Scaling out a Fruit & Vegetables Voucher in the UK

ORGANIC RESEARCH CENTRE

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Building up from the Bridging the Gap Pilots to model a future where healthy food is accessible for all and supports local economies

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Executive summary

This report models the potential to scale organic fruit and vegetable voucher schemes across the UK, building on evidence from the Bridging the Gap retail pilots and using real pilot data where possible in combination with economic proxy values.

Four delivery scenarios are tested over a five-year period, to explore different approaches to eligibility, scale and policy integration: a place-based neighbourhood scheme, a national neighbourhood fund, a regional Healthy Start uplift, and a multi-region national Healthy Start uplift. Each model combines direct financial support for households with delivery infrastructure, retailer engagement and monitoring. The report also combines an economic assessment of the wider benefits that could be attributed to such programmes – including economic, social and environmental themes.

Across all scenarios, the analysis demonstrates that organic fruit and vegetable entitlement schemes generate positive public value. Under central assumptions, Benefit–Cost Ratios range from 2.52 to 3.80, indicating that benefits consistently exceed costs. Smaller, place-based schemes achieve higher returns per £1 invested, while larger-scale models generate substantially greater total value.

The largest quantified benefit across all scenarios arises from improvements in dignity and reduced anxiety at the point of access. These benefits are generated through repeated interactions with the scheme and reflect reduced financial stress and improved confidence in accessing food. Economic gains to local producers and multiplier effects are also significant, alongside measurable health improvements and environmental benefits.

At neighbourhood scale, a geographically universal scheme delivered through independent retailers generates strong value for money, with a Benefit–Cost Ratio of 3.65 in the Barking and Dagenham case study. The model supports local supply chains, increases access to organic produce and delivers measurable gains in wellbeing, health and local economic activity.

At national scale, extending this model across 26 neighbourhoods generates a Benefit–Cost Ratio of 3.80, alongside substantial absolute public value (£26.6 million NPSV over five years). This reflects both direct household benefits and wider economic effects, including £5.4 million in additional producer income and £3.7 million in local multiplier impacts.

The Healthy Start uplift model provides an alternative delivery pathway, embedding the scheme within existing statutory infrastructure. At regional scale (South Wales), the model achieves a Benefit–Cost Ratio of 2.52. When scaled across five regions, the model generates significant total value (£39.0 million NPSV), with benefits reaching a larger population and supporting expanded domestic organic production.

Total programme costs vary by delivery model and scale. At national level, the neighbourhood model is estimated at £10.15 million over five years, while the five-region Healthy Start uplift is estimated at £27.4 million over the same period. In both cases, the

majority of expenditure is directed toward direct household support and delivery, with a smaller proportion allocated to infrastructure, engagement and evaluation.

Sensitivity analysis demonstrates that participation is the primary driver of value for money. Higher uptake substantially improves cost-effectiveness across all scenarios, particularly in place-based models where fixed delivery costs are spread across a larger participant base. At lower uptake levels, value for money weakens, particularly in the Healthy Start uplift model.

The analysis also highlights that the scheme is best understood as a demand-side intervention that operates most effectively within an integrated policy framework. Delivery at scale is likely to require coordinated investment across multiple funding sources. An integrated funding approach — combining existing departmental budgets with complementary investment and, over time, potential new revenue mechanisms — is suggested and provides a more realistic pathway to implementation than reliance on a single funding source.

The modelling should be understood as a feasibility study rather than a final implementation blueprint. While grounded in Bridging the Gap pilot data, key assumptions — including uptake rates, administrative efficiency and supply response — remain subject to uncertainty when scaled beyond pilot conditions. There is currently limited UK evidence on the performance of schemes of this type at regional or national scale. The findings therefore point to the need for a larger, multi-year pilot phase to test delivery under real system conditions. This would enable validation of cost assumptions, assessment of supply chain capacity, and evaluation of long-term impacts on diet, health and local economies. It would also provide evidence on economies of scale across key cost centres, including administration, digital systems, retailer onboarding and monitoring.

Overall, the report demonstrates that organic fruit and vegetable voucher schemes could deliver positive outcomes for the UK at scale. Both the place-based and the healthy start uplift delivery models offer credible pathways to scale the impacts seen in the Bridging the Gap pilots, with clear potential to improve access to healthy food, strengthen local economies and support the transition to more sustainable food systems.

Introduction

The Sustain Bridging the Gap pilots, delivered across the UK as research–action projects, demonstrated that it is possible to build local food systems in which sustainably produced fruit and vegetables are accessible to people on lower incomes, farmers receive fair prices and appropriate support, and the interests of communities remain central. The pilots showed that investment in climate- and nature-friendly food can deliver multiple benefits: improved diet and wellbeing, stronger local economies, enhanced community connection, and positive outcomes for climate and biodiversity. Their evaluation generated practical learning on governance, retailer engagement, grower coordination and household uptake — providing a foundation for replication and scale.

Building on this, the proposed Organic Fruit and Vegetable Voucher Scheme - examined in this report - is a structured entitlement scheme that provides regular financial support for eligible households to purchase organic fruit and vegetables through local retailers and community food enterprises. Much like the Bridging the Gap retail pilots: Planet Card, Edinburgh Community Food, Tower Hamlets, Queen of Greens, Carrick Green Grocers and Ben Vista Farm CSA. The purpose of this report is to model and assess the costs and benefits of scaling an integrated organic fruit and vegetable entitlement system, and to identify a viable policy pathway and funding mechanism capable of delivering the scheme at regional or national scale.

It would require coordinated inputs: public and/or private finance, participating retailers and community food enterprises, organic and agroecological growers, supply-chain infrastructure, and administrative systems capable of identifying eligible households and managing weekly entitlements.

Eligible households would receive a regular fruit and vegetable entitlement via vouchers, digital credits or prepaid cards. Independent retailers, markets, veg box schemes and community food co-operatives would be onboarded as redemption partners, creating multiple access points. Supply-chain coordination would ensure growers and wholesalers can respond to increased demand, while outreach supports uptake among households experiencing food insecurity or poor diet. Technical and business support for growers — as demonstrated in initiatives such as Welsh Veg in Schools — may be required to expand organic production capacity. Monitoring and evaluation are embedded as core components to generate robust evidence on household, economic and environmental outcomes.

In the short term, the scheme increases household purchasing of organic fruit and vegetables, improves access to fresh produce and strengthens confidence in buying and preparing fruit and vegetables. Independent retailers and community food enterprises experience higher and more predictable weekly sales, while growers benefit from more stable demand.

Over time, immediate outputs can contribute to broader long-term changes at multiple levels. At the household level, participants may experience improved diet quality, reduced food insecurity and enhanced wellbeing. Stable demand allows growers to invest in infrastructure, diversify production and expand organic acreage. Together these gradual changes help build a more resilient local food system, with stronger economies as spending circulates through independent shops, distribution hubs and local producers.

In the longer term, the scheme supports a transition towards a more resilient and environmentally positive food system — including improved soil health, biodiversity gains, reduced reliance on synthetic inputs and strengthened climate resilience. Public services benefit from reduced pressure associated with diet-related disease and food insecurity, while local economies gain from sustained business growth and strengthened community infrastructure.

Who Pays / What the Costs Are

Government

- Entitlement funding
- Administrative systems
- Monitoring & evaluation
- Retailer onboarding

Retailers

- Operational adjustments
- Staff time
- Stock & display changes

Growers

- Scaling production
- Conversion costs
- Infrastructure investment

Community Organisations

- Outreach
- Coordination
- Enrolment support

Who / What Benefits

Households

- Improved diets
- Reduced food insecurity
- Increased wellbeing
- Lower household costs

Retailers & SMEs

- Higher sales
- More stable revenues
- Local job creation

Growers

- Stable demand
- Better margins
- Capacity to expand organic production

Public Sector

- Reduced NHS costs
- Lower inequality-related expenditure

Nature & Ecosystems

- More organic land
- Improved soils
- Higher biodiversity
- Lower emissions

This report therefore sets out:

A) Identifying policy asks capable of supporting the program at scale

B) Selecting and modelling two credible delivery scenarios

C) Assessing the economic, social and environmental case for investment

Why this research matters

1. The state of organic fruit and vegetable production

Domestic horticulture in the UK remains structurally fragile. While demand for organic produce has grown over the past decade, domestic organic fruit and vegetable production has not expanded at a pace sufficient to meet demand. Small and medium-scale producers face persistent barriers including retailer concentration, pricing pressure, labour shortages and limited capital investment.

The UK food system is characterised by highly consolidated retail power, which shapes price formation and supplier margins (Fix Our Food, 2023). Smaller horticultural enterprises, including organic producers, operate within tight margin environments that constrain expansion and resilience.

At the same time, national policy frameworks have not consistently prioritised fruit and vegetable production relative to other agricultural sectors. This has resulted in under-investment in domestic horticulture capacity — particularly in agroecological and organic systems — despite clear public health and environmental imperatives.

Strengthening domestic organic fruit and vegetable production is therefore not solely an environmental objective; it is central to food security, regional economic development and health equity.

2. The state of fruit and vegetable imports

The UK is heavily reliant on imported fruit and vegetables, particularly outside the domestic growing season. Import dependency increases exposure to global price volatility, climate-related supply disruption and geopolitical risk.

Reliance on imports also shapes price accessibility for low-income households. Retail concentration and supply chain structures influence how global price changes are transmitted to consumers (Fix Our Food, 2023).

Import dependency coexists with domestic horticultural under-capacity — creating a structural paradox. While public health guidance consistently recommends higher fruit and vegetable intake, the national food system relies significantly on external supply to meet even current (below-recommended) consumption levels.

From a resilience perspective, expanding domestic fruit and vegetable production — including organic systems — reduces vulnerability to global shocks while supporting local economic circulation.

3. The state of fruit and vegetable consumption and health

The UK population consumes substantially fewer fruit and vegetables than recommended for optimal health. National dietary surveys consistently show that low-income households have:

- Higher intakes of sugar and saturated fats

- Lower intakes of fruit, vegetables and dietary fibre
  (National Diet and Nutrition Survey 2019 to 2023 (2025),

Recent evidence among Universal Credit claimants shows diets characterised by minimal fruit consumption, limited protein diversity and micronutrient deficiencies (Thomas et al., 2025). Intakes of vitamin A, iron, selenium, potassium, iodine and magnesium were consistently below national averages in this group.

These dietary inequalities contribute directly to socially patterned health outcomes, including obesity, cardiovascular disease, diabetes and certain cancers (Marmot et al., 2020).

The Marmot et al., review highlights that health follows a social gradient: those with lower income and fewer resources experience systematically worse health outcomes (Marmot et al., 2020). Diet quality is a core feature within this gradient and improving fruit and vegetable access among low-income households is therefore a public health intervention with long-term implications for reducing preventable disease burden.

4. The state of food insecurity in the UK — and its health consequences

Household food insecurity has risen sharply in recent years. In 2021–22, 7% of UK households experienced food insecurity, rising to 11% in 2022–23 (Thomas et al., 2025).

