



SOUTH EAST
LOCAL ENTERPRISE
PARTNERSHIP

Rural Sector Working Group

Welcome



- Welcome and introductions – Chair, Graham Peters and Mario Caccamo, MD, NIAB/EMR
- Tour of site (45 mins) – brief overview of key projects – Ross Newham, Operations Director, NIAB/EMR
- Update: current position of the SELEP Strategic Economic Plan (SEP) – Georgina Button
- Overview of outcomes from previous meeting:
 - SELEP area recommendations for post-Brexit rural agenda – Stuart Gibbons
 - Good Food Growth Campaign – Stephanie Durling, Produced in Kent
 - Supporting Skills and Training – David Stokes, Plumpton College
- SELEP Sector Support Fund – application process/timescales – Stuart Gibbons
- Urban and Peri-Urban Agriculture – Simon Barnes, Industry Engagement, University of Kent
- AOB
- Date and venue of next meeting



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Strategic Economic Plan Refresh Update

Georgina Button
Strategy Manager



Outcomes from previous meeting

Recommendations for post-Brexit rural agenda

- Paper outlining main Brexit- related issues for SELEP to take account of
- Headline set of recommendations
- Clear strategic direction for rural agenda
- Include Natural and Social Capital issues
- Present main findings and recommendations





Good Food Growth Campaign

Proposal for discussion and endorsement

Food and drink sector an important element of the SELEP economy

Two main elements to the campaign:

- 1. Food and Drink Conferences** – one per county followed by LEP-wide event
 - Key speakers – focus on start-ups and business development, branding, product development, developing new markets, finding buyers and suppliers, etc.
 - Easy to access locations
 - B2B networking
 - Opportunity for producers/retailers to exhibit
 - Food champions
 - Use LEP-wide conference to share experience from previous events



2. 'Meet the Buyer' Business-to-Business events

- Shaped by outcomes from conferences
- Consult buyers/producers prior to event – identify barriers to successful supply chain both independent and multiple sectors
- Deliver bespoke half-day workshops to prepare producers for the event
- Deliver three half-day 'Meet the Buyer' events across SELEP area
- Lunchtime networking – local produce lunch
- Share feedback from events and monitor success. Launch as document at LEP-wide follow-up session 9-12 months later





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Supporting Skills and Training

Update from task and finish group



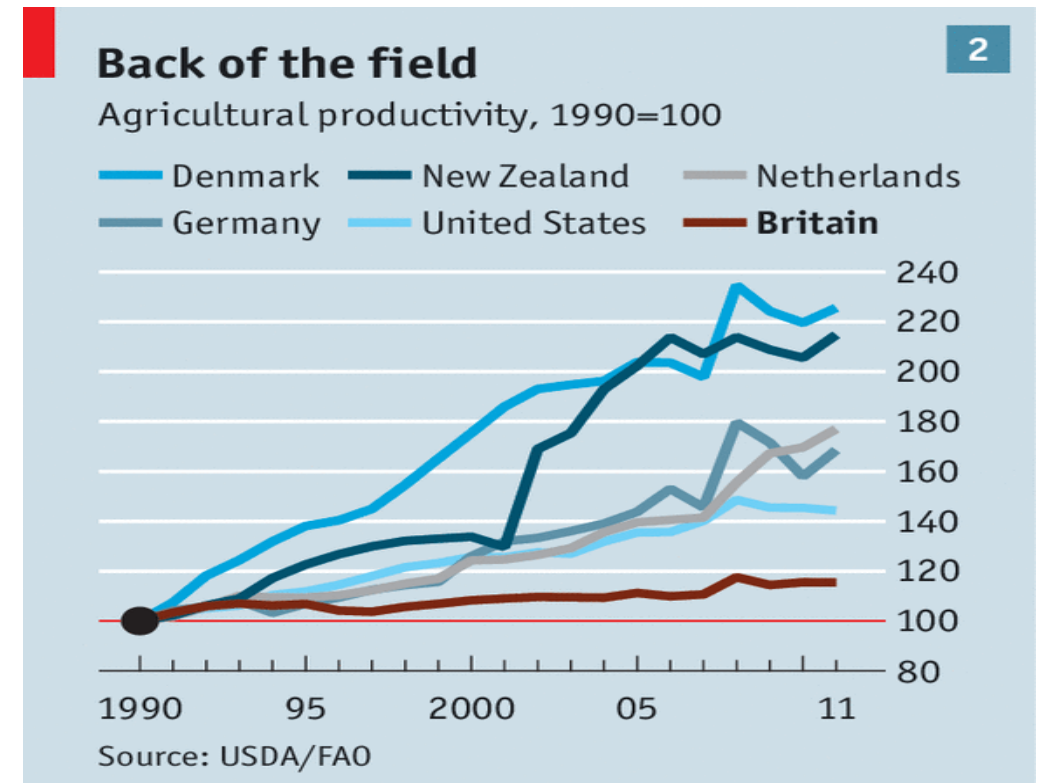
The University of Kent and Urban and Peri Urban Agriculture

