initiatives identified through the Mechanisms and Intervention Review

The result of this search highlighted behaviour interventions that were prevalent in addressing the six identified themes. Outlined below are the types and classifications of mechanisms that have been found. Case studies and illustrative examples have been provided where found. Significant evidence gaps exist in relation to the evaluation of success, impact and scope of mechanisms.

Table 5: Food interventions identified

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Country</th>
<th>Existing or Proposed</th>
<th>Intervention Type</th>
<th>Intervention Frame</th>
<th>Platform</th>
<th>Key stakeholders/actors</th>
<th>People, planet or profit</th>
<th>Case studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Movements</td>
<td>UK</td>
<td>Existing</td>
<td>Voluntary</td>
<td>Triage</td>
<td>Community</td>
<td>Community, local government, food suppliers, retailers and manufacturers</td>
<td>People, Planet</td>
<td>Slow Food</td>
</tr>
<tr>
<td>NGO Campaigns</td>
<td>UK</td>
<td>Existing</td>
<td>Educational/informational</td>
<td>Tactical</td>
<td>Media</td>
<td>DoH/health professionals, government, scholars, food service providers</td>
<td>People, Planet</td>
<td>Soil Association, WRAP: Love Food Hate Waste, Oxfam Grow</td>
</tr>
<tr>
<td>Sustainability Accreditations</td>
<td>UK</td>
<td>Existing</td>
<td>Commercial/voluntary</td>
<td>Tactical/triage</td>
<td>Business</td>
<td>Business, government, food suppliers and producers, sustainability accreditations services</td>
<td>Planet, Profit</td>
<td>Fairtrade, MSC, Red Tractor etc.</td>
</tr>
<tr>
<td>Retailer Campaigns</td>
<td>UK</td>
<td>Existing</td>
<td>Commercial/educational</td>
<td>Tactical</td>
<td>Commercial</td>
<td>Business, government, food suppliers and producers, NGO's</td>
<td>Profit, Planet</td>
<td>Sainsbury’s Live Well for Less</td>
</tr>
<tr>
<td>Economic/pricing</td>
<td>UK</td>
<td>Existing</td>
<td>Commercial</td>
<td>Tactical</td>
<td>Commercial/in-store</td>
<td>Business, OFT, food retailers and producers</td>
<td>Profit</td>
<td>Waitrose BOGOF's on long life goods</td>
</tr>
<tr>
<td>Media Campaigns</td>
<td>UK</td>
<td>Existing</td>
<td>Educational/Informational</td>
<td>Tactical</td>
<td>Media</td>
<td>DoH/health professionals, DoE, government, scholars, food service providers</td>
<td>Profit</td>
<td>Coup</td>
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</tr>
<tr>
<td>Smart Card Schemes</td>
<td>The Netherlands</td>
<td>Existing</td>
<td>Commercial</td>
<td>Tactical</td>
<td>Government infrastructure</td>
<td>Business, food service providers/retailers and manufacturers</td>
<td>People, Planet, Profit</td>
<td>Coupons redemptions</td>
</tr>
<tr>
<td>Sustainability Movements</td>
<td>UK</td>
<td>Existing</td>
<td>Voluntary</td>
<td>Tactical/ triage</td>
<td>Community</td>
<td>Community, local government, food suppliers, retailers and manufacturers</td>
<td>People, Planet, Profit</td>
<td>Profit</td>
</tr>
</tbody>
</table>

**Macro Theme: Connections**

<table>
<thead>
<tr>
<th>Community Food Enterprises</th>
<th>UK</th>
<th>Existing</th>
<th>Voluntary</th>
<th>Tactical/ triage</th>
<th>Local Government &amp; Business</th>
<th>Businesses, Local Planning Authorities, food service providers</th>
<th>People, Planet, Profit</th>
<th>Making Local Food Work</th>
<th>Research on the engagement of people in the networks between who we buy, sell, produce and supply local food</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Food Webs</td>
<td>UK</td>
<td>Existing</td>
<td>Voluntary</td>
<td>Tactical/ triage</td>
<td>Community &amp; Business</td>
<td>Businesses, Local Planning Authorities, food service providers, local community</td>
<td>People, Planet, Profit</td>
<td>Making Local Food Work</td>
<td>Research on the engagement of people in the networks between who we buy, sell, produce and supply local food</td>
</tr>
<tr>
<td>NGO Campaigns</td>
<td>UK</td>
<td>Existing</td>
<td>Voluntary/ informational</td>
<td>Tactical</td>
<td>Media</td>
<td>DoH/health professionals, government, scholars, food service providers</td>
<td>People, Planet, Profit</td>
<td>Friends of the Earth - Good Neighbours Community</td>
<td>Friends of the Earth - Good Neighbours Community</td>
</tr>
<tr>
<td>Retailer Procurement/ sourcing initiatives</td>
<td>UK</td>
<td>Existing</td>
<td>Commercial</td>
<td>Tactical</td>
<td>Business</td>
<td>Business, food suppliers, consumer</td>
<td>Profit, Planet</td>
<td>Asda - Local source</td>
<td>Asda - Local source</td>
</tr>
</tbody>
</table>

32
<table>
<thead>
<tr>
<th>Retailer Campaigns</th>
<th>UK</th>
<th>Existing</th>
<th>Commercial/educational</th>
<th>Tactical</th>
<th>In-store</th>
<th>Business, food suppliers, consumer</th>
<th>People, Planet</th>
<th>Morrisons – Let’s Grow</th>
</tr>
</thead>
<tbody>
<tr>
<td>NGO Initiatives</td>
<td>UK</td>
<td>Existing</td>
<td>Voluntary/informational</td>
<td>Tactical</td>
<td>Media</td>
<td>DoH/health professionals, government, scholars, food service providers</td>
<td>People, Planet</td>
<td>Soil Association - School Farmers Project</td>
</tr>
<tr>
<td>School administered programmes</td>
<td>UK</td>
<td>Existing</td>
<td>Educational/informational</td>
<td>Tactical/triage</td>
<td>School</td>
<td>Schools (governors), parents, clergy, scholars</td>
<td>People, Planet</td>
<td>Food for Life (sponsored by Soil Association, Health Education Trust, Garden Organic, The Focus on Food Campaign)</td>
</tr>
<tr>
<td>Government and issue specific programs of work</td>
<td>US</td>
<td>Existing</td>
<td>Regulatory/informational</td>
<td>Tactical/triage</td>
<td>Government, NGO and Businesses</td>
<td>Business (FTSE/SMEs), Government, foodservice providers, health providers, NGO's</td>
<td>People</td>
<td>Food Assistance Programmes</td>
</tr>
<tr>
<td>NGO Health Focused Campaigns</td>
<td>US</td>
<td>Existing</td>
<td>Voluntary/educational</td>
<td>Tactical/triage</td>
<td>Schools, Media, Government Infrastructure</td>
<td>Schools, DoE, DoH/health professionals, scholars, food service providers, government</td>
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**Food Practice: Ready Meals**

- **NHS Campaigns**: UK, Existing, Educational/Informational, Tactical/triage, Media, Schools, DoE, DoH/health professionals, scholars, foodservice providers, government, People, NHS Change4Life.
- **Food Labels**: UK, Existing, Educational/Informational, Tactical/triage, Media/Food Items, Health professionals, NGO’s, food manufacturers/retails/providers, People, Nutritional Labels and Guidance Daily Amounts (GDA’s).
- **Food in School Programmes**: UK, Existing, Voluntary/Educational, Tactical/triage, Schools, Schools (governors), parents, clergy, scholars, People, Let’s Get Cooking.
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### Food Practice: Fast Food

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People: Media Smart Youth

People: European Food Sustainable Consumption and Production Roundtable

People: Healthy Lifestyle in Europe by Nutrition in Adolescence

People: Chefs Move To Schools - a subdivision of the Let's Move Initiative

People: Know your farmer know your food

People: Taste the waste

People: Focus on Food

People: Let's Get Cooking
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<td><strong>Food for Life</strong> (sponsored by Soil Association, Health Education Trust, Garden Organic, The Focus on Food Campaign)</td>
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8.4 Value Mechanisms and Interventions

Research shows that the interventions prevalent within the macro theme of Value (discussed in Section 4) tend to heavily overlap with those for the other macro theme of Connection (discussed in Section 3). Typically, a consumer who has been conditioned to value food solely or primarily on the basis of its cost and volume will be less inclined to ask questions about food quality, provenance and sustainability. Increasing connection to food, over time, typically lends itself to increasing the effort and scope of evaluation carried out for food choices.

Interventions which focus more specifically on increasing the value ascribed to food focus primarily on sustainable and pro-environmental lifestyle movements which incorporate, and also go far beyond, the remit of food alone. Initiatives such as the slow food and transition movements demonstrate wider ‘whole lifestyle’ interventions, including community cohesion and off-grid energy and transport ideas. The scalability of these interventions tends to be a significant challenge as their niche or ‘fringe’ image can isolate them from mainstream appeal (Petrini, 2004, 2007). Creating a populist agenda for mainstream sustainable living is fraught with complexity; currently only 12% of the UK’s population is concerned with environmental considerations (Defra, 2008). Promoting sustainable food-related behaviour is as constrained by this complexity as other areas of the sustainable lifestyle.

