



Being Brave

[Link to publication record in Manchester Research Explorer](#)

Citation for published version (APA):

Hayton, T., St Clair, R., & Sharmina, M. (2022). *Being Brave: Innovative solutions to public food procurement*.

Citing this paper

Please note that where the full-text provided on Manchester Research Explorer is the Author Accepted Manuscript or Proof version this may differ from the final Published version. If citing, it is advised that you check and use the publisher's definitive version.

General rights

Copyright and moral rights for the publications made accessible in the Research Explorer are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

Takedown policy

If you believe that this document breaches copyright please refer to the University of Manchester's Takedown Procedures [<http://man.ac.uk/04Y6Bo>] or contact uml.scholarlycommunications@manchester.ac.uk providing relevant details, so we can investigate your claim.



BEING BRAVE

Innovative Solutions to
Public Food Procurement



Tess Hayton
Dr Rebecca St Clair
Dr Maria Sharmina

Tyndall Centre for Climate Change Research

NB: All views contained with this report are attributable solely to the author and do not necessarily reflect those of researchers within the wider Tyndall Centre for Climate Change Research.

Table of Contents

<i>Executive Summary</i>	2
<i>Introduction</i>	3
<i>Theme 1: Food Waste Auditing</i>	4
<i>Theme 2: Standards</i>	4
<i>Theme 3: Processes</i>	6
<i>Theme 4: Collaboration</i>	11
<i>Theme 5: Investment</i>	13
<i>Conclusion: “Be Brave”</i>	15
<i>Acknowledgements</i>	15
<i>Appendix A - Interviewees</i>	16
<i>Appendix B: School Catering Provision in Greater Manchester</i>	17
<i>Appendix C: Manchester Buying Standards for Food and Catering – Further detail</i>	17
<i>Appendix D: Measure Social Value processes (quantitative and qualitative techniques)</i>	18
<i>Appendix E: Summary of Recommendations</i>	20
<i>Appendix F: Government Definition of SMEs</i>	20

Executive Summary

The Greater Manchester Combined Authority (GMCA) has resolved to become carbon-neutral by 2038. In its '5 Year Environment Plan For Greater Manchester' the GMCA set itself a target: "To be prepared for the impacts of climate change and already be adapting to the future changes from any increase in climate shocks and stresses". [2] The Environment Plan also calls for:

- All citizens to have access to healthy and locally produced food
- The reduction of unnecessary food waste
- Supporting local food growing and redistribution initiatives and organisations
- Working with Voluntary, Community and Social Enterprise Organisations on the development of its food strategy
- The production of a roadmap and future food strategy, which will set out a pathway and priorities for our food system

This report aims to contribute to these ambitions and to improve the resilience and reduce climate impacts of food procurement, using examples of best practice from national and international settings. A list of 22 recommendations were distilled from 20 interviews with participants¹ from across food supply chains, public procurement decision makers, sustainable food advocates and a review of the relevant literature.

Cite As: Hayton, T., St. Clair, R. and Sharmina, M. (2022) Being Brave: Innovative Approaches to Public Food Procurement, Manchester: Tyndall Centre for Climate Change Research.

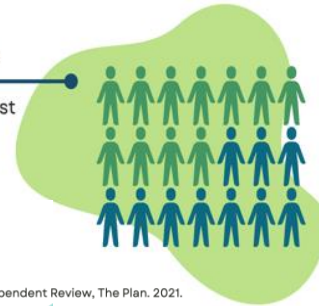
¹ Please see the Appendix A for a full list of participants

Introduction

Over the past decade, researchers and local authorities have recognised the potential of public procurement to lever positive change. [3-5] Local authority and anchor institution purchasing power has the capacity to lead the transformation of our food system, however, using food procurement in this way is under examined. [6-9] The shocks of COVID-19 and Brexit exposed shortcomings in the UK's food system and prompted a re-evaluation of policies and practices, providing an opportunity to 'build back better' food procurement. [10] This is a pivotal moment that demands national and local action. [2]

2.8 million people

1 in 4 GM resident have at least one meal provided by the public sector per year. [1]



[1] Dimbleby, H., National Food Strategy, Independent Review, The Plan. 2021.

There are 2.8 million consumers of food in Greater Manchester and around a quarter have at least one local authority-provided meal each year. [11] Greater Manchester contains approximately 735 primary, secondary, independent and special schools, dozens of hospitals, hundreds of care homes, police and fire stations and a large transport network. [12, 13] Collectively, these organisations buy hundreds of millions of pounds worth of food each year. There is an enormous opportunity to use food procurement policies to achieve positive social, economic, and environmental objectives.

In order for Greater Manchester's food procurement approach to reflect and contribute to a resilient and sustainable food system, it must be: affordable; nutritious; low carbon; low waste; protective of biodiversity; employment and skill generating; transparent; and focused on regional suppliers. [14] This is a significant task and the GMCA faces some constraints in using public procurement for these ends. Decentralisation of decision-making has created patchworks of provision involving public, private and third sector organisations. Different councils within Greater Manchester utilise different procurement arrangements and each sector – from schools to health and social care – will need a specific strategy. There is no 'one size fits all' solution. The good news is that examples of best practice from other areas demonstrate that innovations in food procurement can have positive benefits on local food systems, often without major increases in overall cost and sometimes, with decreases in overall spend.

This report proposes a number of ways in which food procurement in Greater Manchester can be made more resilient and more environmentally sustainable. In essence, it argues for sustainability to be built into food procurement rather than included as an 'additional extra'.

£2.4 billion per year

The Government spends £2.4 billion every year buying food for schools, hospitals, the Armed Forces, prisons and government offices. [1]



[1] Dimbleby, H., National Food Strategy, Independent Review, The Plan. 2021.

The findings and recommendations of this report are detailed further in the following sections and are organised into five key themes:

1. Food Waste Auditing
2. Standards
3. Processes
4. Collaboration
5. Investment

Theme 1: Food Waste Auditing

Before undertaking any major changes, the GMCA should audit public sector food waste in the city-region to identify scope for improvement. Most food waste is generated by errors in portion planning, predicting demand, and poor food selection. [15] Waste undermines a food system's efficiency and profitability. [16,17] Wasted food means wasted resources and excess greenhouse gas emissions in the production, distribution, and destruction processes, causing unnecessary environmental stress and making it harder to meet our net-zero goals. Food waste is already on the GMCA's agenda, verified by the launch of Food Waste Action Week in 2021, and the majority of interviewees cited revising reducing food waste as one of the most critical steps in building a better food system.

Jemma Hynes, CEO and Technical Director of FoodSync (Manchester-based food consultancy) remarks:

"If you want to buy better quality ingredients, you have to use less of them, be more efficient, and waste less. So that actually the overall cost price of the dish doesn't really change, we've re-engineered it with better ingredients."

Moreover, Jemma suggested that, through the use of an "accurate forecasting tool", the GMCA could reduce food waste in the long term, supporting one goal in its 5-year Environment Plan.

The Brighton and Hove Food Partnership endorses the [Guardians of Grub](#) tool kit to reduce food waste at every point in the supply chain:

"From kitchen prep to plate waste to food that goes out of date before it used. This audit would weigh and monitor waste to identify hotspots." (Ali Ghanimi, Project Manager Brighton and Hove Food Partnership)

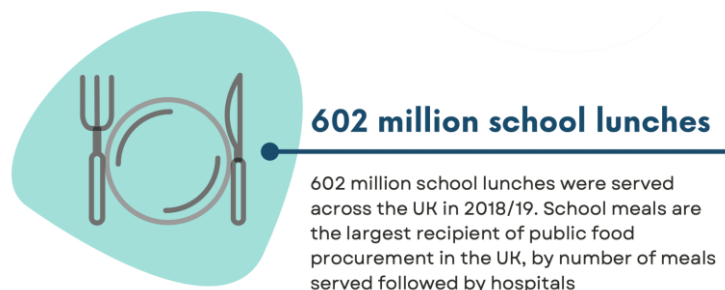
Analysis of this data could also detect which foods consumers avoid, allowing catering managers to make adjustments accordingly.