Among Universal Credit claimants, food insecurity rates are dramatically higher. In a recent national study:

- 84.8% of UC respondents were food insecure
- 73.8% experienced very low food security

  (Thomas et al., 2025).

Food insecurity is strongly associated with adverse health outcomes, including childhood stunting, respiratory disease, obesity and diabetes. The estimated cost of malnutrition to the NHS is £19.6 billion annually (Thomas et al., 2025).

Beyond physical health impacts, food insecurity contributes to stress, anxiety and depression. The Marmot Review identifies rising material insecurity, including food insecurity, as a central driver of widening health inequalities in England (Marmot et al., 2020).

Children growing up in food-insecure households face poorer health and worse educational outcomes, reinforcing intergenerational disadvantage (Thomas et al., 2025).

Food insecurity is therefore not an isolated welfare issue; it is a structural determinant of health inequality.

5- The importance of the Farmer-Eater connection

The bridging the gap pilots have enhanced the importance of a more direct connection between farmers, local shops and the wider community. When households feel part of a

shared local effort, such as through the planet card scheme, fresh fruits and vegetable becomes something they are connected to (sense of wellbeing, willingness to travel to access discounted organic fruit and veg). That sense of belonging has great potential to encourage greater uptake and reinforces the value of local sustainable food. Implementing an organic fruit and vegetable scheme would create a favourable context for these connections to flourish at a wider scale.

The approach

1. Interviews and Desk-Based Review

We began with semi-structured interviews with delivery partners, researchers and practitioners involved in Bridging the Gap and related initiatives. This was complemented by a desk-based light-touch review of 54 UK and international schemes spanning public health, social security, food access and environmental policy.

The review examined schemes according to two core dimensions:

- **Eligibility logic** (who qualifies), and
- **Delivery mechanism** (how support is provided and at what scale).

This generated a structured set of eligibility and delivery archetypes and identified feasible governance pathways (public health, social security, or food system transition). These formed the foundation for the potential UK policy scenarios examined in this report.

2. Expert Workshop

An expert design workshop was then convened to test and refine emerging options.

The workshop focused on:

- Clarifying the primary policy objective(s);
- Testing trade-offs between eligibility models (income-based, categorical, health referral, place-based);
- Comparing delivery options (vouchers, digital cards, procurement-based models, retailer restrictions);
- Identifying preferred governance pathways and lead departments;
- Highlighting evidence gaps requiring modelling.

This process converged on a small number of coherent and politically credible scenarios suitable for economic modelling.

3. Mapping and Priority Area Identification

A structured mapping exercise was undertaken to identify areas where a pilot would have the greatest potential impact.

Two criteria were applied:

1. **Levels of need for healthy food support** (Indices of Deprivation, Priority Places for Food, food deserts, diet-related health inequalities, Universal Credit claimant rates);

2. Presence of local fruit and vegetable retail and supply (including independent retailers, markets and veg box schemes). The analysis identified recurring concentrations of need in the North West (Greater Manchester, Liverpool City Region, Blackpool), West Midlands (Birmingham, Telford), West Yorkshire (Bradford, Leeds, Hull), South Wales, North Ayrshire, Belfast, and Barking & Dagenham in London

At neighbourhood level, shortlisted LSOAs consistently fall within the most deprived 1–10% nationally, are designated as Priority Places for Food and/or Pride in Place areas.

These areas were selected because they combine:

- High levels of deprivation and food insecurity;
- Structural barriers to accessing healthy food;
- Policy priority status; and
- Sufficient (though often limited) local food networks and independent retail presence to enable practical delivery and support small-scale food enterprises.

See Annex 1 for full list of selected areas

4. Economic Modelling

The final stage involved modelling the shortlisted policy scenarios. This included:

- Estimating eligible and participating populations;
- Costing voucher values, administration, infrastructure, mobilisation and evaluation;
- Modelling behavioural uptake based on Bridging the Gap and comparable pilots;
- Quantifying health, wellbeing (WELLBY), dignity (QALY-equivalent), economic, environmental and supply-chain impacts;
- Applying Green Book principles (discounting, optimism bias where relevant, carbon valuation).

Scenarios were tested at neighbourhood, regional and national scales, enabling comparison of cost structure, public value and benefit–cost ratios.

I. Taking inspiration: short review of existing possibilities.

To inform scenario development, we undertook a desk-based review of 54 UK and international case studies, spanning:

- UK and European food access and procurement pilots
- Large-scale social protection systems (cash transfers, universal services)
- Health and social prescribing models
- Public–private voucher and payroll benefit schemes
- All nine Bridging the Gap retail pilots

Schemes were analysed according to:

- Eligibility logic (who qualifies)
- Delivery mechanism (how support is provided)
- Breadth of entitlement (what products are included)

This generated a set of eligibility and delivery archetypes. The review highlights that different models involve fundamental trade-offs between equity, political feasibility, administrative complexity, stigma, cost and scale.

Universal and Place-Based Universalism

Examples: Universal Basic Income pilots (India, Kenya, Namibia); Sweden Preschool Reform; India Midday Meals; Edinburgh Community Food; Fresh Street.

Universal models provide support to all individuals within a defined jurisdiction or area. In practice, this may mean full universality or geographically bounded universalism.

Strengths

- Remove stigma and reduce proof-of-need barriers
- Typically achieve high participation rates
- Simple administrative logic
- Evidence from pilots shows improved food security and dietary diversity
- Place-based universal models (e.g. Fresh Street) achieved higher participation than means-tested equivalents

Weaknesses

- High fiscal cost at national scale
- Require stable, long-term public funding
- Political feasibility can be challenging
- Small-area pilots may generate limited aggregate impact

Implication: Place-based universalism — aligned with the Marmot principle of proportionate universalism — offers a balanced route to high uptake while targeting areas of greatest need.

Income / Means-Tested Models

Examples: Universal Credit; Bolsa Família (Brazil); Healthy Start (UK).

Means-tested schemes link eligibility to income thresholds or receipt of specific benefits.

Strengths

- Directly target low-income households
- Lower headline cost than universal models
- Established administrative infrastructure often already exists

Weaknesses

- Stigma associated with targeted support
- Administrative complexity – especially if sitting across government departments
- Lower take-up (e.g. 37% of eligible households do not use Healthy Start)
- Cliff-edge thresholds exclude households just above eligibility

Implication: Means-tested models can be efficient for targeting, but require simplification, auto-enrolment and stigma reduction to maximise impact.

Categorical (Status-Based) Models

Examples: School procurement (Welsh Veg in Schools, GPAC etc.), Best Start, Healthy Start (uk), Alexandra Rose Early Years (UK)

Eligibility is based on age, life stage, or defined status group.

Strengths

- Clear objectives and political visibility
- Often popular where focused on children or early years
- Lower stigma than pure income-testing

Weaknesses

- Exclude many food-insecure households outside the defined category
- May not address wider structural food insecurity

Implication: Effective when aligned to specific life-stage priorities, but insufficient as a standalone anti-food-insecurity strategy.

Health or Needs-Based Referral Models

Examples: Social prescribing (England); Produce Prescription pilots (US); Alexandra Rose Fruits and Veg on Prescription (UK), Housing First (Finland).

Support is triggered by diagnosis or professional referral.

Strengths

- High impact per participant
- Strong clinical justification
- Clear monitoring and evaluation frameworks

Weaknesses

- Difficult to scale
- Dependent on already stretched professional capacity
- High transaction cost per participant

Implication: Powerful for targeted pilots, but challenging to deliver population-level change without significant system expansion.

Member or Employer-Based Models

Examples: Cycle to Work; Meal Vouchers (France); Ecocheques (Belgium); CSA membership schemes.

Support is delivered through employment or membership systems.

Strengths

- Efficient payroll-based or subscription-based delivery
- High engagement
- Can stimulate targeted sectors

Weaknesses

- Exclude unemployed and insecure workers
- Miss many households most at risk of food insecurity

Implication: Suitable for environmental incentive schemes, but not an equitable food access mechanism.

Our Chosen Approach

Drawing on the lessons above, we focused our modelling on two delivery pathways that balance equity, feasibility and system impact. First, a community-focused, place-based model,

offering geographically universal access within defined high-need neighbourhoods and delivered through local independent retailers. Second, a regional uplift model, embedded within existing statutory infrastructure (Healthy Start / Best Start), using a targeted eligibility framework but redirecting spending toward organic fruit and vegetables in local outlets.

Together, these approaches test both a bottom-up, place-based route to strengthening local food systems and a top-down, policy-integrated pathway capable of scaling through existing public systems.

II. What we found at the neighbourhood scale – Barking and Dagenham over 5 years

The policy scenario

This analysis models a geographically universal organic food access scheme operating within two selected Lower Super Output Areas (LSOAs) in Barking and Dagenham (015E and 006C). Similar to the experiences of those participating in Bridging the Gap pilots, the benefit is not means tested. These areas were selected based on their ranking in the English Indices of Multiple Deprivation (IMD), which measures relative neighbourhood-level disadvantage across income, employment, health, education and living environment domains. All households resident within the defined neighbourhood boundaries are eligible to participate.

Each participating household would be offered a weekly voucher valued at £11, conditional on spending exclusively on organic fruit and vegetables. Redemption would be restricted to approved local outlets operating within or serving the area. These would include independent retailers, market stalls, community food cooperatives, and locally organised pop-up or mobile provision. Supermarkets would not be eligible venues.

By structuring eligibility geographically rather than by income status, the scheme avoids singling out particular households and reduces the potential for stigma associated with targeted assistance. Which may in turn have a positive outcome for scheme uptake amongst residents.

What this means for Barking and Dagenham

The key modelling parameter for the geographically universal LSOA scheme is the proportion of resident households who would likely choose to participate. The closest precedents are the Bridging the Gap retail pilots (including Planet Card), Fresh Street Community in Reading, and related Alexandra Rose Charity-style community food initiatives such as the Teviot Centre food Co-op and Limehouse Town food Co-op. However, these were time- and budget-constrained pilots, meaning observed participation reflects operational limits as well as consumer demand. The scheme design was also informed by international examples, including the Belgian *Sécurité Sociale de l'Alimentation* (SSA) model, which applies a universal entitlement approach; our proposal adapts this principle to a smaller geographic scale (LSOA-level implementation) to test feasibility within UK funding

constraints. We additionally reviewed the US Double Up Food Bucks programme, which provides matched incentives for fruit and vegetable purchases, but published evaluations focus largely on qualitative and behavioural outcomes and offer limited economic cost modelling. As a result, Bridging the Gap pilot data remains the primary source for estimating participation rates and delivery costs.

Evidence from Defra's demand elasticity study indicates that fruit and vegetable consumption is responsive to price. Statistically significant own-price elasticities of –0.78 for fruit and –1.02 for vegetables (2019, Category 2 level) imply that a 10% price reduction would increase demand by approximately 8–10% (Marioni et al., 2022). Average weekly household expenditure on fruit and vegetables is approximately £12.50, falling to around £6.50–£9.60 among the lowest-income 30% of households (ONS, 2024). In this context, organic fruit and vegetables, which typically carry a price premium, are likely to be comparatively unaffordable for many households. An £11 weekly voucher restricted to organic fruit and vegetables would therefore offset much of this premium and represent a highly attractive offer for participating households.