Other smaller scale, i.e. narrower than ‘whole lifestyle’, interventions tend to align themselves with a specific sustainability issue, predominantly within the environmental area. Schemes such as Fairtrade, MSC and Red Tractor are all consumer-facing supply-side interventions and all, on some level, work towards the creation of a wider lens for consumer food ‘value assessment’, which goes beyond the narrow field of price and volume.

The manner in which people typically appraise the intrinsic value and priority given to food is habitual and formed over time and through the repetition of messaging and behaviour. Evolving the ‘social norm’ view of the value of food will inevitably rely on a series of multiple interventions made over time, which when combined change practice, social norms, the prevailing attitudes, and the wisdom passed on between families and across generations.

8.5 Connection Mechanisms and Interventions

The Phase #2 Stage #3 literature review found that past and current interventions prevalent within the macro theme of Connection tend to centre primarily on voluntary educational/informational focussed interventions. Many interventions deal with local and community food networks, whilst others prioritise growing fresh produce. Interventions range from those directed towards sustainable procurement, through to awareness-raising activities focussed on farming. A concept common to all is the emphasis placed on the ‘reconnection’ to food through ‘re-acquaintance’ with the methods used to bring food to plate.

The mechanisms assessed covered a wide spectrum of messages and a variety of stakeholder groups and implementation platforms. These included government, communities, business enterprises, media and schools. Despite this diversity of stakeholders and change agents, all illustrated a shared emphasis in reconnecting people with food. However, current
interventions and mechanisms tended to be relatively small scale. Many have the potential to be scaled.

8.6 Breakfast Mechanisms and Interventions

Research shows that the interventions prevalent within the area of breakfasting behaviours tend to focus primarily on children and low-income groups, via tactical interventions such as Magic Breakfast Club. The Magic Breakfast Club provides nutritious breakfast food (bagels, porridge, orange juice and cereals) to over 7,500 children in 230 primary schools within the UK (MBC, 2011). The initiative targets schools where over 50% of the children are living in poverty and eligible for Free School Meals (the UK average is 18%) (ibid, 2013). This is a sensible approach given the significant opportunity for access (schools) and scale (nationwide), and there is compelling evidence that demonstrates the additional positive, indirect results of intervention with school-age children as positive behaviours picked up at school are taken into the home environment (Cole et al, 2006, Garrett, 2009, Gibson, 2011, Kothe, 2011, NHS (Change 4 Life), 2012, Mhurchu et al, 2010).

Such tactical and immediate interventions create very important grass roots shifts in practice, although they do not necessarily lead to widespread and sustained wider (beyond breakfast) food behaviour change. It is our recommendation that a wider package of interventions is developed to create more sustained, holistic sustainable consumer food-related behaviours and subsequent changes to social norms and prevailing attitudes.

To change behaviours it is necessary to change habits, and to change habits it is necessary to change social norms. More can be done to both scale existing grass roots interventions and to create more visible advocacy for the role of breakfast, beyond the classroom.

8.7 Breakfast Intervention Recommendations

The macro themes of Value and Connection point towards a need to look in parallel at both tactical grass roots interventions by food practice and longer-term interventions designed to tackle multi-demographic, multi-food-practice behavioural shifts. The sample roadmap (see Section 6 of the Appendix) is designed to illustrate a potential balance of short, medium and long-term interventions and to include the multiple levers of change and influence, i.e. to cover business (retail and supply chain), civil society, and government (policy and public procurement and curriculum).

It is our recommendation that the further development of any breakfast roadmap is approached with clear goals to develop interventions at all levels. Interventions should lead to the creation of a more engaged and empowered food consumer, whose understanding and action about the importance of ‘positive breakfasting’ extends into other food-related behaviours.

The bigger ambition, beyond the provision of access to positive breakfasting opportunities, should necessarily seek to elevate the priority (in terms of time and money) ascribed to breakfast within daily routines as well as the connection between a positive breakfast, the
priority given to, and the valuing of, other mealt ime food choices and the resulting social, health and environmental outcomes.

Multiple ‘pro-breakfast’ messaging approaches can be deployed to build and reinforce a pro- positive breakfast culture in Britain, as part of a wider pro- positive food message. By targeting an individual in their multiple ‘life roles’, e.g. mother, shopper, worker, carer, it is possible, over time, to build and reinforce new breakfast and wider food-related social norms.

8.8 Food Practice Mechanisms and Interventions

The literature review revealed that existing interventions within the area of identified food practices (Ready Meals, Fast Food and Cooking From Scratch) tend to focus primarily on two key areas:

1. Improving (choice editing) the nutritional content of ready meals and fast food (including food on-the-go), supported by tactical interventions directed at the consumer, such as nutritional labelling; and
2. The promotion of cooking from scratch through a variety of methods targeted at different socio-economic demographics and life-stages.

These interventions are delivered through a variety of platforms and via multiple stakeholders and levers of change (government, business, and civil society). However, the interventions deployed often lack a clear, coherent and consistent message. Whilst they create important and immediate shifts in behaviour at a grass roots level, tactical interventions do not necessarily lead to widespread and sustained attitude change, either within the target, which is often low income households, or across wider demographics.

The aims of the sample food practice interventions within this report are to remove real and/or psychological barriers to more sustainable food behaviours and to build an engaged, conscious, intuitive and empowered food consumer.

8.9 Ready Meal Mechanisms and Interventions

Within the assessed literature, the intervention and mechanisms already deployed in the area of ready meals can be split into three categories: regulatory, educational and business led/voluntary.

- **Regulatory:** This might consist of a series of policies, regulations and voluntary agreements which are designed to edit in/out a given product or range which does not meet ‘minimum levels’ of sustainability merit. A current example of this is the government and Department of Health encouraging responsible business practice in relation to public health through their ‘Responsibility Deal’. Although a voluntary agreement, the Responsibility Deal is administered and delivered through official policy channels. This approach is in line with the government’s agenda to improve public health by engaging businesses through their responsibilities as employers in addition to their commercial and community activities.
• **Business:** In contrast, business-led interventions focus mainly on the use of choice editing\(^\text{20}\), food labelling and in-store media campaigns. There are strong commercial interests in the ready meal sector and as such key stakeholders, such as supermarket retailers and the supply chain, must be actively included, not excluded, from solutions which deliver improved sustainability in ready meals. Choice editing is a lever which could be activated. This would involve bringing on board the food retailers and their supply chains in the pursuit of innovation within the ready meals category to achieve greater social, economic, financial and environmental sustainability. This might be done through a group that already exists, such as the Product Sustainability Forum. Voluntary agreements and market-based accountability are growing in importance as levers for change. An example of self-regulation is Marks and Spencer’s Plan A and the Product Attributes product scoring.

• **Information/Education:** This crucial intervention is found across all the theme areas. As is the case for activities focussed on changing breakfast habits, here too information-focussed initiatives are predominantly led by health organisations such as the NHS, in addition to industry bodies such as the FSA. However, the messaging used in these interventions focusses on typically two core messages: firstly, the nutritional content, such as salt, as evidenced by the FSA’s salt reduction campaign or post-horsemeat scandal, the actual raw ingredient content; and secondly, the message might focus on the benefits of cooking from scratch in comparison to the consumption of ready meals.

To date, a significant body of sustainable diet and consumption work has focussed on environmental issues and priorities. However, research shows that environmental concerns within food decision-making are a low consumer priority. With this in mind, encouraging lower meat consumption on the basis of environmental sustainability may prove less effective than, for example, an argument which puts forward instead the benefits of supporting the local economy. It is suggested that a further study is commissioned to create a UK food consumer segmentation model which has an emphasis away from the traditional ‘mapped by propensity towards pro-environmental choices’ and towards more commercial food consumer profiling. Asda’s ‘Everyday Experts’ panel and the work currently being undertaken with Leeds University under a Knowledge Transfer Partnership (KTP\(^\text{24}\)) could be of significant value to this work.

### 8.10 Ready Meal Intervention Recommendations

Interventions that aim to address the negative impacts associated with ready meal consumption share a predominantly tactical focus, with a key emphasis being on reducing the number of ready meals that are consumed, principally on improved health grounds.

In order to facilitate the successful rebalancing of consumer food-related practices and behaviours towards more sustainable food lifestyle and dietary choices, it is suggested that interventions that address fast food and ready meal consumption behaviours are considered

\(^{24}\) Knowledge Transfer Partnerships (KTP) is a UK-wide programme enabling businesses to improve their competitiveness, productivity and performance. A KTP achieves this through the forming of a Partnership between your business and an academic institution (such as university, further education college or research and technology organisation), enabling you to access skills and expertise to help your business develop (KTP, 2011).
in parallel. Both practices are, and will continue to be, a valuable and valued part of UK food consumer culture. It is important that interventions are balanced and fair, and, where possible, serve to best support all industries, ranging from pre-prepared foods and ready meals to take-away and quick service restaurants. Accordingly, the recommended potential interventions range from those focussed on the supply-side, for example choice editing and product re-formulations, through to improving consumer awareness, for example through labelling. The interventions also include ‘practice rebalancing’ interventions which seek to remove barriers and increase the appeal and take-up of other complimentary food practices such as cooking from scratch.