Theme 2: Standards

School meals are the largest recipient of public food procurement in the UK by number of meals served, followed by hospitals. [18] Many studies have suggested the importance of a good school meal in improving focus and attainment in lessons. [19-21] At a time when more children leave primary school obese

than when they started [22] and less than 10% of pupils have 5 portions of fruit and vegetables per day [23], there is a pressing need to improve school food provision. Adopting a more sustainable approach to school meals could facilitate substantial benefits in children's nutrition and health, as well as reduced carbon emissions. An improved lunch offer, combined with outreach to children and parents could increase school meal uptake, thereby leading to greater impact. [24]

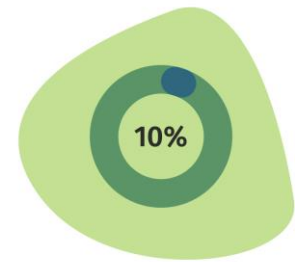
In Greater Manchester, local authorities' ability to influence school catering is limited by decentralisation. The introduction of Local Management of Schools triggered a decline in local authority provision and all ten councils currently have separate school catering provision. ² Legally, the duty to provide school meals sits with schools, however in the face of budgetary pressures,



² See Appendix

school meals have become a target for cuts and outsourcing. This has become more acute in recent years. At the time of writing, Manchester City Council has closed its Manchester Fayre catering (which services 74 schools) arguing it is no longer economically viable. [25]

Mark Stein, a food procurement researcher at the Salford Business School stated that, “The quality of food provided by Manchester Fayre has been good. They’ve provided decent working conditions, but have they been undercut by very aggressive competition, by private sector caterers.” As Adrian Morley, Research Fellow in Food Systems and Sustainability at Manchester Metropolitan University argues: “there’s nothing inherently bad about a private sector organisation running a school meal service, as long as they’re incentivised or penalised in a way that ensures they deliver on what taxpayers or society wants.”



Less than 10% of pupils have their 5 a day

In the UK, barely 1 in 10 pupils have 5 daily portions of fruit and vegetables

Too often however, the lower prices offered by private providers come at the cost of lower labour standards, nutritional value and environmental sustainability. Morley’s research suggests that “private caterers promise higher standards at the same price.... But then over time, slowly those standards will be whittled away... They promise a lot and don’t deliver on it.”

Reconciling the conflicting demands of improving food quality, delivering culturally appropriate meals, all at an affordable price, and in a manner that is environmentally sound is challenging, but possible.

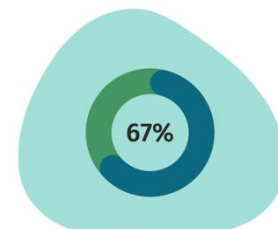
Create the Greater Manchester Buying Standards for Food and Catering: ‘Sound Food’

In 2020 the GMCA adopted its Social Value Framework. The framework encourages authorities to “buy local, sustainable and ethical goods and services” and to “purchase from organisations known to provide added social impact”. [26] However, our research detected confusion about the different social value policies mandated by different local authorities and anchor institutions within the GMCA. Nonetheless, the framework provides a solid foundation and building upon this will put the GMCA at the forefront of developing a sustainable food system.

Central government procurers of food and catering services are required to follow Government Buying Standards (GBS) but these are not mandatory for schools or local authorities. [27] In 2021, however, both the independent National Food Strategy review [11] and the House of Commons’ Environment, Food and Rural Affairs Committee [18] recommended that these standards be made compulsory across all public procurement.

The GMCA and the ten councils should prepare for this eventuality by creating their own progressive standards (‘Sound Food’?) that meet GBS requirements and go beyond them to champion local, seasonal, and sustainable produce and incorporate the GMCA Social Value Framework. These standards should be mandatory for all public bodies in receipt of GMCA funding. They could be outlined in the form of a charter, like the GMCA Good Employment Charter [28], approved in 2020, which requires the GMCA to buy goods, works and services from organisations which demonstrate excellent practice across seven characteristics of good employment.

The GMCA should draw upon the advice of nutritionists, economists, environmental experts, and catering leads when drawing up these standards. There is an army of such specialists already active in Greater Manchester, effort must be made to consolidate their expertise.



Around 2 in 3 adults in GM are obese or overweight

The proportion varies from 61.5% in Manchester to 69.7% in Rochdale

There is an existing model of such standards in Brighton and Hove. The City Council created its own ‘Good Food Standards’ in April 2021, which it described as “a commitment to work towards a healthier, more sustainable food system; one which reduces food poverty, supports local food businesses and reduces the environmental impact of the way in which we produce, consume and dispose of food.”

New Greater Manchester buying standards could advocate sourcing ‘local and seasonal foods’ and include recommendations such as sourcing 100% British meat or using Fair Trade and Rainforest Alliance certified products³. They could also specify increased plant-based provision with 30% reduction in meat, in line with the National Food Strategy. [11]

Evaluate Food for Life standards

Food for Life (FFL) is a Soil Association campaign to improve standards of food in education, health, and care settings. FFL certifies schools, hospitals and other organisations with Bronze, Silver and Gold awards specifying certain levels of healthy, ethical, environmentally friendly and local ingredients. The campaign estimates at least 1.7 million FFL meals are served each day in the UK. [29]

In Northwest England, Oldham Council achieved Gold in 2019 and Lancashire and East Cheshire achieved Silver for school catering. However, our research suggests that shrinking budgets mean public bodies are finding it increasingly hard to meet the FFL standards.

Our interviews indicate that two Greater Manchester councils are considering applying for FFL standards. This could be an opportunity to monitor and evaluate impact within Greater Manchester with a view to recommending similar criteria to other authorities as a supplement to the proposed GMCA Standards for Food and Catering.

Theme 3: Processes

Many small businesses interested in supplying public authorities find the processes complex and demanding. One 2014 study cites the inability to fulfil whole contracts, extensive paperwork and lack of information about new contracts as the main obstacles. [30] If the GMCA wishes to stimulate regional economies and reduce the length of supply chains it must make its procurement systems easier to navigate.

Pilot a Dynamic Purchasing System

A Dynamic Purchasing System is a technology platform that breaks down large tenders into smaller lots. Dynamic Purchasing Systems have been used for some time across the European Union but only recently in food procurement. A Dynamic Purchasing System enables “procuring, fulfilling and consolidating from a large number of primary food and drink producers and delivering with a single catering kitchen order, invoice and delivery”. [31] It increases access for smaller, local businesses as they compete for a portion of a contract at times when they can meet demand. This might apply to a smaller provider of a specific product.

A pilot project with Bath and North East Somerset Council (B&NES) demonstrated improved opportunities for local suppliers while reducing overall costs by 6%. [32] If the Northwest region is considered as one of the next pilot regions for a Dynamic Purchasing Systems, the GMCA should support this and invest in infrastructure to ensure it is successful.

³ See Appendix

B&NES and other users of Dynamic Purchasing Systems for food report that successful implementation requires other changes, notably separating supply and distribution as outlined below.