Participation evidence from comparable pilots can also provide an empirical benchmark. Total voucher redemption values observed in Fresh Street Community demonstrate sustained neighbourhood-level engagement over time. While evidence from Planet Card further shows that participating households attended markets in approximately half of available weeks and spent close to the full voucher value per visit. Taken together, the observed redemption levels and attendance patterns in those projects imply that participation extended to approximately one quarter of eligible households on an annual basis.

Using the national average household size of 2.4 persons for consistency with national modelling, the combined population of the two LSOAs equates to approximately 1,120 households. On this basis, three uptake scenarios could be:

- Low uptake: 10% of households (~112 households)
- Mid uptake: 25% of households (~280 households)
- High uptake: 40% of households (~448 households)

Converted to population terms:

- Low scenario: 270 residents impacted
- Mid scenario: 670 residents impacted
- High scenario: 1,075 residents impacted

Expected costs

Voucher costs

The core cost of the scheme is modelled as a fully additional £11 weekly voucher, redeemable exclusively on organic fruit and vegetables in approved local outlets. Unlike the regional Healthy Start uplift, this intervention does not offset an existing statutory payment; the full £11 represents new public expenditure.

Participation is modelled at 280 households, derived from an estimated 670 residents using the national average household size (2.4 persons). Average redemption intensity is assumed at 26 uses per household per year (approximately 50% of the theoretical weekly maximum), consistent with observed behaviour in the Planet Card pilot.

Annual voucher cost per participating household is therefore:

£11 × 26 = £286

Across 280 households, this yields £80,080 per year and £400,400 over five years (undiscounted). The flat annual profile assumes stable participation once the scheme is established with those exiting the scheme being directly replaced. Stable participation was observed across both the Planet Card and Tower Hamlets Bridging the Gap pilots for their duration. The costs of delivery assume some capacity for recruitment of new users should an existing participant leave the scheme.

Delivery costs

Administrative and delivery costs are anchored directly to observed Bridging the Gap retail pilot data. For example, Tower Hamlets reported annual staff and partner costs of £23,200 in Year 1 and £17,200 in Year 2. These figures reflect the staffing required to coordinate supply, manage vouchers, oversee retail operations and maintain community relationships.

The present model assumes two independent community stalls (one per LSOA), each requiring comparable delivery costs the Tower Hamlets retail pilot. Monitoring and evaluation activities are costed separately.

A conservative flat annual profile of £46,400 is applied, resulting in £232,000 over five years. This approach avoids assuming efficiency gains that have not yet been evidenced at this scale.

Digital infrastructure

Digital costs are modelled as a pro rata allocation of shared national software development expenditure. A nation-wide pilot with tens of thousands of participants may require a system costing in the region of £50,000 (designed to serve 13 regions). This cost has been apportioned to this case study, alongside proportional maintenance costs (£15,000 annually shared across regions).

This results in £14,232 over five years for this locality. The system provides lightweight digital voucher tracking and reporting infrastructure. No bespoke local build is assumed.

Marketing and communications

Marketing expenditure is grounded in observed pilot data. Tower Hamlets reported £3,250 in community engagement and event expenditure supporting approximately 53 weekly customers. The present scheme supports approximately 7,280 annual visits (280 households × 26 uses), compared with approximately 2,756 annual visits in Tower Hamlets. Marketing cost is therefore scaled proportionately to visit volume, producing a Year 1 launch envelope of £8,500. Observed pilot marketing shares ranged from 2% (Edinburgh Community Food) to 17% (Liverpool Queen of Greens). The present model sits within this observed range while reflecting higher throughput.

Community engagement and annual events

Community participation is integral to the design of the scheme. Engagement costs are modelled using documented Tower Hamlets event budgets of £1,589 per engagement event. The model assumes two engagement events per stall per year across two independent neighbourhood stalls (four events annually). This results in £6,400 per year and £32,000 over five years. This cost structure captures the importance of maintaining visibility, trust and social cohesion within place-based delivery models – identified in the Bridging the Gap Retail Pilots.

Monitoring and evaluation

Independent monitoring and evaluation is structured as a delivery-focused research programme. The model assumes 40 evaluation days over five years:

- 25 days in Year 1 (baseline and framework design)
- 10 days annually in Years 2–4 (monitoring and reporting)
- 25 days in Year 5 (final impact synthesis)

Day structure is informed by M&E intensity observed in the Tower Hamlets pilot and adjusted downward to reflect that this scheme builds on a preceding pilot. Total evaluation cost is estimated to be £67,200 over five years on an ad hoc. subcontracted basis.

Capital mobilisation costs

Two one-off capital items are included:

- Physical card production: £3.40 per card applied to 670 residents (£2,300).
- Community stall set-up fund: £4,000, reflecting capital provision for one new stall (assuming 50% of locations require new infrastructure).

Together, these front-loaded mobilisation costs total £6,300 in Year 1.

Total programme cost profile

Across five years, total undiscounted programme expenditure amounts to £720,432.

Year 1 costs are front-loaded at approximately £166,000, reflecting launch activity, capital mobilisation and evaluation design. Thereafter, annual expenditure stabilises at approximately £140,000–£150,000.

Dietary and health changes

Health-related economic benefits have been estimated using a cost-of-illness (COI) avoidance framework, applying dose–response meta-analyses linking higher fruit and vegetable intake to reduced risks of cardiovascular disease, cancer and all-cause mortality (Aune et al., 2017), alongside systematic review evidence demonstrating that financial incentives increase fruit and vegetable consumption (Huangfu et al., 2024).

A conservative assumption of a one-portion-per-day increase per participating resident has been modelled. Under the community scenario, this applies to 670 participating residents. Applying a 3% proportional reduction in diet-attributable economic burden (Jackson, 2024), this produces an estimated annual fiscal and economic benefit of £60,737 per year, assumed to accrue consistently across the five-year pilot period.

This results in a total undiscounted health-related economic benefit of approximately £303,683 over five years.

Improved shopper well-being and value

Wellbeing benefits have been estimated using HM Treasury's Green Book Wellbeing Supplementary Guidance, which values a one-point increase in life satisfaction sustained for one year at £15,300 (2024 prices).

A conservative uplift of 0.001 WELLBY per participating resident per year has been applied. Under the community scenario (670 participating residents), this generates an annual wellbeing benefit of £10,082, assumed to occur consistently across the five-year programme period.

This results in a total undiscounted WELLBY benefit of approximately £50,412 over five years.

Improved quality of life as a result of the scheme has been estimated using a QALY framework based on reductions in mild anxiety associated with dignified access to food provision. Drawing on the Bridging the Gap economic assessment methods, each scheme interaction is assigned a value of £17.13, reflecting a one-day equivalent improvement in wellbeing derived from avoided stigma and reduced anticipatory anxiety.

Under the community scenario, vouchers are redeemed at household level, with 280 participating households redeeming an average of 26 times per year (7,280 household-level interactions annually). Each redemption is assumed to generate dignity and reduced anxiety benefits for all household members. Applying the average household size of 2.4 persons results in approximately 17,420 effective person-level interactions per year.

This produces an estimated annual QALY-equivalent benefit of £293,495, assumed to accrue immediately and consistently across the five-year pilot period. Over five years, this results in a total undiscounted QALY-equivalent benefit of approximately £1,467,475.

Consumer surplus has been estimated using the standard "rule of half" approach for price subsidies, assuming a linear demand curve.

Under the community model, participating households receive an £11 voucher per redemption, with an average redemption intensity of 26 uses per year (Planet Card behavioural evidence). The voucher value has been converted to a per-person equivalent using the national average household size (2.4 persons per household) to ensure portability across scenarios.

This produces a consumer surplus of £59.58 per participating resident per year. Applied to 670 participating residents, this generates an annual welfare gain of £39,262.

This benefit is assumed to accrue immediately and consistently across the five-year pilot period, resulting in a total undiscounted consumer surplus of approximately £196,309 over five years.

More Support for farmers

The community-based scheme creates direct new income streams for local organic growers and independent market stalls operating within the two LSOAs.

Under the medium uptake scenario (670 participating residents equivalent to 280 participating households, averaging 26 redemptions per year), the scheme generates approximately £79,838 per year in additional organic fruit and vegetable sales within approved local outlets.

Unlike the Healthy Start uplift model tested in later sections, this full £11 voucher value represents new programme-funded expenditure rather than an incremental uplift to an existing statutory benefit. The full voucher value is therefore treated as additional revenue flowing to participating local organic supply chain businesses.

Over five years, this produces approximately £392,651 in undiscounted additional producer income.

More money spent locally

In addition to generating direct income for local organic producers, the scheme stimulates further economic activity within the neighbourhood economy through local re-spending effects.

Drawing on Local Multiplier 3 (LM3) evidence and applying a conservative additional local effect of 0.68, this multiplier has been applied only to the net additional organic producer revenue to avoid double counting.

Under the community scenario, this produces approximately £53,397 per year in additional local economic circulation, equivalent to £266,984 over five years (undiscounted).

These effects represent secondary rounds of local expenditure on wages, services and local inputs arising from strengthened organic supply chains within the intervention area.

Land-based work

The scheme's impact on agricultural employment was estimated using labour intensity assumptions derived from the Welsh Veg in Schools (WVIS) 2025 report *Tonnes of Change*. The WVIS analysis estimates that Welsh horticultural production supports approximately 1.5 full-time equivalent (FTE) jobs per hectare, based on an average yield of 18 tonnes per hectare (Wheeler, 2025). Applying this multiplier to the estimated organic land area required to meet annual scheme demand under the community scenario (1.71 hectares) indicates that the programme would support approximately 2.6 full-time equivalent (FTE) on-farm jobs per year.

Climate and nature

Carbon

The scheme generates measurable climate mitigation benefits through increased organic consumption and associated production effects. Total emissions savings across the five-year appraisal period are estimated at approximately 23 tonnes of CO_2e.

Applying HM Treasury Green Book carbon values (2020 prices), this equates to a total undiscounted climate benefit of approximately £6,476 over the appraisal period under the central carbon price trajectory. This reflects the rising shadow price of carbon across the period and captures avoided emissions associated with organic production and supply chain effects.

Biodiversity

The community scheme generates measurable biodiversity gains through the expansion of organic land management required to meet increased local fruit and vegetable demand. Under the mid-point uptake scenario (25%), the estimated organic land area associated with voucher-supported production generates total biodiversity benefits of approximately £3,073 over the five-year appraisal period. These gains reflect enhanced species richness, improved habitat quality and reduced ecological pressure associated with organic production systems.