8.11 Fast Food Mechanisms and Interventions

The main food practice trend in the space of fast food is towards more widespread and more frequent consumption of fast food as a main meal replacement and an increase in the consumption of on-the-go lunches and snacks. Existing interventions tend to share the goal of rebalancing food behaviour towards increasing cooking from scratch or preparing food at home. There is significant overlap in the mechanisms deployed in the fast food and ready meal theme areas. However, the fast food intervention landscape is more strongly dominated by the use of policy and regulation mechanisms with government and local authorities as key stakeholders and change agents. There is significant use of planning regulation as shown in the work carried out in London boroughs, for example in Camden and Harrow, where councils have created guidance documents and tools on how to tackle the issue of fast food outlets in their areas (CIEH, 2011).

In conjunction with the use of policy mechanisms and interventions, a significant degree of voluntary educational/information-focused mechanisms are being delivered through both businesses and schools. These interventions typically share the aim of raising awareness regarding negative health impacts associated with the overconsumption of fast food. This is a high profile issue with notable public campaigns from individuals such as Jamie Oliver and his ‘Feed Me Better’ work, which builds on the activity being carried out in education and schools (Deutsch, 2008).

8.12 Fast Food Intervention Recommendations

As highlighted above, the current interventions landscape is dominated by policy regulations and local authority intervention. The existing case studies that address fast food issues tend to be specific to their local context. However, their findings and key successes can potentially be applied more broadly throughout the UK.

In order to facilitate the successful rebalancing of consumer food-related practices and behaviours, towards more sustainable food lifestyle and dietary choices, it is suggested that fast food and ready meals interventions are considered in parallel. Both practices are and will continue to be a valuable and valued part of UK food consumer culture. It is important
that interventions serve to support all industries (pre-prepared foods ranging from Ready Meals to Take Away and Quick Service Restaurants) with a balanced approach.

Therefore our Roadmap recommendations centre on scaling up the policy regulations and local authority interventions to a national scale.

8.13 Cooking From Scratch Mechanisms and Interventions

To a large extent, the commercial interests within the ready meal sector cross over with those within the ‘cooking from scratch’ stakeholder and commercial influencer group. Those operating in the commercial sector might be compelled to increase the desirability and accessibility of cooking from scratch via a number of tactical campaigns. These might involve a significant collaboration between retailers and/or the sector more broadly. Such interventions would be designed to bolster Britain’s interest and enjoyment in cooking from scratch. There are numerous practical, ‘enabling’ interventions which might support this, e.g. providing pre-prepared fresh ingredients and ‘how to’ recipe mechanisms.

More broadly, the interventions types can be grouped as follows:

- **Public health programmes**: These include major initiatives such as the Change4Life programme, which covers improving health, nutrition and physical activity, i.e. going beyond simply encouraging cooking skills.
- **Market-based programmes**: These include the Public Health Responsibility Deals; the salt reduction initiative pushed by the FSA; and restrictions on TV advertising of unhealthy food products to children; as well as more small scale product-based initiatives.
- **Policy and education based programmes**: These include Let’s Get Cooking and the Food for Life Partnership. Both are examples of interventions designed to encourage a broader connection with food which goes beyond enjoying food to building capabilities in food growing, preparation and cooking. Policy is a powerful lever for delivering scale and impact in the area of developing cooking skills and stronger connections with food. There have been a number of relevant changes in the school curriculum recently, which, once they take effect, will act as powerful change agents in delivering against the macro themes of Connection and Value.

8.14 Cooking From Scratch Intervention Recommendations

Cooking from scratch interventions have been designed to enable a more **engaged and empowered consumer with a stronger connection to food**. These interventions aim to unlock the identified barriers to home cooking and to ensure consumers have physical, financial and psychological ‘access’ to cooking from scratch as a regular mealt ime option within the range of **food lifestyle and dietary choices** open to them.
9. **Roadmap Illustrations**

9.1 **The Aim of the Roadmap**

The roadmap has been designed for illustrative purposes only. The illustrative roadmap offers a sample range of short, medium and long range interventions, working across food-related behavioural themes and impacts.

This is NOT a comprehensive or tested interventions recommendation and should be used only as a guide as to how a more comprehensive and detailed roadmap might be set out in order to address multi-behaviour and multi-metric ambitions, across food-related behaviours.

There are significant limitations in the published assessments of historical and existing interventions.

A comprehensive, tested and deployable roadmap would require significantly more time and scope and would require engagement with and contributions from, a wide range of key stakeholders.

9.2 **Illustrative Roadmap Development**

The illustrative roadmap has been developed to demonstrate ways in which cross-cutting themes and initiatives might work together towards a ‘Big Picture’ vision of a more sustainable food culture and future. This approach is in line with the Defra Sustainable Lifestyles Framework (2011) which advocates for multiple interventions at multiple points leading to sustained change.

Isolated, individual, uncoordinated or small scale approaches to the multiple sustainable food behaviours challenges offer an often limited response to a significant challenge. In some cases, unintended consequences of one intervention can impede the efficacy of another. All initiatives, be they short, medium or long-term in focus, can be better leveraged to create more scalable and impactful interventions, if they are part of a wider and well-coordinated programme of work, joined by a shared and well-articulated vision, or end goal. Therefore, the illustrative roadmap has been developed to enable cross-cutting themes and initiatives to work together towards a ‘Big Picture’ vision of a more sustainable food culture and future.

The following criteria guided the development of the illustrative roadmap:

- Recommendation of a blend of short, medium and long-term behaviour and attitude change at an individual and, ultimately, a societal level;
- Conscious co-joining of the two cross-cutting macro themes (Connection and Value) and the identified four key themes to produce a connected blend of mutually reinforcing interventions and mechanisms;
- Identifying and inclusion of the key stakeholders/influencers and levers for change;
• Highlighting of potential collaborations, for example between government, businesses and other stakeholders, such as charities, NGOs, schools, retailers, and branded food manufacturers;
• Identifying of the key influencing groups, for example peer networks or mothers; the latter are a powerful influencing group who can be accessed and brought in as advocates via a specific programme of activation, using resources such as MumsNet, NCT and so forth;
• Historical application evidenced in UK and/or international markets (EU & USA etc.); and
• Evidenced critical evaluation of interventions.

We recommend that existing mechanisms and interventions, both UK-specific and those applied within an international market, are extended and scaled where the supporting evidence for doing so is strong. It is also our recommendation that a ‘whole is greater than the sum of the parts’ view is taken across each theme in order to create cohesion of message. This cohesion and synergy would be between specific practice interventions, for example, unified messaging across all breakfast-related interventions, and also across the wider roadmap in order to join up interventions from all of the themes to deliver against a clearly articulated and aligned mission and central programme goal.
9.3 Food-related Behaviours Roadmap

Figure 9: Illustrative roadmap of food behaviours. For more detailed roadmaps, please refer to Section 6 the Appendix.
9.4 Evidence Gaps and Trade-Offs

Further consideration must be given to the potential for unintended consequences or rebound effects which might result from the deployment of interventions. The rebound effects and any trade-offs will need to be assessed on an intervention by intervention basis and as a whole system. However, this is a complex task requiring the relative weighting of both sustainability measures i.e. social, environmental and economic, as well as the prioritisation of affected party interests.

In certain cases, personal, national, social, governmental, environmental and economic interests will be in conflict and the short, medium or long-term view taken will influence the degree to which any given party is deemed to be a beneficiary, or to suffer detriment.

It is suggested that the illustrative roadmap is assessed in more detail, intervention by intervention, and as a systems change programme as a whole, pre-deployment and with the committed collaboration of multi-stakeholder groups.

Please see Section 7.1 of the Appendix for outline points of note.

9.5 Literature Review and Segmentation Evidence Gaps

There are significant gaps in the in-scope literature in relation to the assessment of wider out-of-scope food relevant behaviours. Gaps are detailed within this report and future work should seek to address these gaps and expand the scope of the food related behaviour topics addressed. Consideration should be given to wider attitudinal dispositions, quantitative impacts, behavioural assessment models and systems approaches.

Segmentation gaps

Considerable publicly commissioned and commercial research (generalised food and non-food consumables) has been conducted measuring the UK demographic against attitudinal and behaviour dispositions towards ‘green’ choices (cars, washing powders, energy), or subsets of the wider food debate e.g. organic, Fairtrade etc.

The Defra research: Exploring Ways Forward for Segmentation in Food Behaviours (FO0421) divides the UK population across seven segments ranging from ‘Positive Greens’ to the ‘Honestly Disengaged’. However, the research found no single, comprehensive, specific food choice or food behaviour segmentation modelling which successfully profiles UK food choices and food-related behaviours in any ‘beyond green’ meaningful model of broader sustainable (social, economic, environmental) behaviours, attitudes or dispositions.

It is our suggestion that a roadmap implementations team and/or a further Defra study seeks to work with the major supermarket retailers to co-design and develop a shared ‘food behaviours and attitudes’ segmentation model which could be applied to UK consumer food behaviour change work.

Literature gaps

In relation to food-related behaviours the literature is often contradictory and lacking quantitative impact assessment.
There is a wealth of qualitative literature that assesses psychological behavioural drivers; however, the evidence base for the current social and cultural drivers is still emerging. There are a variety of sources that refer back to traditional practices e.g. cooking from scratch, however new topics of significant influence, such as the increase in digital media usage trends, have yet to be covered in depth to reflect impacts on present practices and likely future trends. Please see Section 7.2 of the Appendix for further outline points of note.

10. Conclusions

This project goes beyond the key findings of the food choice assessment within the 2009 Food Synthesis review. It confirms the high level findings of 1) consumer environmental impacts occurring upstream (notably within agriculture) 2) that there is no agreed set of priority agreed pro-environmental behaviours and 3) that environmental considerations are relatively insignificant to individual’s food (or practice) choice.