Adapt the role of the wholesaler

Wholesalers and distributors play crucial logistical roles in the food system. Very large companies such as BidFood and Brakes, with multiple suppliers around the globe, can act quickly and alleviate disruptions in supply chains, with little variation in product availability or price throughout the year. Their success, however, is challenging for public procurers who want to source locally. STAR procurement observed:

“The market is saturated with large organisations and wholesalers. We need more local supply chains to support us, and supply GM and I don't think there are suppliers that can do that at the moment, to the level that we need and the volume that we need.” (James Hunter, Head of Strategic Procurement at STAR)

While larger companies publicise their efforts towards sustainability [33], their dominant market position and their ability to control access to procurement contracts often results in a significant cut to the profits of smaller and local producers:

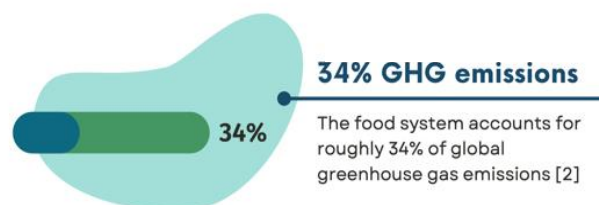
“If a producer is selling their product into the supply chain, they often go through a processor, maybe manufacturer, a wholesaler and then a contract caterer, before sending it to a local school or other end user. That's a long supply chain and in general, the longer the supply chain, the more that value is cut out of it.” (Bethan Cowell, Food Service and Procurement Adviser for NFU)

Over a decade ago, Manchester Veg People partnered with Manchester Fayre in a year-long project to supply Brookburn Primary School in Chorlton-cum-Hardy with organic fruit and vegetables for seasonal soup. [34] Although the initiative improved food culture and increased vegetable consumption, the organisation says the ‘middlemen’ “made it pretty unaffordable”. Manchester Veg People has found it more viable to supply the University of Manchester directly. Sales now average around £40,000 each year. Shortening the supply chain made this arrangement economically viable.

The introduction of a Dynamic Purchasing System will change the relationship between Greater Manchester food procurers and wholesalers. There will be a continuing role for wholesalers as distributors and as sources for extra-regional and international produce, but businesses will be open to a more diverse supply base. This is an effective solution that focuses the wholesaler on its logistical distribution service. Mark Stein, Food Systems Researcher, adds, *“It might be perfectly logical to give it to someone like Ralph Livesey [a major fruit and vegetable wholesaler] because they already have a fleet of vehicles going around the region”*. Procurement contracts could specify that such vehicle fleets should be electric, in line with Greater Manchester’s net zero goal.

Separating supply and distribution benefits small producers lacking the facilities to distribute their produce. Lower Hurst Organics in Derbyshire supplies meatballs to over 1100 schools in Britain. They produce a small number of high-quality products and run several schemes for schools to improve food education. Nicky Stonebridge, the manger noted the benefits of having a distributor, *“You have one*

point of contact; you're delivering to one place; you're not having to deliver to a number of schools.”



[2] Crippa, M., Solazzo, E., Guizzardi, D. et al. Food systems are responsible for a third of global anthropogenic GHG emissions. Nat Food 2, 198–209 (2021). <https://doi.org/10.1038/s43016-021-00225-9>

Richard Howroyd, Head of Strategic Procurement & Commissioning at B&NES, cites delivery as “probably the most innovative part of the DPS”:

“We had a consolidation partner, and they collected the produce from the small producers and then they did the onward logistics to the schools. That’s how we reduced our carbon emissions... They could do their delivery first thing in the morning and go on to collect from the farms on the way back.”

Create a Facilitative Hub

Manchester-based consultancy FoodSync has proposed a new hub which will “act as a facilitator for supply management and logistics, enabling public sector procurers to benefit from the efficiency of one of the major nationals whilst having control and collaboration of production. [The Hub] will enable resilience and adaptability to be built into the current model, harvesting intelligence at all stages of supply chain, and ensuring the production more closely manages consumption.” [35] This report recommends that the GMCA supports a feasibility study for this hub to evaluate its application in the Greater Manchester context.

Improve Financial Rebates procedures

Large companies often have the capacity to offer procurers better deals, discounts, and rebates. The NFU expressed concern that this disadvantages smaller producers when bidding for public contracts. In future, the GMCA must take a holistic approach, balancing lower costs against a greater social value⁴. There are, however, difficulties in measuring social value, as discussed in Appendix C.

“Public procurement regulations are necessary they act as a sword and a shield. They are there to protect public money. But for a lot of very small and micro enterprises, for example, they can be very daunting”

Mike Haslin, CEO TUCO

Invest in Digital Skills and Infrastructure across the Supply Chain

B&NES council faced an unexpected barrier when implementing their Dynamic Purchasing System for food due to inadequate access to broadband and WiFi in rural areas, stating that, “Access isn’t good, and frequently very slow or non-existent. It was a challenge to get [producers] to do things online.” (Christine Storry, Sustainable Procurement Manager at Bath and North East Somerset Council)

The GMCA would need to ensure that all suppliers have the digital infrastructure and skills to access the Dynamic Purchasing System successfully. This digital infrastructure could also represent a social value contribution to the region as caterers, producers, and others across the supply chain improve their digital skills. B&NES recommended benchmarking digital skills before introducing Dynamic Purchasing System to demonstrate impact in subsequent evaluations:

“Being able to demonstrate social value keeps your politicians happy. But it also makes it easier for people to follow on afterwards.” (Christine Storry, B&NES Council)

⁴ Challenges in measuring social value are discussed in Appendix C.

Consult Stakeholders

B&NES stressed the need to engage stakeholders prior to and during the Dynamic Purchasing System pilot. They spent one year explaining the benefits of the new system to students, parents, head teachers, procurement professionals and suppliers, noting that “the parents really decide whether their children have school meals or not ... definitely don't underestimate the importance of getting to the parents, getting to the head teachers.”

“That school contract wouldn't have happened if we hadn't spent a long time talking to the market and getting people on board and trying to understand what their issues were”

Christine Storry, Sustainable Procurement Manager at B&NES

B&NES reflected that better engagement with parents could have “developed markets for those producers” participating in the Dynamic Purchasing System. There is an opportunity to use procurement to connect local producers with local consumers and thereby promote regional economic development.

Simplify Tender Contracts and Accreditations

Some elements of tender contracts are too onerous for small businesses. Procurement teams within Greater Manchester should simplify tender contracts as much as possible by removing ‘unnecessary’ barriers.

Lower Hurst Organic recommended using [SALSA](#) (Safe And Local Supplier Approval), a food safety certification for small and micro food businesses. The scheme, organised by a non-profit company, supported by the NFU and the Food and Drink Federation, helps local and regional food and drink producers supply their products to national and regional buyers. [36]

Break Down Contracts into Smaller Lots (Even Without a Dynamic Purchasing System)

Even without a Dynamic Purchasing System, smaller contracts will allow smaller businesses producing a smaller range of products to bid for tenders. This will, however, require a change in attitudes from procurement professionals and the separation of supply and distribution logistics. STAR Procurement will retender some contracts in early 2022 with the intention of reducing the number of food delivery vans on the motorway, stating that they want “one organisation with one van”. James Hunter, Head of Strategic Procurement at STAR noted that one approach to this could be to bring “chilled, ambient and frozen foods together”. However, if STAR is to fulfil the GMCA’s wish for “all citizens to have access to healthy and locally-produced food” [2], it must recognise that consolidating goods into one contract would be a major barrier for SMEs.