Pesticides avoided

In addition to biodiversity gains, the scheme reduces eco- and human-toxicity risks through the avoidance of synthetic pesticide use. Applying lifecycle toxicity valuations to the estimated organic land area supported by the scheme produces total avoided environmental and human health damage of approximately £22,385 over five years. These benefits reflect reductions in ecosystem toxicity, soil and water contamination risks, and associated human exposure impacts.

Education, skills and structured community engagement

The community model includes structured educational engagement through farm visits and neighbourhood events linked to local organic supply chains.

Based on four engagement events per year and approximately 40 attendees per event (160 annual engagements), and applying the Rural Payments Agency educational visit proxy value (£363 per visit equivalent, adjusted in the model to a per-participant basis), this generates an annual social value of approximately £1,429, equivalent to £7,144 over five years (undiscounted).

These benefits capture structured learning, food literacy development, and strengthened connection between residents and local agroecological production — outcomes that are not fully captured within the WELLBY or QALY frameworks.

Overall Public Value

Across the five-year appraisal period, the Barking and Dagenham case study generates:

- Net Present Social Value (NPSV): £1,892,376
- Benefit–Cost Ratio (BCR): 3.65

This indicates that for every £1 invested, the programme generates approximately £3.65 in social, economic and environmental value over the appraisal period.

III. What we found at the National scale – a UK-wide 5-year Neighbourhood Community Organic Fruit and Veg Fund

This section extends the community-based organic food access model across 13 areas in England, Wales, Scotland and Northern Ireland, with two small-area statistical neighbourhoods selected in each location (26 neighbourhoods in total). The same place-based eligibility structure, voucher value (£11 per participating household per week), and local retail restrictions described previously are applied consistently across all sites. Neighbourhoods were selected using comparable indicators of relative socioeconomic constraint, food access vulnerability and socio-demographic barriers to ensure that the pilot tests delivery in areas experiencing structural food system disadvantage.

England

The English component of the pilot spans nine local authorities:

- London – Barking and Dagenham (3,311 residents)
- Hastings (Southeast) (3,982 residents)
- Plymouth (Southwest) (3,410 residents)
- Tendring (East of England) (3,003 residents)
- Newark and Sherwood (East Midlands) (3,311 residents)
- Telford and Wrekin (West Midlands) (3,245 residents)
- Blackpool (Northwest) (2,772 residents)
- Stockton-on-Tees (Northeast) (3,203 residents)
- Kingston upon Hull (Yorkshire and the Humber) (3,259 residents)

In each case, the two selected neighbourhoods fall within the lowest national deciles of the relevant Indices of Multiple Deprivation (or equivalent measures) and exhibit measurable food access vulnerability. Several are designated Pride in Place areas or classified as Priority Places for Food.

Wales

In Wrexham, two neighbourhoods within the lowest deciles of the Welsh Index of Multiple Deprivation have been selected, with a combined resident population of 3,524. These areas are experiencing socioeconomic constraint alongside limited proximity to non-supermarket food provision.

Scotland

Two pilot sites have been modelled in Scotland:

Dumfries (2,206 residents across two data zones within the lowest national decile);
Fife (Methil and Buckhaven). There are 1,144 residents across two data zones experiencing significant socioeconomic and food access vulnerability.

Northern Ireland

In Derry City and Strabane, two Super Output Areas within the lowest national decile have been selected (combined population 821). Both areas exhibit pronounced socio-demographic barriers and weaker non-supermarket food access infrastructure.

Total Pilot Scale

Across all 26 neighbourhoods, the national pilot covers approximately:

- 37,191 residents, equivalent to approximately 15,500 households (assuming 2.4 persons per household).

Participation is modelled using the same central uptake assumption applied in the community scenario. Based on pilot evidence from Bridging the Gap retail projects, total redemption values observed in Fresh Street, and behavioural responsiveness indicated by food demand elasticity analysis, a 25% participation rate is adopted as the central scenario for the national roll-out.

Applying this rate to the aggregate resident population of 37,191 across the 26 selected neighbourhoods results in an estimated 9,298 participating residents. This is equivalent to approximately 3,875 participating households.

Cost summary

Under the central participation scenario (25% uptake), the national pilot is estimated to cost £10.15 million over five years, equivalent to approximately £2.03 million per year across 13 areas in England, Wales, Scotland and Northern Ireland.

Five-Year Cost Breakdown:

Cost Category	Five-Year Cost (undiscounted) (£)	Share of Total
Organic voucher support	£5,541,250	55%
Administration & delivery	£3,016,000	30%
Community engagement & events	£416,000	4%
Digital infrastructure	£110,000	1%
Launch marketing	£110,500	1%
Independent evaluation	£873,600	9%
Physical card production	£31,613	<1%
Community stall capital	£52,000	<1%
Total (5 years)	**£10,150,963**	

Cost Structure

The majority of expenditure is directed toward:

- Direct household support (55%), and
- Local delivery and staffing (30%).

All infrastructure, mobilisation, digital and evaluation costs combined account for approximately 15% of total programme expenditure. Monitoring and evaluation is modelled at 10% of total programme cost, consistent with the upper range of UK government evaluation guidance for complex, multi-site interventions. However, as the programme scales, efficiencies are expected through standardised data collection, shared infrastructure and reduced duplication of design costs. In this context, evaluation costs would be expected to move toward the mid-range of government practice over time.

On average, this equates to:

- £2,620 per participating household over five years,
- £524 per household per year, inclusive of voucher value and delivery infrastructure.

Summary of benefits

Benefit Category	Annual Value (undiscounted) (£)	5-Year Total (undiscounted) (£)
Wellbeing (WELLBY)	139,919	699,594
Dignity (QALY-equivalent)	4,073,008	20,365,042
Consumer surplus (affordability gain)	544,860	2,724,301
Net additional producer income	1,089,812	5,449,059
Local economic multiplier	741,021	3,705,104
Reduced diet-related disease burden	842,879	4,214,397
Pesticides avoided	61,959	309,796
Biodiversity gain	8,506	42,529
Educational & skills engagement	19,915	99,576
Carbon (–318 tCO_2e)	—	89,616
Total (undiscounted)	**~7.54m per year**	**~37.7m**

Carbon values reflect 318 tonnes CO_2e avoided over the appraisal period, valued using Green Book central carbon prices.

Land, Production and Employment Effects

Meeting scheme demand at national scale requires approximately:

- **23.65 hectares** of organic fruit and vegetable production
- Nearly **288 tonnes** of organic produce annually

Applying Welsh Veg in Schools labour intensity assumptions (1.5 FTE per hectare), this corresponds to:

- **~35 full-time equivalent (FTE) on-farm jobs supported annually**

These jobs are embedded within local agroecological supply chains and reflect sustained horticultural activity rather than temporary stimulus.

Overall Public Value

Across the five-year appraisal period, the national pilot generates:

- Net Present Social Value (NPSV): £26,643,345
- Benefit–Cost Ratio (BCR): 3.8

This indicates that **for every £1 invested, the programme generates approximately £3.80 in value.**

IV. What we found at the Regional Scale, South Wales Healthy Start Uplift

The policy scenario:

A voluntary enhancement to the existing Healthy Start scheme in South Wales. Under current arrangements, eligible households receive £4.25 per week to spend on fruit, vegetables, milk and infant formula through participating retailers. The proposed intervention retains Healthy Start eligibility criteria and payment infrastructure but introduces an alternative enhanced voucher option.

Eligible households would be offered the choice to redeem a weekly voucher worth £11, conditional on spending it exclusively on organic fruit and vegetables in approved local food outlets. These outlets would include independent retailers, community food cooperatives, market stalls, and other non-supermarket settings. Supermarkets would not be eligible venues for redemption of the enhanced organic voucher. Households choosing not to opt into the enhanced scheme would continue receiving standard Healthy Start benefits.

The structure mirrors the incentive logic used in Double Up Food Bucks programmes in the United States, where existing food assistance benefits are matched or increased when spent in specific retail environments (Thilmany et al., 2021).

The value uplift from £4.25 to £11 represents an increase of £6.75 per week per participating household – and would offer the same incentive that saw success in the Planet Card pilot. Organic fruit and veg can often see a 40-50% premium over non-organic and therefore £11 to supplement a household shop was deemed necessary. In addition, organisations like the Food Foundation have criticised the existing Healthy Start voucher for its low value (Ferree et al., 2025). For context, the value of double up food bucks in the US often came to between 20 and 25 dollars per person. The enhanced voucher is conditional on product type (organic fruit and vegetables) and retail channel (local non-supermarket

outlets). The policy therefore modifies the retail destination and product category of expenditure while building upon an existing statutory benefit.

What this means for South Wales

The proposed Organic Healthy Start top-up would operate as an opt-in alternative to standard Healthy Start: eligible families would be able to use a higher-value voucher when purchasing organic fruit and vegetables specifically in local food settings (e.g., independent shops, markets, veg box/community outlets), rather than mainstream supermarkets. The key parameter is therefore the proportion of current Healthy Start users in South Wales who would plausibly switch some or all of their redemption behaviour into these eligible local settings.

UK evidence indicates that Healthy Start spending is currently concentrated in supermarkets, with around 70% of voucher spend in supermarkets and 30% outside supermarkets (including pharmacies/independents/other outlets) (Department of Health, 2012). This provides a clear upper contextual benchmark for how far redemption behaviour might realistically shift away from supermarkets. Welsh participation evidence also indicates that take-up among eligible households varies by local authority, with an average around 69% in Wales and reported local authority variation (Food Cardiff, 2018). Once families are participating, voucher use/spend is high: the retailer research summary reports approximately 91% of issued vouchers are spent and returned (Department of Health, 2012). This is supported by findings from the Bridging the Gap retail pilots where with Planet Card – the average spend (out of £11) was £10.50.

Evidence from the US Double Up Food Bucks (DUFB) literature suggests that incentive schemes can generate repeat engagement among those who try them, but uptake is not universal and depends heavily on delivery context and retail access. In the Fair Food Network's 2012 evaluation, 86% of vendors reported they had more repeat customers because of DUFB, and 90% reported increased fruit and vegetable sales (Fair Food Network, 2012). The same evaluation reports that more than half of surveyed customers said DUFB was one reason they attended the farmers' market (Fair Food Network, 2012). However, national SNAP incentive redemption data indicate that approximately only 4% of incentive redemptions occur outside mainstream grocery settings (Thilmany et al., 2021). This demonstrates that even where a fruit and vegetable incentive is layered onto an existing benefit, the majority of redemptions continue to occur in mainstream retail channels.

These findings justify modelling mixed uptake levels with meaningful repeat use among engaged participants – as seen during the Bridging the Gap retail pilots. Based on these examples, the following scheme uptake scenarios are suggested:

- **Low uptake: 5% (885 users)**
- **Mid uptake: 15% (2,656 users)**
- **High uptake: 25% (4,426 users)**

The 15% medium uptake scenario is adopted for central cost–benefit modelling. In 2024 the Organic Research Centre in collaboration with UK ORGANIC, Sustain, and Better Food Traders convened a consumer survey on perceptions of organic with a UK representative sample (N=2000). A sub-group (N=78) of healthy start users were examined for this work, and it was found that just over 15% purchased 4 or more organic products every week. Reinforcing the plausibility that 15% of users (if not more) would be tempted to use the local organic healthy start uplift once in place. Once households switch into the scheme, redemption intensity, retention and usage assumptions are informed by findings from the Bridging the Gap retail pilots — particularly Planet Card — which demonstrated that engaged participants use vouchers consistently and that per-participant administrative costs decline substantially as scale increases.