Macro Themes

The evidence review highlights six key themes which can be categorised as:
1) ‘macro’ (connections and value) or,
2) ‘key’ (breakfast, ready meals, fast food and cooking from scratch) themes.

A consumer, who has come to value food solely or primarily on the basis of its cost and volume, will typically be less inclined to ask questions about, or make demands in relation to, food quality or wider sustainability credentials. Supporting the current disconnection from and narrow lens of valuing food, sits a host of complex factors: These include increased urban living, changes from a land and manufacturing-based to a desk-based work economy, food retail norms around price and multi-buy product promotions, and the rise of alternative (to growing and cooking) leisure pursuits, such as multi-media and digital device leisure time prioritisation.

Barriers to change are considerable and any enduring change to social norms will take time to realise.
However, the multiple levers of change (Govt., business and civil society), working together in pursuit of shared goals can deliver significant short-term practice, longer-term behaviour and attitude change, which can lead toward mainstream re-prioritisation of, and connection to food.

**Key Themes**

Key themes considered within the report span both meal occasions\(^{15}\) (breakfast) and food practices (ready meals, fast food and cooking from scratch).

The Trendspotting approach revealed the golden threads and common behavioural and attitudinal drivers behind the prevailing food behaviours. Although each behaviour has unique properties, the sociological, cultural, physical and psychological factors that influence and drive consumers towards the identified behaviours shared causal commonality.

**Breakfast**

As discussed in section five there are three identified breakfast trends within the UK,

- Skipping breakfast
- Consuming a poor breakfast
- Positive breakfasting

As a nation the UK ranks poorly (compared to EU counterparts) in the numbers of adults and children (35%) routinely skipping breakfast (Kraft, 2010). Of those who do consume a regular breakfast, the breakfast choices are often high impact across a range of environmental, social, health and economic parameters.

Poor or skipped breakfasts are evidenced to lead to a range of environmental impacts and significant impacts in the areas of mental and physical wellbeing, education and workplace productivity, and resultant social and economic mobility.

Barriers to change exist across all areas of physical, psychological and financial access in addition to the ‘softer’ areas of awareness and appeal. Approaches to change would need to work towards improving the systems of provision through schools and workplace environments, as well as through the promotion of more ‘positive’ and convenient breakfast choice product offerings. The ‘on-the-go’ breakfast category represents a significant opportunity to deliver new product innovations designed to better meet the desired social, environmental and economic outcomes. The commercial sector, NGOs, charities and policy makers all have a role to play in removing the access barriers, improving awareness and generating appeal for a new and more sustainable breakfast norm.

**Ready Meals, Fast Food and Cooking from Scratch**

The key findings across these grouped themes (discussed in section 6) are 1) the rise in the purchase and consumption of pre-prepared meals and fast foods and 2) a decline in the number of UK adults skilled, willing and frequently cooking from scratch within the home, as evidenced by a selection of key statistics below:
• One in six people say that they cannot cook (Good Food, 2011).
• 57% say that they do not consider food important compared to other social and cultural activities they wish to engage in on a daily basis (Blythman, 2006).

A rise in the consumption of pre-prepared or fast foods and the decline in home cooking is not necessarily synonymous with poor health or high environmental impact. The pre-prepared foods category is capable of delivering favourable environmental and social outcomes e.g. food production standards; waste and portion control can be controlled within the value chain. However, the evidence suggests that a number of mainstream choices are still contributing to poor social (particularly health) wellbeing and significant environmental impacts. There are also potential knock-on economic impacts, including public health spending. Furthermore, softer measures of societal and wider wellbeing impacts, such as the demise in social eating, and cooking as a shared or solo pastime represent frequently evidenced social impacts.

Key barriers to more sustainable food practices with respect to the three themes of Ready Meals, Fast Food and Cooking from Scratch are evidenced across all areas of physical, psychological and financial access, as well as in the areas of awareness and appeal. A growing demand and expectation for the availability of low-cost convenience foods, and a demonstrable reluctance on the part of some mainstream food manufacturers and retailers to choice edit or choice limit beyond some very baseline targets combine to perpetuate the multiple high impacts of the pre-prepared meal sector.

Furthermore, perceptions of access to raw ingredients, the relative costs, time constraints and difficulty of home cooking, coupled with the well-evidenced decline in basic cooking skills, all combine to reinforce a ‘no cook’ culture. This serves to perpetuate social norms which deliver a range of social, environmental and economic impacts that are seemingly incongruous to more sustainable food behaviours or supporting systems.

Approaches to change would need to consider ways in which to re-balance the typical UK food behaviour towards access to and appeal of a more ‘blended social norm’ that encompasses demand for, and supply of, more sustainable (social, environmental) pre-prepared meal choices AND advocacy and enablement of a return to basic cooking skills.

**Recommendations**

The restricted timeframe of the 12 week secondary research leaves significant evidence gaps in terms of definitive ‘sustainable food practices’ and the question of the ‘right’ or ‘best’ balance of practices in order to deliver an on-balance ‘better’ across multiple social, environmental and economic measures.

However, the macro themes of Value and Connection point towards a need to look in parallel at both tactical grass roots interventions by food practice and a longer-term cohesive map of cross-theme interventions designed to tackle multi-demographic, multi-food-practice attitudinal and behavioural shifts.
These interventions should seek to convene business, retail and NGO/charity partners to create ‘joined-up’ approaches with shared directions or visions of what ‘good’ might look like across social, environmental and economic long-term interest.

The Illustrative Roadmap provides a guide as to how further work might be undertaken in order to drive positive change and rebalance unsustainable food behaviours (see Section 9). The Illustrative Roadmap is designed to provide a sample balance of short, medium and long-term interventions and to include the multiple levers of change and influence, i.e. to include business (retail and supply chain), civil society, government (policy and public procurement and curriculum).

The interventions included in the illustrative roadmap are designed to demonstrate delivery through a variety of platforms and via multiple stakeholders and levers of change (government, business, and civil society). The aims of the sample food practice interventions detailed within the roadmap are to remove real and/or psychological barriers to more sustainable food behaviours and to build an engaged, conscious, intuitive and empowered food consumer.

### 10.1 BFF recommendations and implications of the research

For the purpose of the further development and end deployment of a more detailed roadmap, it is recommended that the following groups are convened and briefed to co-develop and deliver a more detailed (date and measures of success) programme of work.

- The Green Food Project
- Cross policy unit ambassadors across the levers of change (Government, Business and Civil Society)
- The Product Sustainability Forum (PSF)
- The UK Dream programmes (Wellbeing and Style and Culture)

These groups should work to a broad goal which is to: elevate the priority (time and money) ascribed to food and food practices and to deepen UK consumer connections to and with food, via programmes which will deliver enduring change in support of a more sustainable (socially, economically, environmentally) food system.

Defra could meanwhile seek to develop or facilitate:

**The UK Food Consumer segmentation study:** drawing on commercial segmentation models such as Asda Everyday Experts and KTP. The project team was unable to identify a single segmentation framework that could be applied to consumer food behaviours.

Out-of-scope evidence suggests that a significant behavioural driver is context and social norms. The absence of a framework to translate these patterns and map against consumer profiles impedes the ability to assess efficacy of the recommendations and interventions.

**An interventions review standard and/or panel:** An integral element within the project brief was the assessment of possible food behaviour interventions and mechanisms which could be used to intervene in current behaviours to improve their sustainability. The review conducted focused on UK specific examples, however did incorporate a wider assessment of international comparators. During the intervention and mechanism review it became clear...
that a variety of food behaviour interventions and mechanisms have been trialled across
typologies of food behaviours and time scales.

The illustrative roadmap featured in section 9 demonstrates a selection of the reviewed
existing interventions, coupled with a series of potential new-design interventions created by
the BFF project team.

**A weightings matrix for multi metric social, economic and environmental scoring:**
Currently there is no singular weighted framework that can be applied in behavioural
assessment. A recommendation is therefore made for the development of a weighted multi
metric framework

The mixed Hotspot/Trendspot methodology has proved an effective vehicle to assess
behaviours through, however the project team identified a secondary barrier of how to weight
and prioritise the impacts identified relative to each metric. Currently the weighting of the
three sustainability metrics (social, economic and environmental) is highly debated and
extremely subjective. Therefore it is suggested that not only is a consensus on the weighting
of each metric relative to each other needs to be defined, but that a methodology is defined
that can be used by both industry and academics to inform future decision making and
assessment. If both of these goals are achieved the sustainability and behavioural arena will
have a firm and established point of reference for which to benchmark all future
methodologies.