As one smaller producer commented:

“To be able to comply with that contract, I've got to do everything. I couldn't provide just meatballs, for example, or just mince, I've got to supply a whole range and do chicken”
(General Manager, Lower Hurst Organic)

The consolidation of contracts also increases the size of the tender. Once its value exceeds a certain threshold, suppliers must go through onerous procedures. According to the NFU “a tendering procedure is actually very costly for the producer; you often have to get solicitors involved”. They propose two solutions. Firstly, procurement bodies could break down contracts into smaller lots, giving local producers a better chance of being able to engage. Secondly, they could raise the threshold value. [37]

STAR argues that “local providers can't compete at the moment with those large providers in terms of economies of scale and value for money. So there is a piece of work that we need to do across GM to see if we can do better”. A good example of using council tenders to support small businesses comes from Sheffield where Olivia Blake MP encouraged the city council to increase SME

engagement by dividing public procurement contracts into smaller lots and changing the tendering threshold.

Additional difficulties are created when consolidating goods and services into one catering contract (which happens frequently). This consolidation further disadvantages smaller suppliers who may not offer both cleaning and catering for example.

Pay Suppliers Within 28 days

The National Farmers Union believes a major barrier faced by smaller producers is the long delay between delivery and payments. Larger providers can absorb such delays in ways that smaller suppliers cannot. The GMCA should agree to pay smaller suppliers within 28 days to increase SME engagement.

Provide clearer notice of opportunities

Two interviewees advocated clearer publicity for tender opportunities. The NFU spoke of suppliers who currently “need dogged determination to get hold of procurement leads” and understand when tendering opportunities are open.

Public procurement bodies and business groups such as “LACA (Local Authorities Catering Association) arrange ‘meet-the-buyer’ events. While these are useful in connecting” smaller businesses with procurement officials, they are, in the words of Lower Hurst Organics, “price-prohibitive for a lot of small businesses” as SMEs often “pay the same price for [their] stand as Brakes [a large wholesaler]”. We recommend that the GMCA should offer different price bands for stands at meet-the-buyer events.

Buyers face the reverse problem when trying to identify local SMEs. The networks proposed below (see Collaboration) could also improve access to procurement.

Evaluate the ‘Further Competition’ approach

Greater Manchester councils utilise different procurement arrangements. Stockport, Trafford, Tameside and Rochdale are part of STAR procurement. Bury, Bolton, STAR and others use Yorkshire Purchasing Organisation (YPO) frameworks. A respondent for YPO told us that all successful businesses on the framework must have “Reliability, the ability to get in touch with a single account manager anytime during the contract, the ability to be able to escalate issues and to get a quick resolution. I'd expect to see good quality products supplied freshly delivered promptly and delivered and damaged”.

YPO believes its framework sets the basic criteria but allows customers (councils) to “ask lots more questions in the further competition”. According to YPO, this is a more efficient way of pushing the sustainability agenda because customers can question suppliers on social value indicators they regard as important. GMCA could use the new buying standards mentioned above as criteria for further competition, pushing its sustainability agenda. YPO sees this as preferable to including sustainability questions in its standard framework because it believes councils would simply receive a “generic wishy washy answer from suppliers”.

We believe that the current two-stage ‘further competition’ approach requires evaluation to establish how far it contributes to, or obstructs, SME access to procurement and contribute to the sustainability agenda.

Develop suppliers throughout the contract process

This report recommends that the GMCA adopts a ‘lifetime of contract’ approach to developing suppliers’ sustainability and social value contributions. Currently, according to Jimmy Brannigan, CEO

of NETPositive Futures, “there is very little supplier development going on, so the weakest part of public procurement is actually contract management supply development.”

GMCA should assume that business can develop during the life of the contract. In the words of Guy Battle of SocialValue Portal (a tool for measuring social value):

“Within the food contract, procurers could insist that businesses measure their carbon footprint and say to businesses, ‘unless you’ve got a strategy to deliver net zero by 2030, you’re not going to work with us ... If you can’t do that, you have to join a training session’. And by the end of this contract, you need a net zero strategy.”

As STAR Procurement noted, this would be different to simply “changing contracts midway through, which is harder because providers would have to agree by mutual consent”. This report recommends using the proposed Northwest Food Suppliers’ Network to facilitate this development, see below.

There are difficulties in cascading this approach down the supply chain and STAR Procurement recognises this:

“How can we put an additional weighting on the environment and work with suppliers to reach those tier two tier three suppliers? [...]. It’s all well and good managing environmental considerations and social value through primary contractors. But how are we doing the same to their tier two and tier three supply chain as well?” (James Hunter, Head of Strategic Procurement at STAR)

This report recommends the proposed ‘Sound Food’ Buying Standards for increased transparency in the food chain, enabling better enforcement.

Theme 4: Collaboration

Establish a Greater Manchester Caterers’ Network

A ‘Greater Manchester Caterers’ Network’ could follow the example of Brighton and Hove Food Partnership which created a successful Caterers’ Network in 2012 (originally called the Good Food Procurement Group):

“A number of the large caterers around the city: hospitals, schools, universities, some workplace canteens [meet] a few times a year. They might look at food waste, single use plastics, procurement policies, Brexit... They find it very useful. They like to be kept in touch and to learn different, good practices around food. They really value the learning, the support sharing they get through the network” (Ali Ghanimi, Brighton & Hove Food Partnership)

Food for Life, the Kindling Trust and Lower Hurst Organics also emphasised the benefits of the kind of peer-to-peer support that such a network might provide:

“You need the kitchen to feel empowered to do things. If you just come in there and tell them they need to change their menu. They’ll turn around and say: who the hell are you to tell us how to cook?” (Kindling Trust)

In 2012, the Danish government launched a new organic public procurement strategy. A conversion plan adopted in 2015 led to 30% organic provision by 2020. In Copenhagen, 90% of provision was organic across all public kitchens without raising the cost of meals. [38] Government, the food sector and community organisations coordinated bespoke training programs to support staff in the transition. A key factor was the sharing of knowledge and best practice.

Establish a Northwest Food Procurement Hub

There is very little food production within Greater Manchester and the region relies heavily on food ‘imported’ from elsewhere. The GMCA could lead an effort to source more food from the surrounding counties through a ‘Northwest Procurement Hub’, while ensuring that localised procurement does not exacerbate environmental impacts or undermine the resilience and diversity of food supply. Tim Lang, Professor of Food Policy at City University has called for the creation of a new set of regional structures with food planning responsibilities. [39]

STAR Procurement also called for “a more structured approach” to regional collaboration:

“While the Combined Authority are doing a good job in terms of bringing councils together to procure as a collaborative, we would benefit from more information sharing. For instance, looking at examples of commercial benchmarking and achieving better social value from Lancashire and Liverpool City regions” (James Hunter, Head of Strategic Procurement at STAR)

This hub could support procurement teams to identify local businesses suitable to bid for contracts. [40] Alison Shedlock, Assistant Director Estates and Facilities at the University of Manchester told us, “you almost need an Amazon for SMEs”. Procurement professionals could use Northwest Supplier Network to advertise tenders and support regional businesses in bidding for these contracts.

There is precedent here. Food North West, comprising Cheshire, Cumbria, Greater Manchester, Lancashire and Merseyside, was established in 2007 but was closed in 2011 as regional development agencies were abolished.

One of the first tasks for the Northwest Procurement Hub would be to generate a dynamic list of suppliers in the region, in both list and map form. This could be presented in public institutions to increase transparency, creating dialogue with consumers, and supporting community education. The list could also form the foundations of the Northwest Food Suppliers Network.