Expected costs

Voucher costs: The policy is framed as a £6.75 weekly uplift to existing Healthy Start recipients who opt to use the organic-local voucher (£11 total value minus the £4.25 Healthy Start equivalent). Under the mid-uptake scenario, 15% of 17,704 Healthy Start users in South Wales (2,656 participants) are assumed to engage with the scheme.

Average redemption intensity is modelled at 26 uses per year (approximately 50% of the weekly maximum), consistent with Planet Card Cardiff behavioural data. This yields an annual uplift cost of £175.50 per participant (£6.75 × 26 uses), or £466,128 per year across 2,656 users. Over five years, total voucher expenditure is therefore £2,330,640.

Delivery costs: Administrative costs are modelled using three empirical sources.

First, Bridging the Gap pilot data demonstrate strong scale efficiencies. Planet Card Phase 1 (£12,099 total; 20 users) equated to £604.95 per participant, whereas Phase 2 (£17,611; 100 users) reduced cost to £176.11 per participant — a 70% reduction with modest scale expansion. This confirms that mobilisation costs are front-loaded and decline as systems stabilise.

Second, Isaacs (2008) in their analysis of Food Stamp administrative costs states that generally, across schemes reviewed, that certification and eligibility work in large scale schemes can account for 59% of costs. Indicating that onboarding and eligibility determination of participants can dominate early expenditure in different benefit systems.

Third, the SNAP State Variation report shows that streamlining policies are associated with approximately 7% reductions in administrative cost per case, and that long-run administrative costs per case declined substantially between 1999 and 2016 (Geller et al., 2019).

Accordingly:

- Year 1 reflects full mobilisation intensity (£176.11 per participant; £466,303 total).
- Year 2 applies a 7% reduction consistent with documented streamlining effects (Geller et al., 2019).

- Years 3–5 apply a further 3% annual efficiency improvement reflecting operational learning and digital stabilisation, aligned with gradual cost declines observed in SNAP systems (Geller et al., 2019).

This results in a cumulative reduction in administrative intensity of approximately 15% over five years.

Total five-year delivery cost is £2,129,236.

Capital costs:

Up-front capital and mobilisation costs were modelled using proportional allocations observed across Bridging the Gap retail pilots, applied to the Year 1 programme envelope (£1.07m).

- *Digital platform*
    - The digital platform is costed at £22,000, reflecting one-fifth of a shared £110,000 multi-region system build. Costs are front-loaded in Year 1 (46%), with the remainder distributed evenly across Years 2–5 to reflect hosting and maintenance.
    - Physical card issuance is costed at £3.40 per user (Planet Card Phase 2), resulting in £9,030 in Year 1 for 2,656 participants.
- *Scheme launch - marketing and communications*
    - Pilot marketing shares ranged from 2% (Edinburgh Community Food) to 17% (Liverpool Queen of Greens), with Carrick at 5%. To remain conservative and reflect regional scale efficiencies, the lower bound of 2% of Year 1 programme spend is applied. This results in £19,500, incurred in Year 1 only.
- *Community mobilisation and engagement*
    - Engagement and co-design activity across pilots ranged from 2–7% of budgets (Edinburgh 2%; Liverpool 7%; Tower Hamlets 7%). Given the regional scale and the need for structured stakeholder engagement across growers, retailers and local partners, a midpoint value of 5% of Year 1 programme spend is applied. This results in £53,600, incurred in Year 1 to reflect concentrated launch-phase mobilisation.
- *Monitoring and evaluation*
    - Monitoring and evaluation is modelled at 10% of total programme budget, applied twice: once in Year 1 (35% of cost for baseline design and evaluation framework) and once in Year 5 (20% of cost for final impact synthesis). Intermediate years reflect lighter-touch monitoring activity (15% of cost per year). Total monitoring and evaluation cost is £507,000 over five years.

Cost category	5-Year Total (£)	Year 1 (£)	Cost profile
Digital system (regional share)	£22,000	£10,010	46% Yr1; 14% Yr2–5
Physical card production	£9,030	£9,030	100% Yr1
Marketing & communications	£19,500	£19,500	100% Yr1
Community mobilisation & engagement	£53,600	£53,600	100% Yr1
Monitoring & evaluation	£507,000	£177,450	35% Yr1; 15% Yr2–4; 20% Yr5

Capital cost summary:

Together, digital infrastructure, card production, marketing, engagement and evaluation amount to:

£611,130 over five years

Of this, £269,590 (22.4% of Year 1 programme spend) is concentrated in Year 1, reflecting front-loaded mobilisation costs that decline once the system reaches steady state.

Total programme cost

Total five-year programme cost (including voucher uplift, delivery, recruitment and capital) is: **£5,071,006**

The majority of expenditure (46%) reflects direct financial support to participating households through the Healthy Start uplift. Delivery costs account for 42%, while capital costs account for approximately 12% of total programme expenditure.

Dietary and health changes

Health-related economic benefits have been estimated using a cost-of-illness (COI) avoidance framework. The model applies dose–response meta-analyses linking higher fruit and vegetable intake to reduced risks of cardiovascular disease, cancer and all-cause mortality (Aune et al., 2017), alongside systematic review evidence demonstrating that financial incentives increase fruit and vegetable consumption (Huangfu et al., 2024).

A conservative assumption of a one-portion-per-day increase per participating case has been modelled. Applying a 3% proportional reduction in diet-attributable economic burden (Jackson, 2024) to 2,656 active participants under the medium uptake scenario (15% of 17,704 Healthy Start users), the scheme generates an estimated annual fiscal and economic benefit of £240,771.

This benefit is assumed to accrue consistently across the five-year programme horizon, producing a total undiscounted health-related economic benefit of £1,203,854.

Improved shopper well-being and value

Wellbeing benefits have been estimated using HM Treasury's Green Book Wellbeing Supplementary Guidance, which values a one-point increase in life satisfaction sustained for one year at £15,300 (2024 prices).

A conservative uplift of 0.001 WELLBY per participating individual per year has been applied, reflecting modest but measurable improvements in dignity, dietary quality and reduced financial stress observed in the Bridging the Gap pilots. Evidence from the monitoring and evaluation undertaken as part of the Planet Card pilot for example showed that participants found it less difficult to afford their weekly food shop, skipped meals less frequently, and reported small improvements in diet and wellbeing.

Applied to 2,656 active participants, this produces an annual wellbeing benefit of £39,968, assumed constant across Years 1–5.

This results in a total undiscounted WELLBY benefit of £199,841 over five years.

The value of an improved quality of life for participants has been estimated using a QALY framework based on reductions in mild anxiety associated with dignified food access.

Drawing on the Bridging the Gap methodology, each scheme interaction is assigned a value of £17.13, reflecting a one-day equivalent improvement in wellbeing derived from avoided stigma and reduced anticipatory anxiety.

Under the regional model:

- 2,656 active participants
- 26 redemptions per year (Planet Card behavioural evidence)
- 69,056 annual interactions

Each interaction is assumed to generate the dignity effect at the point of access.

This produces an estimated annual QALY-equivalent benefit of £1,163,466, assumed to accrue consistently over the five-year period. Total undiscounted QALY benefit: £5,817,332.

Consumer surplus (affordability gain)

Consumer surplus has been estimated using the standard "rule of half" approach for price subsidies, assuming a linear demand curve.

Under the medium uptake scenario:

- 2,656 active participants
- £6.75 incremental uplift
- 26 redemptions per year

This generates approximately £458,459 per year in redeemed incremental subsidy value.

Applying the rule of half yields an annual consumer surplus of £229,229, reflecting additional welfare gained through improved affordability and purchasing power for organic fruit and vegetables.

Over five years, this produces a total undiscounted consumer surplus of £1,146,147.

More money spent in Local Economies

Net gain for producers

The Organic Healthy Start top-up generates new income for local organic producers and independent retailers - £6.75 new income per redemption

Under the mid-uptake scenario (15% of HS users), this produces £458,459 per year in net additional revenue attributable directly to the policy.

The baseline £4.25 Healthy Start component is treated as displaced expenditure and excluded from additional benefit calculations.

Total undiscounted additional producer income over five years: £2,292,294.

Local spending

To capture secondary rounds of spending, a conservative additional local multiplier of 0.68 (LM3 = 1.68 less the initial £1), drawn from Kłoczko-Gajewska et al. (2023), has been applied to net additional producer revenue only, avoiding double counting.

This produces an estimated £311,752 per year in additional local economic circulation.

Over five years, this equates to £1,558,760 (undiscounted).

Land-based work

The scheme's agricultural employment impact has been estimated using labour intensity assumptions from the Welsh Veg in Schools (WVIS) full report. WVIS estimates that Welsh horticultural production supports approximately 1.5 full-time equivalent (FTE) jobs per hectare, based on an average yield of 18 tonnes per hectare (Wheeler, 2025). Under the regional uptake scenario, voucher-supported demand is estimated to require approximately 15–16 hectares of organic production annually. Applying the WVIS multiplier suggests the programme would support approximately 23–24 FTE on-farm jobs per year.

Climate and nature

Carbon

The Organic Healthy Start top-up generates measurable climate mitigation benefits through increased organic production and improved domestic sourcing.

Across the five-year appraisal period, total emissions savings are estimated at approximately 48 tonnes of CO_2e per year, generating annual monetised benefits that rise from £13,225 in 2025 to £14,049 in 2029, reflecting the increasing shadow price of carbon under HM Treasury Green Book central carbon values.

Total undiscounted climate benefit over five years: £68,170.

Biodiversity

Expanded organic production generates biodiversity gains through improved habitat quality, reduced synthetic inputs and enhanced species richness.

Under the medium uptake scenario, the estimated organic land area generates an annual biodiversity benefit of £5,830, resulting in a total undiscounted biodiversity benefit of £29,150 over five years.

Pesticides avoided

Reduced reliance on synthetic pesticide use produces measurable eco- and human-toxicity benefits.

Applying lifecycle toxicity valuations to the estimated organic land area supported by the scheme produces annual avoided damage of £42,468, reflecting reduced ecosystem contamination and human exposure risks. Total undiscounted avoided toxicity benefit over five years: £212,340.

Overall Public Value

Across the five-year appraisal period, the South Wales case study generates:

- Net Present Social Value (NPSV): £7,216,669

- Benefit–Cost Ratio (BCR): 2.52

This indicates that for every £1 invested, the programme generates approximately **£2.52 in social, economic and environmental value** over the appraisal period.