### 10.2 Peer Review Comments

As discussed in section 2.1, the search terms for this projected shaped the evidence and
therefore constricted the reviewed evidence base. Some notable literature exclusions are as
follows:

- E. Shove (2003), Comfort, Cleanliness and Convenience, Berg: Oxford ; SPRG project
  on changing food habits - see http://www.sprg.ac.uk/projects-fellowships/changing-
eating-habits
- T Lang et al (2009), Food Policy, OUP: Oxford
cooking confidence, food preparation methods and dietary choices - an exploratory trial',
Public Health Nutrition, 10, 2, February 2007, 203-211
- E Dowler (2008), Policy initiatives to address low-income households’ nutritional needs
- E Dowler (2008), ‘Food and Health Inequalities: the challenge for sustaining just
  consumption’Local Environment 13, 8, 759-772.
- A Druckman et al (2011), Sustainable Income Standards: towards a greener minimum?,
JRF: York
Appendix: Final Report

Review of evidence on consumer food-related behaviours that impact on sustainability

SEG 1204
5th July 2013
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1. Methodological Tools

1.1 Literature Review

The methodological approach to the literature review adopted for the purpose of this project consists of two core elements, the first a rapid evidence assessment (REA) and the second an in-depth review and analysis of core literature pieces derived (Civil Service, 2011). As the key elements of this work are structured on desk based research, boundaries on the variety, age and literature source investigated were made to ensure the efficiency of the review process. Discussions regarding the literature search boundaries were held early on with the Defra project team. Outlined below are the scoped out boundaries as approved:

1.2 REA Boundaries

- The age of food-related behaviours literature reviewed should range from 2009 to the present date (using Defra Food Synthesis Review 2009 as a benchmark for literature inclusion and exclusion parameters)
- Additional literature sources (specifically sociology and psychology) must span a thirty year period (1983-2013)
- Evidence sources to span a variety of mediums such as academic journals, government publications, official research institutions, market intelligence agencies, retailer and manufacturer publications and wider media such as newspaper articles, blogs and press releases
- All sources gathered during the REA to be properly documented in a detailed tracker with content, quality and robustness scores applied to each source on a scale of one to five.

During the initial scoping of the project it was anticipated that the literature review for both phase one, current food-related behaviours, and phase two, interventions and mechanisms, would be substantial. Previous studies for Defra initially found between 800 to 1,000+ individual items of literature. However due to the limited timescale of the project (12 weeks) Best Foot Forward (BFF) and the Defra project team implemented strict boundaries to govern the scope and scale of the REA. The main caveat of which is the use of the Defra 2009 Food Synthesis Review as a base for all literature searches going forward. This boundary was agreed on the assumption that the Defra Food Synthesis Review captured all relevant food-related behaviours literature sources prior to its publication in 2009, and it would therefore be counterproductive to the project to revisit these.

1.3 Project and Methodological Risk and Mitigation

A short risk register follows below (Table A 1) to highlight possible project risks, and our mitigation approach/ responses.
Table A 1: Project risk register

<table>
<thead>
<tr>
<th>Issue</th>
<th>Identified Project Risk</th>
<th>Mitigation/response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotspot Methodology</td>
<td>Limited or no quantitative data available for key theme</td>
<td>Use qualitative literature sources and where possible case studies to support the use of value judgements within the hotspot assessment process. Make these justifications and value judgements explicit in all documentation and sense check with the BFF and Defra project team.</td>
</tr>
<tr>
<td>Hotspot Methodology</td>
<td>Unable to compare like for like ‘hotspots’</td>
<td>Similarly to the above the BFF team will use qualitative data and case study examples to support analysis, however where like for like comparisons cannot be made these assessment limitations will be made clear to the Defra project team and a solution created.</td>
</tr>
<tr>
<td>REA Methodology</td>
<td>Missed literature sources</td>
<td>Add in additional ’mini’ REA searches as and when required to sense check literature gathering outputs.</td>
</tr>
<tr>
<td>REA Methodology</td>
<td>Missed literature sources</td>
<td>Create a list of key search terms in collaboration with the Defra project team. In addition to this populate and present new search terms as they develop naturally throughout the search process.</td>
</tr>
<tr>
<td>REA Methodology</td>
<td>Literature source quality</td>
<td>Only review literature sources that score a three or above in the source quality grades.</td>
</tr>
<tr>
<td>Delivery schedule</td>
<td>Failure to meet key project milestones</td>
<td>Regular progress meetings scheduled throughout; significant existing knowledge from previous projects; extensive BFF team experience of quick turnaround projects.</td>
</tr>
<tr>
<td>Project team</td>
<td>Unavailability of key BFF personnel</td>
<td>Three BFF staff assigned to project and can be supplemented by other BFF staff; proven delivery track record.</td>
</tr>
</tbody>
</table>

1.4 Role of the REA

The REA process is the backbone of this project; Figure A 1 below illustrates the process by which the REA outputs feed into and shape the wider methodology stages and the overarching project deliverables.
As illustrated, the REA and literature gathering processes span both phases (#1 & #2) of the project, however on an individual basis the REA and literature gathering process is made up of five key steps, detailed below.

**Stage 1: Identify a priority reading list**

The first stage of the REA process was defined by the collaboration with the Defra project team and wider project stakeholders (the Green Food Project) in order to identify a priority list of 'seminal' work for inclusion within the literature review. The collaboration on the compilation of this priority list ensured that key works (e.g. London Food and Health Strategy 2006) and academics such as Tom Crompton were included within the literature assessment ensuring that the BFF project team’s understanding aligned with Defra and its key stakeholders’ thought process. Once this list was compiled it was distributed and analysed by the BFF project team to create a robust foundation that will inform all future project decisions.

**Stage 2: REA Search**

The second stage of the literature gathering process was designed to mobilise a second reading list drawn from a traditional REA search using a series of predefined search terms. However, as outlined previously due to the inherent nature of REA searches it was necessary for parameters and boundaries to be closely drawn not only on the age and sources of literature but also the topics and areas under examination. Outlined in Table A 2 below are the key food-related practices as identified by Defra and the BFF project team within its original proposal.
Table A 2: Criteria used to assess food practices

<table>
<thead>
<tr>
<th>Practices</th>
<th>Assessment criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-food acquisition</td>
<td>Making a shopping list</td>
</tr>
<tr>
<td></td>
<td>Menu/meal planning</td>
</tr>
<tr>
<td></td>
<td>Travel to store</td>
</tr>
<tr>
<td>Food acquisition</td>
<td>Acquisition source</td>
</tr>
<tr>
<td></td>
<td>Frequency of shop</td>
</tr>
<tr>
<td></td>
<td>Choice editing</td>
</tr>
<tr>
<td></td>
<td>Promotions and special offers (BOGOF)</td>
</tr>
<tr>
<td></td>
<td>In-store Information and labelling</td>
</tr>
<tr>
<td></td>
<td>On-pack labelling</td>
</tr>
<tr>
<td>Specific Food Choices</td>
<td>Meat</td>
</tr>
<tr>
<td></td>
<td>Seasonal</td>
</tr>
<tr>
<td></td>
<td>Organic</td>
</tr>
<tr>
<td></td>
<td>Fair-trade</td>
</tr>
<tr>
<td></td>
<td>Local</td>
</tr>
<tr>
<td></td>
<td>Rainforest Alliance</td>
</tr>
<tr>
<td></td>
<td>MSC Certified</td>
</tr>
<tr>
<td>Food handling practices</td>
<td>Storage</td>
</tr>
<tr>
<td></td>
<td>Preparation</td>
</tr>
<tr>
<td></td>
<td>Reuse</td>
</tr>
<tr>
<td></td>
<td>Disposal</td>
</tr>
<tr>
<td>Food consumption practices</td>
<td>Breakfast</td>
</tr>
<tr>
<td></td>
<td>Lunch</td>
</tr>
<tr>
<td></td>
<td>Dinner</td>
</tr>
<tr>
<td></td>
<td>Snacks</td>
</tr>
<tr>
<td></td>
<td>Cooking at home</td>
</tr>
<tr>
<td></td>
<td>Take-aways</td>
</tr>
<tr>
<td></td>
<td>Restaurant</td>
</tr>
</tbody>
</table>

As illustrated by the quantity of sub categories included within each practice, the scope of food-related behaviours is extensive. Due to the inherent complexity the BFF project team found it necessary to work beyond the REA boundaries, therefore tailored literature and key word source exclusions had to be drawn and collectively agreed.

The key literature exclusions to be documented are the assessment of food waste, transport to and from the store, and energy use at the consumer stage (i.e. impacts associated with the use of white goods such as ovens, fridge and freezers). However the defining and overarching exclusion within the literature search was the decision to exclude food item/product specific searches. The justification for this decision lies with the dominance of literature that product specific, it was agreed that by making the literature assessment non product specific the search would move from the product itself to the behaviour directly. This decision significantly impacts the range and scope of studies that are relevant to and
can be included within the REA as within academia and wider literature food choices, behaviours are commonly directly linked to the type of food being consumed.

Separating the food product from the food practice becomes a complex, and in some instances impossible, task with products remaining a fundamental element within certain food practices e.g. burgers and take away. A key element within the literature and REA search that this literature exclusion impacts is the assessment of environmental impacts. Food behaviours are not profiled as prolifically as the impacts of specific products. This impact is mitigated by the use of wider literature and where possible, case study examples to provide qualitative context in the absence of quantitative figures. Additionally, where value judgments are made on the basis of qualitative literature sources justifications and influential sources are documented and made explicit within the project report and deliverable findings.

As documented, the project team has followed a traditional REA process using specific search terms to set the search parameters. The search terms created were made of both primary and secondary phrases to ensure the capture of key themes but also themes that silo in and out of the research area and behaviours that are symptomatic of key food-related behaviours to be assessed.