Local Authorities in the North West Region. [1]

Launch a Northwest Food Suppliers’ Network

In addition to the procurement hub, we propose the establishment of a ‘Northwest Food Suppliers’ Network’, where SMEs share insights on a range of topics from model procedures to winning tender contracts. This network would be semi-structured with some input from the GMCA on upskilling and empowering SMEs to bid successfully for tenders. One major area for development is upskilling the supply chain about environmental metrics and net-zero strategies. Our research found many procurement professionals and SMEs lacked confidence in this area.

“We need to do as much knowledge sharing, building up capacity and capability within the SME community as possible.”

Guy Battle, CEO Social Value Portal

“The public procurement process is a minefield of acronyms and terminology and deadlines, insurances, and accreditations that many SMEs actually have no clue about. Helping them to prepare to win business is absolutely critical. It’s one thing, saying we want to work with more SMEs. And another thing to say are the SMEs ready to work with us?” (Jimmy Brannigan, CEO NETPositive Futures)

Theme 5: Investment

Expand GMCA's procurement capacity

Some of our interviewees suggested that while procurement teams may want to monitor contracts more rigorously, they lack the capacity:

"The culture of procurement is, 'why employ a person to do one job, when you can employ one person to do five people's jobs?'" (Mark Stein, Food Systems Researcher)

Our YPO respondent agreed, stating that:

"In an ideal world, we'd have the capacity to go out and do a full audit of all the suppliers. We just don't have the capacity to do that within our small team."

By contrast, Essex County Council has a 90-person centralised procurement team, managing all third party spend (excluding food) for Essex's 1.5 million residents. We recommend that GMCA increases the staffing of its procurement bodies to allow more rigorous contract management and supplier development. This team should also seek advice from economists, environmental experts, and nutritionists.

Assess kitchen space in public institutions within Greater Manchester

Several respondents to the project, expressed concern at the lack of capacity to prepare fresh vegetables in schools. It is one of the major barriers to Food for Life uptake. According to Adrian Morley of MMU:

"If you're dealing with deprivation and the social and public health and the economic impact of that, you don't necessarily have space or the staff with that kind of time in their remit to go for Food for Life."

Improved kitchen infrastructure would increase a kitchen's ability to take on 'wonky veg' and reduce food waste in line with the GMCAs 5-year Environment Strategy. The University of Manchester is able to do this, stating, *"when Manchester Veg People have a glut of courgettes, for example, we will take them off their hands."* (Alison Shedlock, Head of Catering and Hospitality at the University of Manchester)

Our Brighton and Hove Food Partnership respondent noted that some hospitals argue that *"Food pre-prepped from a factory-like environment results in less food waste because all the peelings, bones and stuff like that gets dealt with at an industrial level and normally taken to a recycling centre."*

For many residential care homes, it is more economical to use a 'ready meal' model and convert spare kitchen space into another bed. Jemma Hynes, CEO and Technical Director of Food Sync commented, *"If you've got a big kitchen, you know you could convert that into another care home bed. You would get a smaller kitchen, but you would generate an extra £1200 a week. So people want tiny kitchens with tiny storage areas ... they don't want to hold much stock"*.

This report calls for the GMCA to evaluate expanding and improving kitchen infrastructure in schools, hospitals and care homes.

Invest in Urban Agriculture in Greater Manchester

Urban Agriculture (including allotments, community farms and neighbourhood growing schemes) brings many educational, economic, aesthetic, and health benefits to a region. [41, 42] Investing in urban agriculture through public procurement could improve the look and feel of Greater Manchester by increasing the number of community focused and green spaces. Local producers such as the Kindling Trust, Northern Roots and Greenslate Farm, in Wigan, offer impressive social value in

their local areas. These groups support elderly, disabled and isolated residents to grow their own produce and their farms could contribute to our food provision on an industrial scale.

Katie Merrick, Greater Manchester Health Partnership, spoke of “the large amount of disused land in the region that could be transformed to improve nutrition, education and community cohesion through urban agriculture”. Public procurement contracts could provide the financial security for community groups to expand, support more local residents (taxpayers) and increase nutritional provision within Greater Manchester.

Invest in a Vertical Farm to supply fresh produce all year round

The National Food Strategy (part 2) proposes a £500 million ‘Challenge Fund’ to support innovation in the food system. If this is approved by central government, the GMCA should apply for funding to put Manchester at the forefront of development. The proposed investment could fund product reformulation, behavioural change projects, and local initiative to improve diet and health. But it should also be used to help develop new ways of growing food, such as vertical farming and precision fermentation.[11]

Climate change impacts represent a great threat to farmers around the world. Moving to a more regional food supply offers immense social, environmental, and economic benefits to the region but comes with some risk.

“If you have a system that relies on, say, small farmers in south of Lancashire to provide carrots, potatoes, etc. And then their harvests fail, for whatever reason. That can obviously have an impact if the system can’t react sufficiently, especially with erratic climate change and weather.” (Adrian Morley, Food Systems Researcher at Manchester Metropolitan University)

Vertical farms could offer a small but reliable way to ensure every citizen has access to fresh produce year-round. The GMCA could lead in building the first state sponsored vertical farm in the UK. Feasibility for a vertical farm in Wythenshawe was assessed in 2011, when optic technology and hydroponics were in their early stages. This project planned to grow produce such as onions and carrots, commodities now recognised as uneconomic in the vertical farming sector. Since then, our understanding of optics and plant science has grown exponentially, and millions of dollars are being invested in vertical farms around the world. [43-46] This vertical farm could provide fresh produce for the schools, hospitals, and universities across Greater Manchester.

“Technological innovations such as vertical farming, aquaponics, and agroecology are well-suited to urban environments like Manchester, and have the potential to contribute to food availability in the city.”

Manchester Food Board and Partners

We interviewed James Lloyd-Jones, the CEO of Jones Food Company (JFC), the largest vertical farm in Europe, based in Scunthorpe. The 5000m² site supplies retailers like Ocado and Sainsbury’s with herbs and salads. Our interviews found some hesitancy towards vertical farming within Greater Manchester. There are often preconceptions about wasteful energy use. However, JFC says its Scunthorpe site will be powered by 100% renewable energy by the end of 2021, something that few traditional suppliers can match.

Economic viability relies on volume and scale, currently JFC is “trying to drive the cost down to match imported crop pricing, so displacing imports.” Salads and salad bars are available in many public catering outlets all year round, yet according to Ralph Livesey, Britain only produces salad for six months of the year. [47] Vertically farmed products have a longer shelf life because they do not need to be washed. Their supply chains are impressively transparent with the ability to trace products in detail back to the point of manufacture.

Sceptics worry about the look of the land but Lloyd-Jones reasons that vertical farms often occupy old warehouses:

“In Greater Manchester there is a lot of warehousing that is underused, close to infrastructure and markets”. Energy supplies can come from solar farms which can “genuinely boost land ecology ... allowing the land to recover from intensive agriculture and support local wildlife.”