V. What we found at the National scale – a UK-wide 5-year Organic Healthy Start Uplift

This section extends the Organic Healthy Start top-up model across five regional areas spanning England, Wales, Scotland and Northern Ireland. Unlike the neighbourhood community model, which operates through geographically defined local retail ecosystems, this phase models a regional uplift to the existing Healthy Start (and Best Start Foods) schemes. Eligibility is therefore programme-based rather than place-based. The uplift (£6.75 per redemption) is applied to existing users of statutory food support schemes, with redemption restricted to approved organic fruit and vegetable purchases.

The five regions selected represent diverse administrative systems, population densities and food access contexts:

- South Wales (Healthy Start users)
- West Yorkshire Combined Authority (Healthy Start users)
- London (Healthy Start users)
- North Ayrshire and Arran (Best Start Foods)
- Belfast (Healthy Start users)

In each case, the intervention operates within regions identified through a structured assessment of need for healthy food support and the presence of non-supermarket fruit and vegetable retail infrastructure. This ensures that the pilot tests delivery in areas experiencing measurable structural food system pressures, while retaining alignment with existing statutory food support systems and viable local supply capacity.

Scenario scale across the five regions:

- Total current Healthy Start / Best Start users: 95,812
- Mid-uptake participation assumption (15%): 14,372 active participants per year
- 26 redemptions per participant annually (steady state assumed)

Cost summary

The five-region Organic Healthy Start uplift pilot is estimated to cost £27.4 million over five years, equivalent to approximately £5.5 million per year.

Five-Year Cost Breakdown:

Cost Category	Five-Year Cost (£)	Share of Total
HS Voucher uplift	£12,611,430	46%
Administration & delivery	£11,510,083	42%
Community mobilisation & engagement	£285,000	1%
Monitoring & evaluation	£2,742,000	10%
Digital infrastructure	£110,000	<1%
Launch marketing	£115,000	<1%
Physical card production	£48,865	<1%
Total (5 years)	**£27,422,378**	**100%**

Cost Structure

The majority of programme expenditure is directed toward:

- Direct participant support (46%), and
- Administration and delivery (42%).

All mobilisation and engagement, digital infrastructure, communications and independent evaluation costs combined account for approximately 12% of total programme expenditure.

On average, this equates to:

- £1,914 per participating individual over five years,
- £383 per participant per year, inclusive of voucher value and delivery infrastructure.

This cost structure reflects a predominantly revenue-based model embedded within existing statutory systems, with relatively modest capital requirements and front-loaded mobilisation costs. Alongside a more substantial allocation of funding toward independent evaluation of the scheme.

Summary of benefits

Under the central participation scenario (15% uptake across five regions; 14,372 active participants annually), the Organic Healthy Start uplift generates substantial social, economic and environmental value.

Benefit Summary:

Benefit Category	Annual Value (£)	5-Year Total (£)
Wellbeing (WELLBY)	216,274	1,081,368
Dignity (QALY-equivalent)	6,295,685	31,478,424
Consumer surplus (affordability gain)	1,240,393	6,201,966
Net additional producer income	2,480,786	12,403,932
Local economic multiplier	1,686,935	8,434,674
Reduced diet-related disease burden	1,302,846	6,514,230
Pesticides avoided	229,801	1,149,004
Biodiversity gain	31,547	157,734
Carbon (–1,127 tCO_2e)	—	317,268
Total (undiscounted)	**£13.5m per year**	**£67.7m**

Carbon values reflect 1,127 tonnes of CO_2e avoided over the appraisal period, valued using HM Treasury Green Book central carbon prices.

The largest component of value arises from dignity-related QALY improvements associated with reduced stigma and anxiety at point of access, followed by strengthened local supply chain income and multiplier effects.

Land, Production and Employment Effects

Meeting scheme demand at this five-region scale requires approximately:

- 83.73 hectares of organic fruit and vegetable production – including a mix of field vegetable production and orchard fruit, as well as protected vegetable and soft fruit production system.
- 1,019 tonnes of organic produce annually

Applying Welsh Veg in Schools labour intensity assumptions (1.5 FTE per hectare), this corresponds to:

- 126 full-time equivalent (FTE) on-farm jobs supported annually

Overall Public Value

Across the five-year appraisal period, the five-region pilot generates:

- Net Present Social Value (NPSV): £39,014,795

- Social Benefit–Cost Ratio (BCR): 2.52

This indicates that **for every £1 invested, the programme generates approximately £2.52 in value.**

While the benefit–cost ratio is lower than the smaller-scale pilots (reflecting higher delivery costs at scale), the absolute value generated is substantially larger. The majority of benefits accrue directly to low-income households and local economies, with additional climate and environmental gains embedded within the supply response.

VI. Sensitivity Analysis

Sensitivity analysis is used to test how results vary under different assumptions about participation and delivery. As set out in the report, benefits are calculated on a per-participant basis and therefore scale directly with uptake, while costs include both variable elements (notably voucher expenditure) and fixed or semi-fixed delivery and set-up costs. Three uptake scenarios are applied consistently across the model — low, central and high participation (10%, 25% and 40%) for neighbourhood schemes and 5%, 15% and 25% participation for the Healthy Start uplift.

The following tables systematically assess the variations listed here to show the impact on overall scheme return on investment.

Neighbourhood voucher scheme

Uptake intensity (Barking and Dagenham)

Scenario	Participating households (%)	Total cost (undiscounted) (£)	Net Present Social Value (£)	BCR
Low uptake	10%	520,392	553,743	2.13
Central (base case)	25%	760,632	1,892,376	3.65
High uptake	40%	1,000,872	3,231,008	4.45

Uptake intensity (National pilot)

Scenario	Participating households (%)	Total cost (undiscounted) (£)	Net Present Social Value (£)	BCR
Low uptake	10%	6,826,213	8,057,383	2.26

Scenario	Participating households (%)	Total cost (undiscounted) (£)	Net Present Social Value (£)	BCR
Central (base case)	25%	10,150,963	26,643,345	3.80
High uptake	40%	13,475,713	45,229,201	4.58

Healthy Start uplift

Uptake intensity (South Wales)

Scenario	Participating households (%)	Total cost (undiscounted) (£)	Net Present Social Value (£)	BCR
Low uptake	5%	3,514,560	685,603	1.21
Central (base case)	15%	5,069,097	7,216,669	2.52
High uptake	25%	6,623,634	13,735,138	3.21

Uptake intensity (National pilot)

Scenario	Participating households (%)	Total cost (undiscounted) (£)	Net Present Social Value (£)	BCR
Low uptake	5%	18,999,044	3,732,070	1.21
Central (base case)	15%	27,410,868	39,014,795	2.52
High uptake	25%	35,822,692	74,334,741	3.21

Sensitivity analysis demonstrates that scheme uptake is the primary driver of value for money across both delivery models. In all cases, higher participation substantially improves cost-effectiveness, with BCRs increasing as fixed and semi-fixed delivery costs are spread across a larger beneficiary base while benefits scale proportionally with participants. This effect is most pronounced in the neighbourhood model, where BCRs rise from 2.13 to 4.45 locally and from 2.26 to 4.58 at national scale, reflecting strong returns to scale. The Healthy Start uplift model also shows improved performance with increased uptake, though to a lesser extent, with BCRs rising from 1.21 to 3.21 across both regional and national

scenarios. At lower uptake levels, the uplift model approaches the threshold of value for money, whereas at higher participation it delivers consistently strong returns. Overall, these results indicate that achieving and sustaining high participation rates is critical to maximising the economic and social value of both policy approaches.

VII. Key learnings, policy pathways, and funding mechanisms

This work has demonstrated that an organic fruit and vegetable entitlement scheme can generate positive public value across multiple delivery models and scales. Under central (base-case) assumptions, Benefit–Cost Ratios range from approximately 2.5 to 3.8, indicating that benefits exceed costs in both place-based and system-integrated approaches. Returns are highest in neighbourhood delivery models, while larger-scale Healthy Start uplifts generate greater absolute public value due to wider reach.

The analysis should be understood as a feasibility study, informed by the Bridging the Gap retail pilots and using real Bridging the Gap pilot data where possible in combination with economic proxy values. These pilots provide the strongest available UK evidence on participation, redemption behaviour and delivery costs, but were delivered at relatively small scale and under time-limited conditions. As a result, key parameters — including uptake, administrative efficiency and supply response — are modelled using the best available evidence but remain subject to uncertainty when scaled.

There is currently limited UK evidence on the performance of fruit and vegetable voucher schemes at regional or national scale, particularly in relation to long-term behaviour change, supply chain adaptation and system integration. While international programmes provide useful reference points, differences in retail structure, welfare systems and delivery models limit direct comparability.

The findings therefore point to the need for a larger-scale, multi-year pilot phase to test delivery under real system conditions. This would enable more robust evidence on participation across different contexts, validate cost assumptions at scale, and assess the capacity of domestic organic production and local retail infrastructure to respond to increased demand. It would also allow for the assessment of economies of scale across key cost centres, including administrative delivery (case management and onboarding), digital infrastructure (platform development and maintenance), retailer onboarding and support, and monitoring and evaluation, where costs are expected to decline through standardisation and shared systems.

Scaling out a fruit and vegetable voucher in the UK: toward an integrated policy approach

In the UK, the food system is regulated and governed by a wide range of actors and departments operating at different scales. For example, in England, 16 governments ministries and agencies take decisions or implement food-related policies (Parson, 2020).

The multiplicity and segmented nature of single-targeted policies increase the risk of policy incoherence and even policy with contradictory objectives which can dilute implementation, impact and constrain one another, resulting in inefficient use of public money. When policies are designed from a systemic perspective, and implemented as 'policy packages', where multiple policies levers are combined for mutually reinforcing effects, coherence, there is greater potential for transformative change (Parson and Barling, 2021).

The scaling-out of organic fruit and vegetable voucher have the potential to function as a cross-cutting policy lever, as it directly tackles multiple steps of the food system: supporting the growth of organic horticulture, improving access to high-quality fruit and vegetables, and strengthening the position of local retailers and local markets, while enabling greater fairness across the supply chain. This positions the scheme as a mechanism capable of delivering across multiple policy outcome domains, including health, environment, local economies and social equity. Focusing on multiple primary outcome domains establishes a clear basis for directing effort within an integrated policy approach.

However, the scheme should not be implemented in isolation or as a substitute for existing policy commitments. As a demand-side intervention, the effectiveness of the proposed scheme depends on the wider policy context in which it operates, particularly those shaping food production, access, health outcomes and local delivery systems. The scheme is therefore most effective when implemented alongside complementary measures across these areas. The key policy areas shaping the effectiveness of the proposed scheme are:

Agriculture Food Production and environmental policies

- ⇨ Supporting the development of organic horticulture in the UK - including support for conversion and maintenance of organic horticultural and mixed farms through capital grants, subsidies, education and training, and addressing structural barriers such as the current 3ha eligibility threshold which limits access for small-scale growers.
- ⇨ Support local and regional infrastructure for farmers, growers and independent retailers, including markets and stalls (with additional investment in aggregation, storage and coordination systems required to meet demand at scale — for example, higher participation scenarios in the national Healthy Start uplift could require supply of approximately 1,800 tonnes of organic fruit and vegetables annually. This will require access to capital grants and low-interest loans targeted at practical infrastructure (e.g. packhouses, cold storage, distribution vehicles and market infrastructure), delivered through mechanisms such as the Farming Investment Fund or similar schemes adapted

to support small and mid-scale horticulture, rather than being restricted to innovation or large-scale capital projects.