 Once the search terms were defined and peer reviewed the BFF project team employed customary REA procedures for the initial search. The project team systematically conducted desk based research employing both primary and secondary search terms across a variety of intelligence sources such as academia and private/public literature, e.g. FCRN, RESOLVE, SDRN, ESRC, WRAP, RRF, WREP, and web and publication searches. The literature gathering included both quantitative and qualitative research studies, project and technical reports, case studies, article reports, good practice guidance, information and advice, and ‘grey’ literature. All Sources gathered during the review have been catalogued in an Excel spreadsheet comprising the following:

- Full citation (e.g. researcher, author, organisation details);
- Reference type (e.g. academia, commercial, consultancy, government, NGO);
- Source quality (e.g. primary, secondary, synthesis review, programme, review);
- Domain area (e.g. Food Choices etc.)

For more details on the search terms used and the number of sources attributable to each search term can be found in Section 2.

**Stage 3: REA Output Review**

At the conclusion of the REA 403 literature sources were identified as potentially applicable to the project. However, to determine which of those literature sources were seminal to the project a filtration process was applied to all 403 sources.

A ‘top line’ filtering criteria was created for this purpose. The criteria set by the BFF project team comprised of a content applicability and source quality score, both on a scale of one (low) to five (high) in addition to the food-related impact area addressed (society, health, environment etc.) being documented. To filter the sources and create a list of those to be reviewed in more detail the top scores (a maximum of 10) across both scoring criteria’s
(content and quality) were cross referenced with food related impact area to rank those with the highest overall score. Once ranked the literature sources for priority were self-selecting.

This approach to filtration was proposed and adopted by the BFF project team on the basis that the combination of both content and quality ensures that sources to be reviewed are relevant to specific themes within the project. In addition to the sources that have high academic rigor, such as peer review processes, statistical quality and publication sources specifically looking for recognised institutions such as FCRN, SCI, ESRC etc.

The top ranked literature sources of which there were 296 were then re-ranked in order to determine the second stage of the REA, a more detailed assessment of the most applicable literature. At the end of this process 57 sources of literature were identified for more detailed assessment. This more detailed phase of the REA required the BFF project team to read the literature sources and answer a series of questions within a set pro-forma sheet documenting their answers and individual interpretation of the content.

**Stage 4: REA Analysis and Synthesis**

The fourth stage of the REA process is the consolidation, analysis and synthesis of the detailed reviewed literature sources. The main aim behind the synthesis and analysis process is to cross examine sources within each of the domain areas to identify any groupings, generic themes, evidence gaps, linkages or emerging issues with the ultimate aim of understanding the implications for the current and future policy landscape.

As outlined above, 57 sources were reviewed in detail. From this assessment there were a series of generic themes that dominated the literature, such as the role of the consumer, organic product alternatives and the role of food waste within the consumer and product supply chain. Other key topics that presented themselves during the literature analysis were eating more locally in season, adopting a lower impact diet, wasting less food and specific food choices. However the BFF and Defra project team made a decision not to focus on these specific topics, the justifications behind which were three fold. Firstly, as described above, the scope and boundaries of the literature search were jointly agreed by the BFF and the Defra project team, and a series of themes identified which were deemed outside the scope of this project e.g. wasting less food and product supply chain factors.

Secondly, a selection of the literature areas are research areas that are under active investigation by the Green Food Project work streams, a notable example of which is the adoption of a low impact diet. Lastly, the BFF project team, after additional internal peer review of the themes, deemed that a selection of the topics presented by the literature review was symptomatic of broader thematic food-related behaviours, not food-related behaviours themselves. For example, organic food, local food and Fairtrade are all sub sets of a broader ‘Connections with food and provenance’ theme.

For more detailed information of the assessed project themes please refer Section 2.4 of the project report.
Stage 5: REA Theme Search

The fifth and final stage of the literature gathering process adopted by the BFF project team was an additional REA search, the outcome of which is to be used to sense check against the proposed project themes. This mini REA was conducted using the same principles as outlined above in stages 1-4, however, instead of the search terms defining the search criteria the theme titles were used as search phrases. Each of the seven themes were searched individually during an intense one week period. Outlined in Table A 3 below are the key themes and the number of additional sources that the mini REA found.

Table A 3: Results when themes were entered as search terms

<table>
<thead>
<tr>
<th>Theme</th>
<th>Number of sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value = £ &amp; Volume</td>
<td>14</td>
</tr>
<tr>
<td>Ready Meals Vs Cooking from scratch</td>
<td>10 <em>ready meals</em> 18 <em>cooking from scratch</em></td>
</tr>
<tr>
<td>Fast Food/ Take Aways/ Restaurants</td>
<td>7</td>
</tr>
<tr>
<td>Breakfast</td>
<td>12</td>
</tr>
<tr>
<td>Connections</td>
<td>5</td>
</tr>
<tr>
<td>Globalisation</td>
<td>15</td>
</tr>
<tr>
<td>Choice and Choice Editing</td>
<td>14</td>
</tr>
</tbody>
</table>

As illustrated by the figures above the second mini REA produced a significant number of additional literature sources that were not captured during the initial review, therefore reconfirming the importance of the themes chosen to be explored in more depth.
### 2. Literature Review Search Terms

Table A 4: Phase #1 Stage #1 and Stage #2 REA search terms

#### Search Phrases: Food Practices

<table>
<thead>
<tr>
<th>Primary</th>
<th>Number of Sources</th>
<th>Secondary</th>
<th>Number of Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food practices</td>
<td>9</td>
<td>Frequency of food shop</td>
<td>7</td>
</tr>
<tr>
<td>Breakfast (trends)</td>
<td>11</td>
<td>Online food shopping</td>
<td>16</td>
</tr>
<tr>
<td>Lunch (trends)</td>
<td>10</td>
<td>Food storage in the home</td>
<td>11</td>
</tr>
<tr>
<td>Snacking (trends)</td>
<td>15</td>
<td>Cooking trends</td>
<td>5</td>
</tr>
<tr>
<td>Dinner (trends)</td>
<td>12</td>
<td>Cooking skills</td>
<td>9</td>
</tr>
<tr>
<td>Meal/menu planning</td>
<td></td>
<td>Cooking From Scratch</td>
<td>14</td>
</tr>
<tr>
<td>Shopping list</td>
<td>10</td>
<td>Food Preparation</td>
<td>11</td>
</tr>
<tr>
<td>Grow your own</td>
<td>3</td>
<td>Portion Control</td>
<td>13</td>
</tr>
<tr>
<td>Travel to supermarket</td>
<td>7</td>
<td>Weekly shop</td>
<td>7</td>
</tr>
<tr>
<td>Food shopping (&amp; Culture)</td>
<td>14</td>
<td>Top-up shop</td>
<td>9</td>
</tr>
<tr>
<td>In-store supermarket trends</td>
<td>2</td>
<td>Food on-the-go</td>
<td>4</td>
</tr>
</tbody>
</table>

#### Search Phrases: Food Choices

<table>
<thead>
<tr>
<th>Primary</th>
<th>Number of Sources</th>
<th>Secondary</th>
<th>Number of Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eat less dairy</td>
<td>14</td>
<td>Meat free Mondays</td>
<td>3</td>
</tr>
<tr>
<td>Convenience Food</td>
<td>25</td>
<td>Eat Less Meat</td>
<td>12</td>
</tr>
<tr>
<td>Organic food</td>
<td>30</td>
<td>Triangle of change</td>
<td>0</td>
</tr>
<tr>
<td>Local food (UK)</td>
<td>16</td>
<td>Food Pyramid</td>
<td>0</td>
</tr>
<tr>
<td>Seasonal food</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buying food in season</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy (sustainable) diet</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search Phrases: Impacts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Primary</strong></td>
<td><strong>Number of Sources</strong></td>
<td><strong>Secondary</strong></td>
<td><strong>Number of Sources</strong></td>
</tr>
<tr>
<td>Food impacts</td>
<td>62</td>
<td>Low impact diet</td>
<td>SIR</td>
</tr>
<tr>
<td>environmental impacts of food</td>
<td>SIR</td>
<td>Sustainable food</td>
<td>SIR</td>
</tr>
<tr>
<td>Social impacts of food</td>
<td>SIR</td>
<td>Point of Purchase impacts on food choice</td>
<td>SIR</td>
</tr>
<tr>
<td>Economic impacts of food</td>
<td>SIR</td>
<td>Food waste</td>
<td>SIR</td>
</tr>
<tr>
<td>Wellbeing impacts of food</td>
<td>SIR</td>
<td>Cultural Impacts of food choice</td>
<td>SIR</td>
</tr>
</tbody>
</table>

Table A 5: Intervention and Mechanism search terms

<table>
<thead>
<tr>
<th>Search Phrases: Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Primary</strong></td>
</tr>
<tr>
<td>Breakfast, health</td>
</tr>
<tr>
<td>Breakfast, social</td>
</tr>
<tr>
<td>Breakfast, environmental</td>
</tr>
<tr>
<td>Choice Editing</td>
</tr>
<tr>
<td>Ready Meals, Health</td>
</tr>
<tr>
<td>Value, price and volume</td>
</tr>
<tr>
<td>Connections, social</td>
</tr>
<tr>
<td>Connections, health</td>
</tr>
</tbody>
</table>
# 3. Behaviour Impact Matrix