A Vertical Farm may prove a sound investment for the GMCA. According to Lloyd-Jones:

“From a social ESG point of view if the [GMCA] were paying for it, it would be a good return on investment. [The GMCA] could use [its] employees’ pension fund to pay for it because it will give you a 20-year payback into your pension. It takes about five years [to recover investments], but the farm will generate reoccurring revenue. Plus, you're making your employees and families and users of your services healthier. So you will have a huge saving taking into account impacts on social services, hospitals and school.” [48]

Conclusion: “Be Brave”

In conclusion, this report finds great potential to improve public food procurement across Greater Manchester. All interview respondents for this research were convinced that there could only be systemic change with robust and reliable leadership from the GMCA. With this in place, Greater Manchester could become an example to authorities across the UK and beyond. This report advocates transparency, collaboration, and innovation in all parts of the food procurement process. Among other suggestions, the GMCA should prepare and launch a food dynamic purchasing system, invest in its food education schemes and lead in investing in the UK’s first state sponsored vertical farm. Above all, this requires the GMCA to ‘be brave’. As Helen Woodcock of the Kindling Trust eloquently said: “Tell [the GMCA] to be brave and tell them we will be brave with them”.

“Tell [the GMCA] to be brave and we will be brave with them.”

Kindling Trust

Acknowledgements

This research is funded by a generous donation to Tyndall Manchester from Helena Conlan in memory of her husband Kieran Conlan. The donation supports the Student Experience Internship Scheme, specifically supporting additional opportunities to work on climate change projects at the Tyndall Centre.

The authors would like to thank the Conlan family for their generosity in funding this internship. We hope that you feel that we have honoured Kieran’s belief in ‘policy to practise’ and that this report has the potential to contribute to Greater Manchester’s efforts to mitigate the climate crisis. We would also like to thank the Tyndall Team at Manchester for all their support.

Infographics were created using <https://www.canva.com>

Thanks to Millie McAvoy for the title page image <https://milliemcavoy.com>

Appendix A - Interviewees

With thanks to all those who participated in this project.

	Interviewee Name	Interviewee Role
1	Adrian Morley	Food Systems Researcher, MMU
2	Ali Ghanimi	Procurement Lead at Brighton & Hove Food Partnership
3	Alison Shedlock	Assistant Director Estates and Facilities – Head of Campus Services. University of Manchester
4	Amy Johnston	Assistant Waste Manager, The Newcastle upon Tyne Hospitals NHS Foundation Trust
5	Bethan Cowell	Food Service and Procurement Adviser for NFU
6	Caron Longden	Development Lead Food for Life Served Here and Green Kitchen Standard
7	Christine Storry	Sustainable Procurement Manager at B&NES
8	Employee	Category Buyer at Yorkshire Purchasing Organisation
9	Guy Battle	CEO of Social Value Portal
10	Helen Woodcock	Co-founder & Co-ordinator of Kindling Trust
11	James Hunter	Head of Strategic Procurement at STAR Procurement
12	James Lloyd-Jones	Founder, CEO The Jones Food Company
13	Jemma Hynes	CEO and Technical Director of FoodSync
14	Jimmy Brannigan	Director of Net Positive futures
15	Katie Merrick	Project Manager Food and Healthy Weight – Population Health Greater Manchester Health Social Care Partnership
16	Mark Stein	Food Systems Researcher, University of Salford
17	Mike Haslin	CEO of TUCO
18	Nicky Stonebridge	Manager of Lower Hurst Organic
19	Rhiannon Jones	Manager of Greenslate Farm
20	Richard Howroyd	Head of Strategic Procurement & Commissioning at B&NES
21	Steve Ede	Head of Procurement at Essex County Council

Appendix B: School Catering Provision in Greater Manchester

Schools have no legal obligation to opt for council catering services.

Council	Catering Provider	Procuring Body
Bury	Bury Council Catering Services	Yorkshire Purchasing Organisation & others
Bolton	Bolton Council School Meals	Yorkshire Purchasing Organisation & others
Manchester	Manchester Fayre **	Corporate Procurement Service for Manchester City Council
Oldham	Oldham Council Education Catering Service	Oldham Council, advertised on The Chest
Rochdale	Fresh Kitchen	STAR
Salford	Citywide	Salford Council
Stockport	Totally Local Company (originally Solutions SK)	STAR
Trafford	Trafford's Operational Services for Education	STAR
Tameside	Tameside School Meals	STAR
Wigan	Local Kitchen (originally MetroFresh)	Local Kitchen

** At the time of writing (Nov 2021) Manchester City Council has closed its Manchester Fayre catering (which services 74 schools) arguing it is no longer economically viable. [25]

Appendix C: Manchester Buying Standards for Food and Catering – Further detail

As part of the new Manchester Buying Standards for Food and Catering, this report advocates increased inclusion of 'organic' produce in public institutions across Greater Manchester. Organic producers do not utilise artificial fertilisers or pesticides, instead opting for traditional methods such as integrated pest management, crop rotation and bio-fertilisers. [49] Decades of excess chemical inputs in agriculture has led to soil damage, eutrophication, pest-resistance, and cascading damage across our ecosystem. [50] Moreover, one study estimated that only 0.1% of applied herbicides reach the target area [51]. This inefficiency is a waste of money, energy, resources, and time. Although the organic method offers several benefits, some short-term drawbacks include a potential yield decline and an increase in costs. [52] The GMCA must also appreciate that many organic producers do not have the time or money to apply for the official organic certification; consequently, many smaller farms who employ organic methods are not officially classified as organic.

In France, national rules demand 40% local produce in public procurement. [38] Local authorities in Denmark have gone further with Public Procurement Organic Policies that led to 90% organic produce in schools in Copenhagen. [53] Denmark grew the organic market by increasing demand through the public sector. [54] The Kindling Trust, a Manchester-based cooperative of fruit and veg growers, believes the GMCA should use this strategy **"If you grow the market, there's hope for suppliers. If you don't grow the market, it will never happen"**.

There has been extensive debate around the advantages and disadvantages of importing produce. Individual commodities are affected by distinct economic, social and environmental factors often

pointing to different solutions for different products. [55] For example tomatoes produced in greenhouses powered by non-renewable energy may be more harmful than tomatoes grown under the sun and shipped from Spain. This report recommends evaluating the environmental costs of different produce using life cycle assessments. Locally produced food often means reduced food miles, shorter supply chains and greater investment in the local area. Reduced food miles can reduce carbon emissions and shorter supply chains can make it easier to identify points of contamination. Independent evaluation of the Food For Life scheme demonstrates that for every £1 spent on local seasonal produce, £3 is generated in social, economic and environmental value in the local community. [6] The GMCA should focus on building seasonality into all menus. This is better for our planet and our budgets. The NFU commented, “We’re a price sensitive market and the main driver of cost is availability, so we need to use as much seasonality as possible, to get the best quality food at the best cost.” This will involve encouraging catering staff to devise more meals using seasonal ingredients.

Certain foods, bananas, coffee and sugar are not seasonal and are not grown domestically. In these cases, the GMCA should prioritise produce with Fairtrade, Rainforest Alliance and other ethical production accreditations. The GMCA should follow in Manchester and Stockport’s footsteps and pledge to be a sustainable food region, with all ten boroughs achieving the [sustainable fish cities](#) award.

This report also recommends using less but better-quality meat. One 2021 study demonstrated that the carbon emissions of pasture fed beef is 50% less than beef fed on soya or other grains. Therefore, sourcing local, pasture fed beef could reduce the GMCAs carbon emissions, in line with its 2038 ambitions. [56]

Sourcing local is not always simple, although regional dairy and meat producers are common, the UK’s horticulture production is fragmented and orientated towards conventional supply chains and higher margin customers, e.g. restaurants. [6]

Appendix D: Measure Social Value processes (quantitative and qualitative techniques)

Procurement professionals and SMEs are calling for a consistent and coherent way of measuring social value. The appendices cite some advantages and disadvantages of each approach. This report recommends further evaluation of the different social value reporting styles.