- ⇨ Support fairness in the supply chain by improving price transparency and enabling viable returns to producers, alongside strengthening labour conditions within the horticultural sector, including access to a stable workforce, appropriate training and fair working standards.

Anti-poverty and Social Security policies

- ⇨ Embed access to healthy, organic, agroecological, diverse and culturally appropriate food within child poverty and wider anti-poverty strategies, including future development of Healthy Start and related schemes, and stronger alignment with programmes such as Holiday Activities and Food where additional food support funding is already provided
- ⇨ For the proposed Healthy Start uplift pilot - design and implement future pilots in direct co-creation with social policy departments and delivery partners, so that eligibility, referral routes, communications and uptake support are aligned with existing anti-poverty infrastructure and avoid creating parallel systems that increase complexity for households or administrators

Health policies

- ⇨ Align the proposed scheme with national dietary guidelines and diet-related disease prevention strategies, positioning it as a preventative public health intervention contributing to increased fruit and vegetable consumption and reduced incidence of diet-related conditions
- ⇨ For the proposed neighbourhood voucher scheme - work with regional health boards and local health systems to integrate the scheme into existing public health delivery pathways, including targeted outreach, referral mechanisms and alignment with wider health inequality strategies
- ⇨ Environmental and Climate Policies
- ⇨ Align the proposed scheme with existing environmental and climate strategies, including the Environmental Improvement Plan, Water and pesticide reduction strategies, the Land Use Framework, and Organic Action Plans (introduced in Scotland with calls for an Organic Action Plan for England).
- ⇨ Position the scheme as contributing to delivery of environmental outcomes, including increased land under organic management, reduced pesticide use, improved biodiversity and lower agricultural emissions associated with organic production systems.

Local policies (Cross-scale actions)

Regional and local authorities play a central role in delivery. While they may not have explicit statutory powers over food systems, many are already leading food-related

initiatives through local strategies, partnerships and public health functions. There is therefore a need to support and enable this role through appropriate powers, funding and flexibility in implementation.

- ⇨ Use planning frameworks to support local food infrastructure, including markets, community retail spaces and the protection of local horticultural production
- ⇨ Align the proposed scheme with existing place-based funding programmes, including Pride in Place, Crisis and Resilience Funds and Best Start Family Hubs, to support local delivery infrastructure and community engagement
- ⇨ Support regional capacity-building on food systems, including through mechanisms such as the English Devolution and Community Empowerment Bill, enabling local authorities to coordinate delivery and scale provision
- ⇨ Support national-level mapping and coordination of local delivery capacity, including retailers, producers and distribution infrastructure, to identify gaps in the supply of organic and agroecological fruit and vegetables, and enable targeted expansion in areas with limited existing access
- ⇨ Improve alignment with local public health systems, including integration with health inequality strategies and community-based services

Funding mechanisms

The proposed scheme sits across multiple policy domains, including agriculture, public health, social security and local economic development. As such, it is well suited to an integrated funding approach, where costs are shared across departments in line with the distribution of benefits. This reflects the cross-cutting nature of the scheme, which generates outcomes across health, environment, local economies and social wellbeing.

Possible integrated funding pathways and implementation approach

In practice, this would involve aligning existing funding streams rather than creating entirely new funding structures. Indicative areas of contribution include:

1) Agriculture and environment (Defra):

Funding the price differential associated with organic production as part of a wider supply-side strategy, including alignment with schemes such as the Sustainable Farming Incentive (SFI) and organic conversion support. As a demand-side intervention, the proposed scheme would help to create stable and predictable markets for organic horticulture, supporting farm conversion, strengthening domestic supply chains and contributing to UK food security objectives. The proposed national scale pilots suggest a level of voucher expenditure modelled of £5,541,250 over five years in the national neighbourhood scheme and £12,611,430 in the national Healthy Start uplift scenario. Which could reasonably sit within Defra's existing multi-billion-pound allocation of the national budget.

2) Health (DHSC / NHS):

Funding elements related to dietary improvement, prevention and communications, reflecting the role of the scheme in reducing diet-related disease and supporting public health objectives. Health systems could also support delivery through participant identification, referral and onboarding via primary care, health visitors and community services. This is particularly relevant given the current cost profile, where administration, delivery and engagement represent a substantial cost component (approximately £3.4 million over five years in the national neighbourhood model and £11.8 million in the Healthy Start uplift model). Integration with existing health and community services could reduce duplication, improve targeting of priority populations and increase uptake efficiency, while reinforcing the scheme's role as a preventative health intervention.

3) Local government and place-based funding

Supporting local delivery infrastructure, including markets, stalls and retail access points, through existing place-based and devolved funding streams. This includes programmes such as Pride in Place (long-term local regeneration funding, up to £20 million per area over 10 years) and the Crisis and Resilience Fund (CRF), a new three-year programme (2026–2029) providing nationally allocated funding to local authorities to support both immediate need and longer-term financial resilience.

There is a case for the scope of place-based funding to be extended to support access to healthy food, and include capital investment in local retail and market infrastructure, and transitional support for participating retailers who may need to adapt their operations (e.g. storage, sourcing, pricing systems or digital integration) to meet increased demand for organic and agroecological produce.

Local funding could also support scheme coordination roles, including programme management, delivery partnerships and system oversight, which could be integrated into existing local food partnerships and networks. Examples include Sustainable Food Places partnerships, local food boards and cross-sector food alliances already operating across many UK regions. These structures provide an existing platform for coordination between local authorities, public health teams, community organisations, retailers and producers, reducing the need to establish new governance systems and enabling more efficient implementation at scale.

4) Research and evaluation

Funding for monitoring and evaluation could be found through a combination of governmental, philanthropic and research funding sources, including UKRI, relevant departmental research budgets, charitable foundations and international programmes such as Horizon Europe. Given the scale of evaluation costs within the model, there is a clear case for co-funded evaluation approaches. At larger scale, costs could be reduced through standardised data collection, shared survey infrastructure and integration with existing administrative datasets, improving efficiency while maintaining analytical robustness.

5) Options for generating new funding

In addition to existing departmental budgets, there are potential mechanisms for generating new funding to support the scheme as it scales. These should be understood as longer-term options rather than core assumptions within this analysis.

- Taxation and levy-based approaches: Targeted taxes or levies linked to food system externalities (e.g. ultra-processed foods or environmentally damaging production practices) could generate additional revenue to support access to healthy and sustainable food. There is precedent for such approaches in both the UK (e.g. the Soft Drinks Industry Levy) and internationally, where fiscal measures have been used to influence consumption patterns and generate hypothecated or quasi-hypothecated funding streams. However, the extent to which such revenues could be ring-fenced for this type of intervention remains uncertain and would depend on wider fiscal policy decisions.
- Social security mechanisms: The scheme could also be delivered through social security systems, based on principles of contribution and redistribution. This approach is reflected in asks from the Campaign SSA policy asks in Belgium, which explore universal or near-universal entitlements to healthy food. Under such models, funding is drawn from general taxation and redistributed progressively, enabling targeted support for lower-income households while maintaining broad system integration.

The scheme is also likely to generate cost savings across multiple policy areas, including health, social care and environmental management. However, these savings are difficult to quantify and attribute directly within the scope of this analysis. For example, Healthy Start is delivered as part of a much wider NHS delivery programme with shared administrative systems, making cost savings difficult to isolate. Similarly, environmental benefits linked to organic production interact with broader land management schemes such as SFI, where impacts are distributed across complex farm systems. As a result, while cost savings are a relevant consideration for policy development, they have been challenging to include within this analysis.

Key Learnings

1. Participation is the primary lever for improving value for money. Across all scenarios, higher uptake substantially improves cost-effectiveness by spreading fixed delivery costs while benefits scale proportionally. Designing for high participation should therefore be a central focus of any future pilot.

2. Delivery costs are significant and concentrated in onboarding, administration and engagement. These functions represent a large share of total programme cost and are likely to determine overall efficiency. There is clear evidence that these costs decline with scale, but this has not yet been tested at regional or national level.

3. Different delivery models optimise for different policy objectives. Place-based neighbourhood schemes maximise return per £1 invested, while Healthy Start uplift models maximise reach. Future programme design should be explicit about which objective is being prioritised.

4. Demand-side funding alone is insufficient to deliver system change. The scheme relies on the availability of local organic supply, retail infrastructure and delivery capacity. Without parallel investment in these areas, scaling risks being constrained by supply-side bottlenecks.

5. The scheme generates a predictable and direct income stream for local supply chains. Voucher expenditure translates into stable, repeat demand for independent retailers and organic producers, creating conditions for business expansion and investment.

6. The largest share of quantified benefits relates to dignity and reduced anxiety at point of access. These benefits arise consistently across all scenarios and are generated through repeated interactions with the scheme, reflecting reduced financial stress and improved confidence in accessing food observed in the Bridging the Gap pilots.

7. Integration with existing systems is likely to be critical for efficient delivery at scale. Standalone delivery models carry higher administrative and engagement costs. Aligning with existing social security, health and local delivery systems offers a clear route to reducing duplication and improving targeting.

8. A larger, multi-year pilot is required to test system performance under real delivery conditions. Key uncertainties remain around uptake, administrative efficiency, supply response and long-term outcomes. A scaled pilot would allow these to be tested while also capturing economies of scale across delivery, infrastructure and evaluation.

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Annex 1: Mapping of priority areas

Areas Identified as High Need for Healthy Food Support

Scale	Priority Areas Identified	Key Indicators Overlapping
Regions	North West; North East; Yorkshire & Humber; West Midlands; South Wales; London; North Wales	Multiple deprivation deciles; Priority Places for Food; Food insecurity prevalence; Health & diet inequalities
Combined Authorities / Local Authorities	Liverpool City Region; Greater Manchester; West Yorkshire; West Midlands; South Wales authorities; North Ayrshire; Belfast; Derry City & Strabane; London Boroughs (Brent; Barking & Dagenham; Newham; Hackney; Tower Hamlets)	IMD/WIMD/SIMD/MMNI; Community Needs Index; Pride in Place; Universal Credit claimant rates
Neighbourhoods (Decile 1 LSOAs / Data Zones)	Barking & Dagenham (015E; 006C); Hastings (009A; 009B); Plymouth (026B; 026C); Tendring (015C; 015D); Newark & Sherwood (007G; 010C); Telford & Wrekin (021C; 021D); Blackpool (007A; 007D); Stockton-on-Tees (025C; 025D); Kingston upon Hull (003E; 003D); Wrexham (010E; 010C); Dumfries (S01007612; S01007583); Methil &	Decile 1 deprivation; Priority for Food decile 1–3; High socio-demographic barriers; Poor proximity to non-supermarket provision

Scale	Priority Areas Identified	Key Indicators Overlapping
	Buckhaven (S01009632; S01009631); Derry City & Strabane (N00002613; N00002431)	

Local Food Retail Infrastructure Across Priority Regions

Target Region	Total Identified Retailers	Retailers with Sustainability Criteria (n)	% With Sustainability Criteria (of shops observed)
Liverpool	35	3	8.6%
Greater Manchester	64	28	43.8%
West Midlands	63	2	3.2%
West Yorkshire	65	10	15.4%
South Wales	63	13	20.6%
North Ayrshire	42	4	9.5%
Belfast	33	4	12.1%

Platforms used for identification: Better Food Traders; Ooooby; Open Food Network; Big Barn. Retail listings are dominated by Big Barn and Open Food Network (no explicit sustainability entry criteria). Sustainability-screened retailers represent a minority share across most regions, though Greater Manchester and South Wales show comparatively stronger representation.