**Table A 6: Behaviour impact review matrix**

<table>
<thead>
<tr>
<th>Practice</th>
<th>Types of food-related behaviours identified</th>
<th>Impact Categories</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Environmental</td>
</tr>
<tr>
<td><strong>Pre-food acquisition</strong></td>
<td>Making a shopping list</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Menu/meal planning</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Travel to store</td>
<td></td>
</tr>
<tr>
<td><strong>Food acquisition</strong></td>
<td>Acquisition source</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frequency of shop</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In-store messaging</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Promotions and special offers (BOGOF)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>In-store Information and labelling</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Online vs. in-store shopping</td>
<td></td>
</tr>
<tr>
<td></td>
<td>On-pack labelling (health/nutrition)</td>
<td></td>
</tr>
<tr>
<td><strong>Specific food choices</strong></td>
<td>Meat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seasonal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Organic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fair-trade</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Local</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Take-aways</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Healthy Food choices</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Convenience food</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Fast Food</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rainforest Alliance</td>
<td></td>
</tr>
<tr>
<td></td>
<td>MSC Certified</td>
<td></td>
</tr>
<tr>
<td><strong>Food handling practices</strong></td>
<td>Storage</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Preparation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reuse</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Disposal</td>
<td></td>
</tr>
<tr>
<td><strong>Food consumption practices</strong></td>
<td>Breakfast</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dinner</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Snacks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cooking at home</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Food on-the-go</td>
<td></td>
</tr>
<tr>
<td><strong>Food activities</strong></td>
<td>Grow your own</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Portion control</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cooking skills</td>
<td></td>
</tr>
<tr>
<td><strong>Food Occasions</strong></td>
<td>Quick service restaurants</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Restaurant (occasions)</td>
<td></td>
</tr>
</tbody>
</table>

*Evidence reviewed defines impacts of the identified food related behaviours as:*

- **Negative**
- **Both Positive and Negative**
- **Positive**
4. **Key Theme Hotspots**

4.1 **Food Moment: Breakfast**

**Hotspot One: Skipping breakfast**

*Food Product Proxy: none*

<table>
<thead>
<tr>
<th></th>
<th>Health</th>
<th>Wellbeing</th>
<th>Economic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td>0/2</td>
<td>0/2</td>
<td>1/2</td>
</tr>
</tbody>
</table>

*NB:* Please note that the literature suggests that those who 'skip' breakfast experience a higher propensity to snack and or consume high sugar and calorifically dense food options later in the day.

**In addition to this as there are no negative environmental impacts associated with not eating breakfast only people and profit metrics have been assessed.**

**Consumer**

'Skipping' breakfast can impact on productivity levels, thus ultimately affecting business balance sheets (productivity and absenteeism), educational attainment, social mobility and draws upon related public spending. Negative health (nutrition) impacts are associated with the consumption of high sugar products, promoting health related diseases within society.

**References**

Hotspot Two: Consuming a 'Poor Breakfast'

*highly processed, high sugar/salt/fat breakfast*

Food Product Proxy: high sugar cereal

<table>
<thead>
<tr>
<th></th>
<th>Waste</th>
<th>GHG’s</th>
<th>Energy</th>
<th>Water</th>
<th>Material Risk</th>
<th>Health</th>
<th>Wellbeing</th>
<th>Economic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

III: Waste metric excluded as part of overall project exclusion

**Ingredients**
- Energy, resource use and emissions associated with farm inputs 30-85%
- Potential to drive land use change e.g. sugar cane

**Manufacture**
- Processing and refining can lead to GHG emissions at manufacture 9-50%
- Extraction & processing of packaging raw materials (cardboard, paper)

**Consumer**
- Milk contribution at consumer stage may be significant
- The rise of breakfast on the go is contributing to the drop in adult consumers purchasing cereals (Grocer, 2014).
- Negative health (nutrition) impacts are associated with the consumption of sugar cereal products, promoting health related diseases within society.
- 430,000 tonnes of breakfast cereal are sold annually within the UK.

# Hotspot Three: 'Positive' Breakfasting

**Food Product Proxy: Yoghurt**

<table>
<thead>
<tr>
<th></th>
<th>Waste</th>
<th>GHG’s</th>
<th>Energy</th>
<th>Water</th>
<th>Material Risk</th>
<th>Health</th>
<th>Wellbeing</th>
<th>Economic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NB:** *Waste metric excluded as part of overall project exclusion*

**Ingredients**
- Raw material production accounts for 61% of GHG emissions
- Water effluent during milk processing possibly significant

**Manufacture**
- Milk farming & yogurt processing accounts for 32% of energy used
- 20% of energy used in packaging and packaging production

**Consumer**
- 13% of purchased yogurt is thrown away by consumer
- Low fat yogurts are good sources of calcium, phosphorus and vitamin B2 among others making it a health-supportive food.
- The average price per kg of yoghurt has increased by 7.6% year on year to £2.37 (Dairy Co, 2013)
- Total yogurt expenditure up by 4.9% to £1.4 billion in 2012 (Dairy Co, 2013)

**References**
Hotspot Three: 'Positive' Breakfasting Continued......

Food Product Proxy: Fruit Juices

<table>
<thead>
<tr>
<th></th>
<th>Waste</th>
<th>GHG’s</th>
<th>Energy</th>
<th>Water</th>
<th>Material Risk</th>
<th>Health</th>
<th>Wellbeing</th>
<th>Economic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ingredients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NB**: Waste metric excluded as part of overall project exclusion

**Ingredients**
Fruit production, juicing and transport to the bottling facility account for approx. 79% of footprint

99% water consumption is attributable to the raw material stage

**Manufacture**
Processing and packaging are large areas of reduction opportunity for manufacturers of fruit juices

**Consumer**
160,000 tonnes of fruit juice and smoothie is wasted at the consumer stage per annum

In 2010 1180 million litres of fruit juice were consumed in the UK, this was a 3.1% increase on the previous year (BSDA, 2012).

Although fruit juice is not as preferable as consuming whole fruit many of the same health benefits are attributable to the consumption of fruit juice

The UK fruit juice sector is worth an estimated £1760 million with the average cost per litre of fruit juice £1.49 (BSDA, 2012).

References
### 4.2 Food Practice: Ready Meals

#### Hotspot: Ready Meals

Food Product Proxy: mid range cottage pie

<table>
<thead>
<tr>
<th></th>
<th>Ingredients</th>
<th>Manufacture</th>
<th>Consumer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste</td>
<td></td>
<td>Extraction and production of plastics, metals, paper products (1,2 &amp; 3)</td>
<td>Energy use for refrigeration, freezing and cooking in the home (1,2 &amp; 3)</td>
</tr>
<tr>
<td>GHGs</td>
<td>Agricultural production of ingredients will be key driver of environmental impacts (1,2 &amp; 3)</td>
<td>Energy use in the preparation, pre-cooking, mixing of ingredients</td>
<td>None of 100 UK supermarket ready meals assessed by the BMJ complied with WHO recommendations for nutritional content (4)</td>
</tr>
<tr>
<td>Energy</td>
<td>Water use in agricultural production of ingredients (meats, vegetables, grains)</td>
<td>The UK spent around £2.6 billion on ready meals in 2012, twice that of France and six times that of Spain (5). This is up from £1.85 billion in 2011 (6)</td>
<td>Clear portion sizes provided reduces waste and over eating although wastage at the retailer can be as high as 20% (1)</td>
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**NB:** Waste metric excluded as part of overall project exclusion

**References**

4.3 Food Practice Fast Food

Hotspot One: Consuming 'poor' fast food or eating in QSR’S

Food Proxy: Pizza

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NB: Waste metric excluded as part of overall project exclusion

Ingredients
- Agricultural production of ingredients will be key driver of environmental impacts (1, 2 & 3)
- Water use in agricultural production of ingredients (meats, vegetables, grains)

Manufacture
- Environmental hotspots dependent on ingredient mix - for example significant energy use, GHG emissions and water are required for the processing of beef.
- Lack of monitoring and control procedures means energy use cannot be ruled out as a significant negative impact (5)

Consumer
- Likely to be minimal energy use: possible transport to takeaway business, refrigeration and reheating
- A lack of skills in preparing and cooking food could impact on health as it can limit choices (4)

Even one takeaway per week adversely affects recommended energy levels for healthy diets (8)

The UK fast food market had a total revenue of $US 7.8 billion with 2.7 billion transactions in 2009 (9)

References
## Hotspot Two: Food On The Go

**Food Proxy: Pre-packed Sandwiches**

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**NB:** Waste metric excluded as part of overall project exclusion

### Ingredients

Agricultural production of ingredients will be key driver of environmental impacts (1, 2 & 3)

Energy, resource use and emissions associated with farm inputs (3)

### Manufacture

Lack of monitoring and control procedures means energy use cannot be ruled out as a significant negative impact (10)

### Consumer

Providing workers with healthier canteen meals can improve health and work-life balance (4, 5 & 6)

A lack of skills in preparing and cooking food could impact on health as it can limit choices (7)

Healthier options are available in shops - e.g. better for you ranges, healthier options etc. However these can and are often linked to increased price premiums (8)

The UK fast food market had a total revenue of £7.8 billion with 2.7 billion purchase transactions in 2009 (8)

The total food waste by quantity is 22% by weight, it is only 14% in terms of equivalent water footprint. Wasted food has relatively low water content per tonne of products (10).

9,711 t pre-packed sandwich/year wasted. (11)

### References

4.4 Food Practice: Cooking From Scratch Hotspot

Hotspot: Cooking From Scratch

Food Product Proxy: cottage pie

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NB: Waste metric excluded as part of overall project exclusion

Ingredients

Agricultural production of ingredients will be key driver of environmental impacts (1,2 & 3)

Water use in agricultural production of ingredients (meats, vegetables, grains)

Manufacture

Environmental hotspots dependent on ingredient mix - for example significant energy use, GHG emissions and water are required for the processing of beef.