The Public Services (Social Value) Act 2012 requires public authorities to consider economic, social, and environmental value in procurement processes. The GMCA pioneered a Social Value Policy in 2014, which was updated in 2020. The GMCA should consider ways that this policy could have greater influence over food procurement within Greater Manchester.

“We need to know what is being done for the community. So there is a transparent, measurable and reportable contribution.”

Guy Battle, Social Value Portal

There are several approaches to measuring social value in public procurement. The quantitative Themes, Outcomes and Measures (TOMs) approach by the National Social Value Taskforce (a subgroup of the Local Government Association) aims to put monetary values on social value measures. These “Proxy values reflect society’s subjective opinion of what it’s worth” (Guy Battle, CEO of Social Value Portable).

Guy Battle, the CEO of Social Value Portal, stresses the importance of quantitative approach to social value: “What’s important about social value is the people and climate benefits ... the value is just for practical pragmatic purposes to help people understand the scale of your opportunity.”

The TOMs approach is already being used by STAR Procurement, but senior leaders suggested it “would be really good to get some Greater Manchester proxy values to make our social value indicators even more tangible and accurate”. Our research also noted the lack of gender data in the core set of TOMS. Strong shared parental leave policies have been demonstrated to provide numerous social and economic benefits but do not currently feature in the measures. [57-59]

“Transformation doesn't come from just scoring and measuring. Transformation comes from engaging in developing.”
Jimmy Brannigan, Director NETPositive

Christine Storry, B&NES, commented “I'm a fan of quantifying social value, but I think you can easily quantify the wrong thing.” Other disadvantages of the TOMS include calculating the lifetime impact of a social value, as opposed to simply during the contract lifetime. For example, a tonne of CO₂ saved now will have greater benefits in 2050, than in three years when the contract ends. It is also difficult to quantify the value of certain measures: the number of BAME employees for example. These may be used for measuring purposes, but as Jimmy Brannigan, CEO of NETPositive Futures says: “Transformation doesn't come from just scoring and measuring. Transformation comes from engaging and developing.”

NETPositive Futures is used by the University of Manchester and Greater Manchester Police (through Bluelight emergency services procurement). This qualitative tool has been created by a consultancy, NETPositive Futures, to develop social value in the supply chain by helping suppliers create a tailored Social Value Action Plan for their business.

This qualitative approach has many benefits. Small producers like Kindling Trust and Greenslate farm often use case studies to demonstrate impact. However, as Guy Battle points out:

“A skilled organisation can write some beautiful words. But I don't think words are enough. We need to know what is being done for the community. So there is a transparent, measurable and reportable contribution ... [Using the TOMs], Officers of procurement can show elected members how they are delivering more value for every public pound spent.”

The Food For Life campaign and the National Farmers' Union both cite the UK government's 'Balanced scorecard for public food procurement' approach which champions local and sustainable food. In 2021, however, a House of Commons' Environment, Food and Rural Affairs Committee report noted that its food procurement standards “have been poorly monitored and enforced”. [27]

As well as evaluating current methods used in Manchester, this report recommends the GMCA evaluates the use doughnut model, outlined by Kate Raworth in 2017 [60] and used by Cornwall Council. [61]

Appendix E: Summary of Recommendations

	Theme	Recommendation	Page No.
1	Audit	Audit Food Waste	4
2	Standards	Create the Greater Manchester Buying Standards for Food and Catering	5
3		Evaluate Food for Life standards	6
4	Processes	Pilot a Dynamic Purchasing System	6
5		Adapt the Role of the Wholesaler	7
6		Create a Facilitative Hub	8
7		Improve Financial Rebates procedures	8
8		Consult Stakeholders	9
9		Simplify Tender Contracts and Accreditations	9
10		Break Down Contracts Into Smaller Lots	9
11		Pay Suppliers Within 28 days	10
12		Provide Clearer Notice of Opportunities	10
13		Evaluate the 'Further Competition' approach	10
14	Develop Suppliers Throughout the Contract Process	10	
15	Collaborate	Establish a Greater Manchester Caterers' Network	11
16		Establish a Northwest Food Procurement Hub	12
17		Launch a Northwest Food Suppliers' Network	12
18	Invest	Invest in Digital Skills and Infrastructure across the Supply Chain	8
19		Expand GMCA's Procurement Capacity	13
20		Assess Adequacy of Existing Kitchen Space in Public Institutions	13
21		Invest in Urban Agriculture in Greater Manchester	13
22		Invest in a Vertical Farm to supply fresh produce all year round	14

Appendix F: Government Definition of SMEs

	No. Employees	Annual Turnover
Micro	Fewer than 10	Under €2 million
Small	Fewer than 50	Under €10 million
Medium	Fewer than 250 employees	Under €50 million

References

1. Manchester City Council. *Your Area: Local Authorities in the North West Region*. 2021 [29-Aug-2021]; Available from: https://www.manchester.gov.uk/northwestvotes/info/6/your_area.
2. *5 YEAR ENVIRONMENT PLAN FOR GREATER MANCHESTER. EXECUTIVE SUMMARY 2019-2024*. 2019, Greater Manchester Combined Authority.
3. Harris Rimmer, S., *Gender-smart Procurement Policies for Driving Change*. 2017.
4. Cheng, W.J., et al., *Green Public Procurement, missing concepts and future trends - A critical review*. *Journal of Cleaner Production*, 2018. **176**: p. 770-784.
5. Jackson, M., *Creating a good local economy through procurement. Presented to Procure Network partners and URBACT*. 2016.
6. Morley, A., *Procuring for change: An exploration of the innovation potential of sustainable food procurement*. *Journal of Cleaner Production*, 2021. **279**: p. 123410.
7. Sonnino, R., *Quality food, public procurement, and sustainable development: the school meal revolution in Rome*. *Environment and Planning a-Economy and Space*, 2009. **41**(2): p. 425-440.
8. Neto, B. and M. Gama Caldas, *The use of green criteria in the public procurement of food products and catering services: a review of EU schemes*. *Environment, Development and Sustainability*, 2018. **20**(5): p. 1905-1933.
9. Sonnino, R. and S. McWilliam, *Food waste, catering practices and public procurement: A case study of hospital food systems in Wales*. *Food policy*, 2011. **36**(6): p. 823-829.
10. Warrington, B., P. Smith, and A. Brett, *Recovering from Covid-19 & Tackling Inequality: Social Value & Public Procurement*. 2020, GMCA.
11. Dimpleby, H., *National Food Strategy, Independent Review, The Plan*. 2021.
12. Greater Manchester Combined Authority, *New economy: Greater Manchester Key Facts*. 2021 [31-Aug-2021]; Available from: https://www.greatermanchester-ca.gov.uk/media/1581/greater_manchester_key_facts_january_2016.pdf.
13. Gov.uk. *Get Information about Schools*. 27 Aug 2021; Available from: <https://www.get-information-schools.service.gov.uk/>.
14. UK Parliament Postnote No. 626., *A resilient UK food system*. 2021, The Parliamentary Office of Science and Technology: Westminster, London SW1A 0AA.
15. Balzaretto, C.M., et al., *Improving the overall sustainability of the school meal chain: the role of portion sizes*. *Eating and Weight Disorders - Studies on Anorexia, Bulimia and Obesity*, 2020. **25**(1): p. 107-116.
16. Finnish Ministry of Agriculture and Forestry., *Government report on food policy: Food2030: Finland feeds us and the world* 2016.
17. Willett, W., Rockstrom, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., Garnett, T., Tilman, D., DeClerck, F., Wood, A., Jonell, M., Clark, M., Gordon, L.J., Fanzo, J., Hawkes, C., Zurayk, R., Rivera, J.A., Vries, W.D., Sibanda, L.M., Afshin, A., Chaudhary, A., Herrero, M., Agustina, R., Branca, F., Lartey, A., Fan, S., Crona, B., Fox, E., Bignet, V., Troell, M., Lindahl, T., Singh, S., Cornell, S.E., Reddy, K.S., Narain, S., Nishtar, S., Murray, C.J.L., F., *Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems*. 2019, Lancet.
18. House of Commons: Environmental Food Rural Affairs Committee, *Public Sector Procurement of Food*. Sixth Report of Session 2019–21 Report, together with formal minutes relating to the report. 2021, House of Commons.
19. Sørensen, L.B., et al., *The effects of Nordic school meals on concentration and school performance in 8- to 11-year-old children in the OPUS School Meal Study: a cluster-randomised, controlled, cross-over trial*. *British Journal of Nutrition*, 2015. **113**(8): p. 1280-1291.