Annex 2: Eco-system services calculator

Overview

The analysis converts scheme participation and spending into physical food quantities, associated land requirements, and resulting carbon and wider ecosystem service savings. All calculations are parameterised to allow scaling across different population sizes and geographies.

The modelling draws on empirical evidence from Bridging the Gap UK pilots (Planet Card, Queen of Greens, Tower Hamlets, Carrick Greengrocers and Edinburgh Community Food) and applies conservative environmental valuations for associated organic land areas, including carbon, biodiversity, water quality and avoided pesticide-related toxicity impacts.

Stage 1: Estimating effective food expenditure

We first estimated the effective annual FV expenditure generated by the scheme.

Although participants were entitled to a fixed weekly voucher (£11), evidence from the Planet Card pilot shows that:

- not all participants redeemed the full entitlement every week; and
- some participants spent additional money beyond the voucher value.

Observed data indicate total voucher expenditure of £18,012 over 12 months, with total shop expenditure of £19,091, implying a co-spend multiplier of 1.0599.

Effective FV expenditure was therefore calculated as:

Effective spend = Nominal voucher value × utilisation rate × co-spend multiplier

This approach captures behavioural responses induced by the scheme while maintaining a clear distinction between public expenditure and total food throughput.

Stage 2: Allocating expenditure across crop groups

Total effective FV expenditure was then allocated across crop groups using observed procurement patterns from multiple retail pilots. Data were drawn from Planet Card, Edinburgh Community Food, Tower Hamlets, Queen of Greens, and Carrick Green Grocers.

Purchases were grouped into four categories:

- field vegetables
- protected vegetables
- soft fruit
- orchard fruit

Average expenditure shares across these pilots were calculated and applied to the total effective spend. Using an average across multiple schemes reduces bias associated with any single delivery model and better reflects procurement behaviour at scale.

Stage 3: Converting expenditure to physical quantities

To estimate physical food throughput, crop-group expenditure was converted into quantities using average organic retail prices per kilogram derived from pilot transaction data and validated against UK organic benchmarks.

For each crop group:

Tonnage (kg) = Crop-group expenditure (£) ÷ Average organic price (£/kg)

This produced annual tonnage estimates for each crop group and total FV tonnage associated with the scheme.

Stage 4: Estimating organic land area requirements

We estimated the organic land area required to supply the calculated FV tonnage using crop-specific organic yield assumptions. Yield values were informed by Bridging the Gap technical work, Welsh Veg in Schools data, and Organic Research Centre benchmarks.

For each crop group:

Land area (ha) = Tonnage (kg) ÷ Organic yield (kg/ha)

Aggregate land area estimates were cross-checked against Planet Card evidence (approximately 0.5 hectares supplying 100 participants for 10 months) to ensure plausibility.

Stage 5: Estimating downstream carbon savings from import substitution

Downstream carbon savings were estimated by modelling changes in the proportion of FV sourced from UK production rather than imports.

Baseline assumptions were that 83% of fruit and 47% of vegetables consumed in the UK are imported. Weighting by relative consumption resulted in an estimated baseline import share of 61% of FV. Evidence from the retail pilots suggests this was reduced to between 45% and 52% under the scheme.

The carbon saving from import substitution was calculated as:

CO_2e saved = FV tonnage × Δ local sourcing share × 0.16

where 0.16 kg CO_2e per kg represents the estimated emissions reduction from replacing imported FV with UK-produced FV (CoolFoodPro).

Stage 6: Estimating upstream carbon savings from organic production

Additional upstream carbon savings were estimated from differences between organic and non-organic production systems, including:

- avoided synthetic nitrogen fertiliser manufacture
- avoided pesticide manufacture
- reduced on-farm energy use

These estimates draw on DEFRA, BEIS, and peer-reviewed lifecycle assessment sources, using crop-weighted land area and input use assumptions. Upstream savings were calculated separately from import substitution to avoid double counting.

Stage 7: Carbon savings from replacing non-organic farmland with organic production

In addition to upstream input-related savings and downstream import substitution effects, we estimated carbon savings attributable to a shift in land management from non-organic to organic production for the FV supplied through the scheme.

First, the total land area required to meet scheme-induced demand was estimated by crop group (Stage 4). We then assumed that an equivalent area would have been managed under a conventional (non-organic) baseline in the counterfactual.

Carbon savings were calculated as the difference between baseline and organic production emissions intensity per hectare:

$$\mathbf{CO_2e\ saved = \Sigma_{(c)}\ [\ Area_{(c)} \times (\ EF_{(c)}\ non\text{-}organic - EF_{(c)}\ organic\ )\ ]}$$

where:

- c indexes crop groups (field veg, protected veg, soft fruit, orchard fruit)
- $Area_{(c)}$ is the estimated land area (ha)
- EF represents emissions factors expressed in tCO_2e/ha/year

Where crop-specific factors were unavailable, we applied a conservative central assumption based on the project's technical calculations that organic systems exhibit substantially lower per-hectare emissions than comparable non-organic systems (e.g., via reduced reliance on synthetic fertilisers and pesticides and lower associated energy inputs).

This land-management (system) effect was calculated separately from upstream manufacturing emissions and from downstream sourcing effects to ensure each mechanism was counted once.

Stage 8: Estimating wider ecosystem service benefits from organic land management

Beyond carbon, the shift from conventional to organic production generates additional ecosystem service benefits associated with biodiversity enhancement, reduced nutrient pollution and avoided pesticide-related eco- and human-toxicity impacts. These were estimated using the same land area outputs derived in Stage 4.

Biodiversity benefits

Biodiversity impacts were valued using per-hectare annual ecosystem service values differentiated between annual crops (field and protected vegetables) and perennial crops (soft fruit and orchards).

Biodiversity benefit (£/yr) = (Annual crop area × £/ha annual value) + (Perennial crop area × £/ha perennial value)

This approach reflects evidence that organic systems support higher species richness and habitat quality relative to conventional systems, with differentiated effects depending on crop type and land use intensity.

Avoided nitrate leaching (water quality)

Avoided nitrate leaching was estimated by applying crop-specific baseline nitrogen leaching rates (kg N/ha/year), multiplied by the organic reduction factor observed in the literature. The avoided nitrogen load was then valued using an environmental damage cost per kg N.

Avoided N (kg/yr) = Σ [$Area_{(c)}$ × Baseline N $leaching_{(c)}$ × Organic reduction factor]

Water quality benefit (£/yr) = Avoided N × £/kg N damage cost

Where uncertainty exists regarding the final receptor (freshwater versus marine systems), this component may be treated conservatively or excluded in sensitivity analysis.

Avoided eco- and human-toxicity from pesticide use

Organic production avoids the application of synthetic crop protection products. Crop-specific pesticide application intensities (kg active substance per hectare) were applied to the estimated land area to calculate avoided active substance use.

Avoided pesticide (kg a.s./yr) = Σ [$Area_{(c)}$ × kg a.s./$ha_{(c)}$]

This was then monetised using a per-kg valuation factor derived from lifecycle toxicity modelling and environmental pricing literature.

Toxicity benefit (£/yr) = Avoided pesticide (kg a.s.) × £ per kg active substance

These ecosystem service benefits were calculated independently of carbon savings to avoid double counting and are reported alongside carbon impacts within the overall environmental benefit assessment.

Annex 3: Diet-Related Health Cost Avoidance Calculator

Overview

The analysis converts scheme participation and increased fruit and vegetable (FV) consumption into avoided diet-related economic costs. The model estimates reductions in the national burden of diet-related disease attributable to a one-portion-per-day increase in FV intake among participating households. All calculations are parameterised to allow scaling across different population sizes and uptake scenarios.

The modelling draws on dose–response meta-analyses linking fruit and vegetable consumption to reductions in cardiovascular disease, cancer and all-cause mortality (Aune et al., 2017), evidence on the effectiveness of price reductions and voucher schemes in increasing FV consumption (Huangfu et al., 2024), and national estimates of diet-attributable economic costs (Jackson, 2024).

Stage 1: Estimating dietary intake change

The model assumes that participation in the enhanced organic voucher scheme generates an average increase of one additional portion of fruit and vegetables per participating case per day.

This assumption is grounded in systematic review evidence demonstrating that financial incentives and price reductions increase healthy food purchases and consumption (Huangfu et al., 2024), and is consistent with observed voucher scheme behaviour.

Annual portion gain per case is calculated as:

Annual portion gain = Daily portion increase × 365

Total annual portion gain across participants is:

Total portion gain = Participating cases × Annual portion gain per case

Stage 2: Linking intake change to disease burden reduction

Dose–response evidence indicates that higher fruit and vegetable intake is associated with statistically significant reductions in cardiovascular disease, total cancer and all-cause mortality (Aune et al., 2017).

Rather than modelling lifetime disease trajectories, the calculator applies a conservative composite assumption that a +1 portion/day increase generates a 3% proportional reduction in diet-attributable disease burden at the population level.

This parameter reflects central estimates within the epidemiological literature while avoiding overstatement in a five-year pilot context.

Stage 3: Scaling national diet-attributable costs

National diet-related costs were drawn from The False Economy of Big Food (Jackson, 2024), which estimates annual UK diet-attributable costs across:

- NHS healthcare expenditure
- Social care
- Welfare payments
- Productivity losses

To avoid double counting with separate WELLBY and QALY estimates, "human costs" (quality of life valuation) were excluded from this calculation.

Total included national diet-attributable cost is divided by the UK population to derive a per-person equivalent annual burden:

Cost per person = National diet-attributable cost ÷ UK population

Stage 4: Estimating cost savings attributable to the scheme

Annual cost savings are calculated as:

Annual savings =
Participating cases × Cost per person ×
Burden reduction factor × Engagement × Retention × (1 − Deadweight)

Category-level savings (NHS, social care, welfare, productivity) are apportioned proportionally to their share of total national diet-attributable costs.

This produces:

- Fiscal savings (NHS + social care + welfare)
- Economic benefits (productivity gains)

All results are expressed in 2024 prices.