Development of scale and opportunity



Background

- The UK Industrial Strategy is looking to address productivity and a number of key challenges - clean growth is one of those
- Sir Mark Walport (ex Chief scientist and now head of UKRI) wants to encourage a step change in innovation – away from business as usual
- The NFU has chosen Urban Farming as one of a series of progressive technologies to a step change in farming
- This paper summarises research in the discipline and outlines where further research is needed from a London and South East perspective



Economist.com

The Food and Drink Council

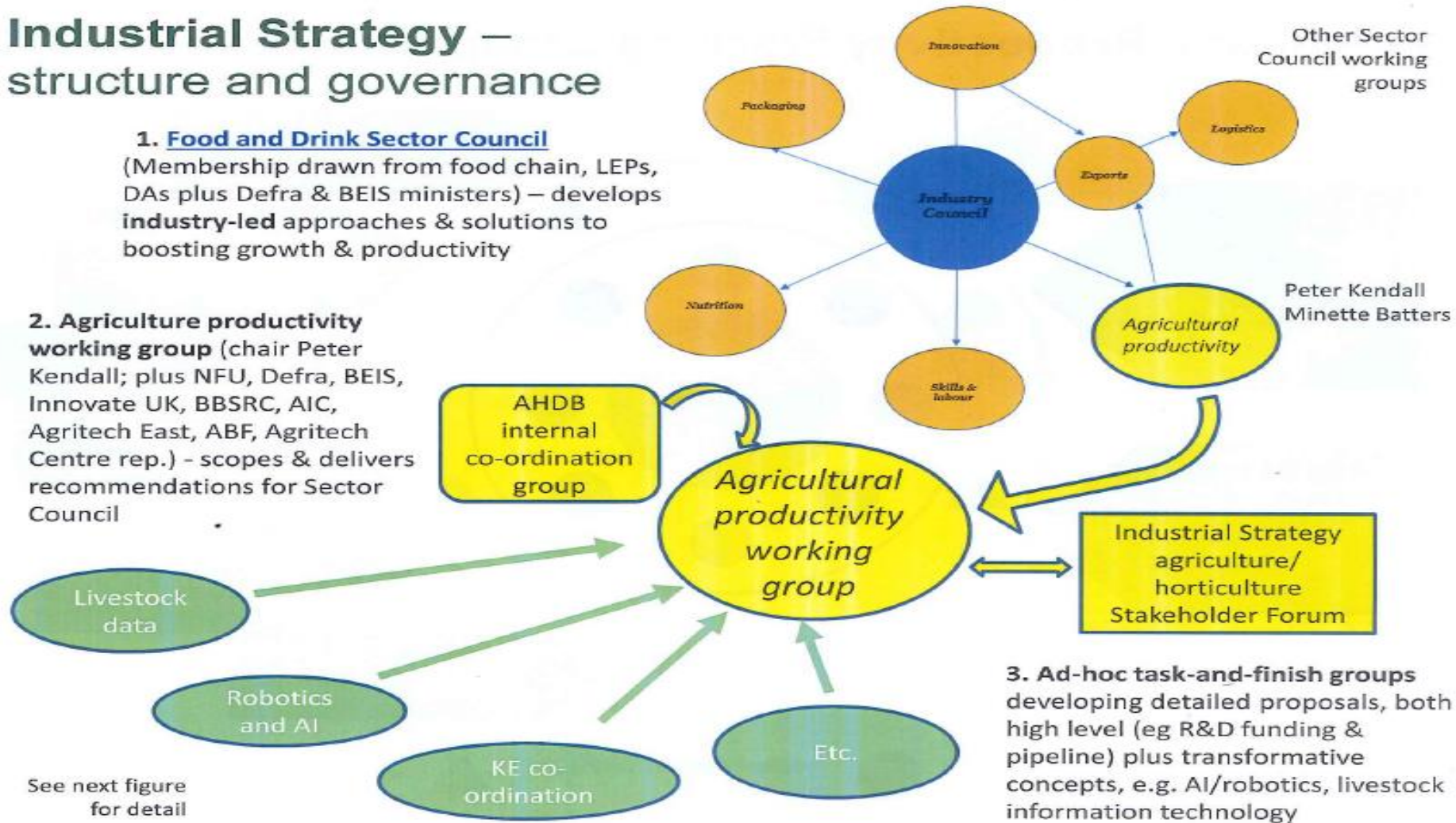
Industrial Strategy – structure and governance

1. Food and Drink Sector Council

(Membership drawn from food chain, LEPs, DAs plus Defra & BEIS ministers) – develops industry-led approaches & solutions to boosting growth & productivity