20. Feinstein, L., et al., *Dietary patterns related to attainment in school: the importance of early eating patterns*. Journal of Epidemiology & Community Health, 2008. **62**(8): p. 734-739.
21. Elliott, V. and B. Hore, 'Right nutrition, right values': the construction of food, youth and morality in the UK government 2010–2014. Cambridge Journal of Education, 2016. **46**(2): p. 177-193.
22. Public Health England, *Manchester Child Health Profile March 2017*. Childhood obesity 2017.
23. Public Health England, *Fruit and vegetable intake Boys and girls aged 11 - 18 years: National Diet and Nutrition Survey (2012/13 to 2013/14)*. 27-Aug-2021].
24. Cardiff University and University of West England, *Food For Life Partnership: Full Evaluation*. 2010.
25. Manchester City Council, *Manchester City Council Report for Resolution. Resources and Governance Scrutiny Committee – Withdrawal from school catering provider market*. 2020.
26. Greater Manchester Combined Authority GMCA: *Develop a local, GM-based and resilient supply chain*. 26-Aug-2021]; Available from: <https://greatermanchester-ca.gov.uk/what-we-do/economy/social-value-can-make-greater-manchester-a-better-place/develop-a-local-gm-based-and-resilient-supply-chain/>.
27. DEFRA. *Guidance Government Buying Standard for food and catering services*. 2021 24-Aug-2021].
28. Greater Manchester Combined Authority, *Greater Manchester Good Employment Charter*. 2019.
29. Food for Life Soil Association, *Food for Life Served Here*. 2021 25 Aug 2021]; Available from: <https://www.foodforlife.org.uk/about-us/food-for-life-served-here>.
30. Loader, K., *SME suppliers and the challenge of public procurement: Evidence revealed by a UK government online feedback facility*. Journal of Purchasing and Supply Management, 2015. **21**(2): p. 103-112.
31. Dynamic Food Procurement Advisory Board, *Dynamic Food Procurement* Available from: <https://www.dynamicfood.org>
32. Dynamic Food Procurement Advisory Board, *CASE STUDY FOR THE PROVISION OF SCHOOL FOOD IN BATH & NORTH EAST SOMERSET*. 2021.
33. Bidfood, *Sustainable Development Report 2020*. 2020.
34. The Kindling Trust., *Growing Manchester(s) Veg People*. 2012.
35. Hynes, J., *Project Proposal Food Procurement Hub*, T. Hayton, Editor. 2021.
36. SALSA. 26-Aug-2021]; Available from: <https://www.salsafood.co.uk>.
37. Cowell, B., *Foodservice and Procurement Adviser at NFU (National Farmers' Union)*. 2021.
38. Walton, S. and C. Hawkes, *What We Can Learn:A Review of Food Policy Innovations in Six Countries* 2020.
39. Lang, T., *Feeding Britain: Our Food Problems and How to Fix Them*. 2020: p. 464.
40. Jackson, M., *CREATING A GOOD LOCAL ECONOMY THROUGH PROCUREMENT*. 2016.
41. Nogueira-Mcrae, T., et al., *The Role of Urban Agriculture in a Secure, Healthy, and Sustainable Food System*. BioScience, 2018. **68**(10): p. 748-759.
42. Langemeyer, J., et al., *Urban agriculture — A necessary pathway towards urban resilience and global sustainability?* Landscape and Urban Planning, 2021. **210**: p. 104055.
43. Kobayashi-Solomon, E. 29-Aug-2021]; Available from: <https://www.forbes.com/sites/erikkobayashisolomon/2019/04/05/investing-in-vertical-farming-five-take-aways/>.
44. *Ocado invests £17m into new vertical farming joint-ventures*. Grocer, 2019: p. 7.
45. *McCain invests in vertical farming*. Today's farmer (Chatham), 2021.
46. Emiko, T., *Vertical farming start-up AeroFarms to list at \$1.2bn valuation in Spac deal*. FT.com, 2021.

47. Ralph Livesey Ltd, *English and Imported Calendar Guide* 28-Aug-2021]; page 12]. Available from: ralphlivesey.co.uk/documents/SeasonalityFruitandVeg.pdf.
48. Lloyd-Jones, J., *CEO and Founder at JONES FOOD COMPANY LIMITED*. 2021.
49. Organic Agriculture., *Committee on agriculture, Fifteenth Session, Item 8 of the Provisional Agenda*. 1999, Food and Agricultural Organisation of the United Nations: **Rome**.
50. Aktar, W., D. Sengupta, and A. Chowdhury, *Impact of pesticides use in agriculture: their benefits and hazards*. *Interdisciplinary Toxicology*, 2009. **2**(1): p. 1-12.
51. Pimentel, D., *Amounts of pesticides reaching target pests: Environmental impacts and ethics*. *Journal of Agricultural and Environmental Ethics*, 1995. **8**(1): p. 17-29.
52. Badgley, C., et al., *Organic agriculture and the global food supply*. *Renewable Agriculture and Food Systems*, 2007. **22**(2): p. 86-108.
53. Mikkelsen, B., et al., *Are green caterers more likely to serve healthy meals than non-green caterers? Results from a quantitative study in Danish worksite catering*. *Public Health Nutrition*, 2006. **9**(7): p. 846-850.
54. Jespersen, L.M., et al., *Contribution of organic farming to public goods in Denmark*. *Organic Agriculture*, 2017. **7**(3): p. 243-266.
55. Webb, J., et al., *Do foods imported into the UK have a greater environmental impact than the same foods produced within the UK? The International Journal of Life Cycle Assessment*, 2013. **18**(7): p. 1325-1343.
56. Lee, M.R.F., Mcauliffe, G.A., Tweed, J.K.S., Griffith, B.A., Morgan, S.A., Rivero, M.J., Harris, P., Takahashi, T., Cardenas, L., *Nutritional value of suckler beef from temperate pasture systems*. *Animal*, 2021. **15**(7): p. 100257.
57. Rossin-Slater, M., *Maternity and Family Leave Policy*. 2017, Working Paper.
58. UN Secretary General's High-Level Panel on Women's Economic Empowerment, Empowerment., *Leave No One Behind: A Call to Action for Gender Equality and Women's Economic Empowerment'*. 2016.
59. Johansson, E.-A., *The effect of own and spousal parental leave on earnings*. 2010.
60. Raworth, K., *Doughnut economics: seven ways to think like a 21st-century economist*. 2017.
61. *Cornwall Council: Doughnut economics in council decision making*. 27-Aug-2021]; Available from: <https://www.local.gov.uk/case-studies/cornwall-council-doughnut-economics>.