Consumer

Energy use for refrigeration, freezing and cooking in the home (1,2 & 3)

Skills in preparing and cooking food can improve health by offering more choices (4)

Cooking from scratch is popularly considered as vital to family well-being (5)

It is generally agreed that in the UK cooking skills are in serious decline (5)

References

5. PSF & UK Dream

5.1 UK Dream Activation Channel

The UK Dream programme (www.ukdream.org) is a sister programme to China Dream (www.juccce.org). The UK and Chinese markets are considerably different in their commercial appeal, challenges and opportunities. And yet, in common we have the same goal: to create a new aspiration for the next generation, a populist agenda for sustainable living and all at transformative scale.

The UK Dream aims to tackle the growing feeling and acknowledgement that the last mile to the consumer/citizen engagement in sustainability (social, environmental and economic) is unchartered water. This can be achieved through harnessing and unleashing the pent-up power of the communications powerhouses, on the basis that:

- To change behaviour, we need to change habits.
- To change habits, we need to change social norms.
- Instead of aiming to create a sustainable lifestyle, we must aim for an aspirational lifestyle. To make sustainability desirable, we need to eradicate sustainability language and instead tie it to personal prosperity and national identity.
- The creation of the UK Dream will fill the need for this new aspirational lifestyle.
- The UK Dream must be activated simultaneously through emotional marketing appeals, media, business/brands and policy.

The UK Dream programme work is operating through three key workstreams: Style and Culture, Living, and Wellbeing. The workstreams and working groups are made up of people who are keen and able to ‘activate’ change towards more sustainable living. UK Dream centres on sharing challenges that rest with consumer and citizen engagement and offers a place to test circular economy and policy ideas and public/private partnerships. It is a forum in which products and service innovations at a category level can not only be imagined but delivered. UK Dream is a place to bring collective challenges and to mine the best possible conversations and activation partners.

Style and Culture

Style and Culture is all about our tribal, out and about self. It is about our outward expressions of who we are, or who we want to be seen to be. Here is where the ‘personal theatre’ and self-definition is explored, where status and sexiness matter, and where the inside of ‘me’ comes out.

Wellbeing

Wellbeing focuses on that which builds and sustains me; physically, mentally, emotionally.
Living

Living is the strand of UK Dream which looks at what supports me. The emphasis is on those businesses, policies and systems that deliver or affect infrastructure and the ‘utility’ in our lives. Where are brands/products/services/systems and policies optimal vs. where do they act as barriers to better living.

5.2 Product Sustainability Forum

The Product Sustainability Forum (PSF) is a collaboration of 80+ organisations made up of grocery and home improvement retailers and suppliers, academics, NGOs and UK Government representatives. It provides a platform for these organisations to work together to measure, reduce and communicate the environmental performance of the grocery and home improvement products.

Many companies have already started measuring the environmental performance of products. The PSF was established to lead, co-ordinate and progress existing efforts, alongside similar initiatives being undertaken around the world so that industry, Governments, and others have evidence to help them prioritise which products to focus their efforts on.

WRAP has worked with both the grocery and home improvement sectors via the Courtauld Commitment and Home Improvement Sector Commitment respectively. As these two voluntary agreements have evolved, the members and Government bodies of the UK have expressed a desire to reduce the environmental impact of the products they make or sell – the Product Sustainability Forum was set up to take this work forward and to share best practice.
6. **Thematic Roadmaps**

**Breakfast**

- **Long term interventions**
  - National breakfast charity established addressing the health, social, cultural, and environmental impacts of breakfast choices

- **Mid term interventions**
  - The UK increases participation and launches its own version of the HLENA study using the results to update food policies and campaigns in the UK

- **Short term interventions**
  - The UK launches own version of the EU Breakfast Day and holds national events to celebrate and promote positive breakfast choices

- **Schools**
  - School budget increased from 35p per child
  - Breakfast engagement initiatives in schools with key stakeholders e.g. parents & governors
  - Breakfast choice impact education (health, environment etc.) within schools
  - Breakfast toolkits introduced to schools and workplace e.g. seasonal breakfast calendars
  - Engage with SME’s & FSEK companies to mainstream breakfast as part of the day e.g. Google’s canteens

- **Business**
  - Charities launch work/life balance ‘Breakfast’ campaign highlighting the breakfast gap

- **Public / Government**
  - Retirees re-energise breakfast with in house/ in store campaigns which can be linked to ‘Brunch saves Lunch’

- **Retailers / Manufacturers / Suppliers**
  - Retailers celebrate the weekend campaign with breakfast as a core activity e.g. ‘Brunch saves Lunch’
Cooking from scratch

**Long term interventions**

**Schools**
- UK version of US ‘Chef’s Move to Schools’ initiative launched delivering on site cooking demonstrations
- ‘Sponsored School Kitchens’ funded by public/private partnership models

**Mid term interventions**

- UK version of US ‘Chef’s Move to Schools’ initiative launched delivering on site cooking demonstrations
- UK version of the Media Smart Youth (MS) programme piloted to teach 11-13 year olds how to interpret media messages

**Short term interventions**

- National ‘Meal Bake Off’ campaign executed in schools and workplaces

**Public / Government**
- National version of the US Ample Harvest programme linking consumers to local food networks and hubs, specifically aimed at people who experience food poverty
- Assess the US Farm Bill and use applicable principles within UK legislation and policy going forwards e.g. food policies are updated every 5yrs to reflect new trends

**Retailers / Manufacturers / Suppliers**
- Choice edit out poorest ready meals from the market and sector
- Supermarkets prioritise cooking from scratch through a series of instore mechanisms
- Product innovation prioritised e.g. cooking from scratch kits. Innovation driven in parallel with ‘Because you can’ instore cooking campaigns
- Initiate a pan retailer led smart card bonus scheme (e.g. Dutch Spar Card) which gives consumers reward points on positive purchasing such as nutritious, healthy and sustainable products

**Business**
- 'Cooking from scratch' concept
7. Evidence Gaps & Rebound Effects

7.1 Rebound Effects, Trade Offs and System Shocks

Fast Food

There is a significant area of debate surrounding the mechanism and intervention trade-offs between consumer health and economic benefits (CIEH, 2009, CIEH, 2012) within the fast food category. Significant numbers of fast food enterprises are owned and run by local entrepreneurs and small businesses, therefore interventions designed to decrease fast food consumption can often have adverse negative economic effects on the local community in terms of jobs, environment (vibrant high streets etc.) and in the serving of wider cultural requirements (Halal eateries etc. for religious demographics) (ibid, 2009, ibid, 2012).

Ready Meals

There is an assumption that the rebalancing behaviour towards more cooking from scratch in the home might create economic rebound felt by food retailers and manufacturers and upstream providers within the raw ingredient supply chain. Long-term, the provision of food items that lead to social and environmental degradation must be rebalanced by the stakeholders within the industries which support them and retailers can look to remodel their businesses and offerings to give greater emphasis to alternatives which create a balance of economic (for industry), social, environmental and public spending benefit (e.g. decreased public health spending on diet-related illness).

Systems Shock Impacts – The 2013 Horsemeat Scandal

A recent survey conducted by WHICH found that “consumer trust in the food industry has fallen by 25%, with 30% of consumers now buying less processed meat and a quarter buying fewer ready meals with meat in or choosing vegetarian options” (2013). The impact of this change in consumer attitudes and perceptions has been felt more widely, especially for large scale retailers, with Tesco shares remaining below 30%, an eight year low (Neville, 2013).

It is impossible to predict the long-term impacts of such a system shock. Potentially, there will be a sustained attitudinal shift within consumer groups, local food providers and butchers might be long-term beneficiaries and supply chain interventions might be deployed to improve the traceability and indeed quality of the ready meal category. However, it is equally possible that memories will be short, horse meat will become a more accepted UK meat product (as evidenced by a number of restaurants now serving horsemeat burgers as response to recent publicity) and that consumer desires to have ‘cheap’ food will continue to influence.
7.2 Literature and Segmentations Evidence Gaps

Environmental Food-related Behaviour Literature Limitations

- Pre-acquisition and many food acquisition practices were not covered within the literature sources e.g. making a shopping list and menu planning. If and when they were covered by the literature there was a single metric focus on waste.
- The focus on literature is linked to specific products rather than behaviour, therefore to enable behaviour assessment, it was necessary to work with a series of assumptions.
- A narrow range of metrics was used to assess the environmental impacts e.g. GHG, energy, waste and water. Wider more complicated metrics such as biodiversity and toxicity are not prevalent within current literature.
- Large amounts of research is in evidence in relation to sustainable dietary choices (e.g. WFF Livewell Report); however, behaviours and their drivers are infrequently assessed.

Health Food-related Behaviour Literature Limitations

- Similarly to the above both pre-acquisition and acquisition practices are not well covered within the health literature.
- Impact literature is diverse in relation to specific product choices. Although there are clear connections between products and identified behaviours the literature and findings remain tied to products.

Economic Food-related Behaviour Literature limitations

- Widely documented by market intelligence companies such as Kantar, Euromonitor and Mintel, however often the information is not publically available and is frequently distorted by differing sources and statistics usage.
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