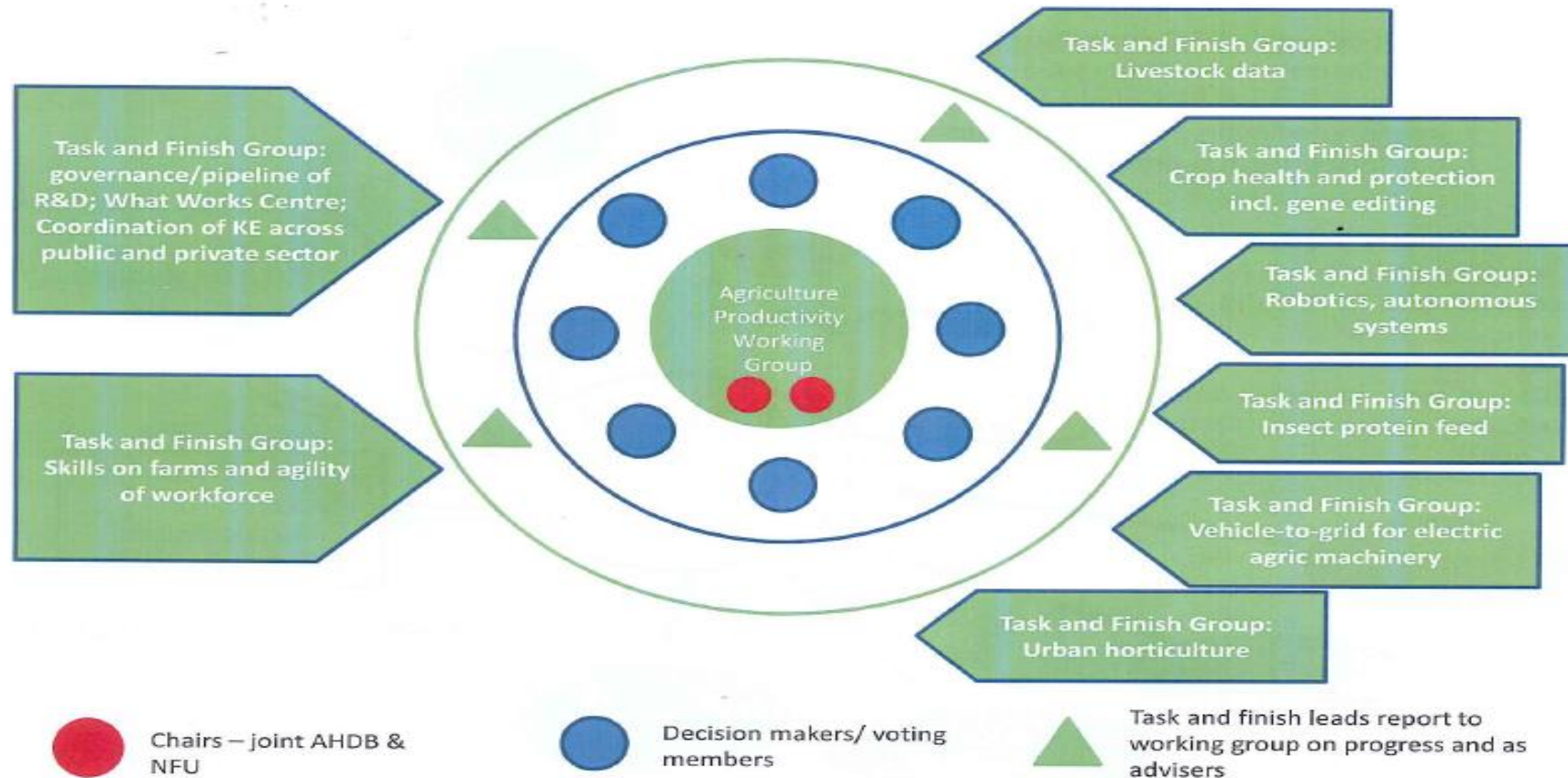
2. Agriculture productivity working group

(chair Peter Kendall; plus NFU, Defra, BEIS, Innovate UK, BBSRC, AIC, Agritech East, ABF, Agritech Centre rep.) - scopes & delivers recommendations for Sector Council



Productivity

Agricultural Productivity Working Group Structure



Examples of advantages of Urban and Peri Urban Agriculture (UPA)

- Growing food indoors uses 98% less water and 70% less fertilizer than traditional methods, and has a higher yield, according to the Association for Vertical Farming Source Tech entrepreneurs set their sights on urban farming, Guardian July 2014
- About 40% of the cost of food is associated with transportation. Adam Johnston, a high-tech farmer at PodPonics Source Tech entrepreneurs set their sights on urban farming, Guardian July 2014
- The energy use is higher for vertical farms than conventionally grown vegetables and herbs, but other resources i.e. water, nutrients, arable land and pesticide use are reduced. Vertical farming is an opportunity to grow crops in urban environments and thereby support the local community with jobs and strengthen food supply. Source Reviewing the energy and environmental performance of vertical farming systems in urban environments, Elvira Molin and Michael Martin, IVL Swedish Environmental Research Institute, 2018
- One Japanese farm comprises 25,000 square meters producing 10,000 heads of lettuce per day (100 times more per square foot than traditional methods) with 40% less energy, 80% less food waste, and 99% less water usage than outdoor fields (Kohlstedt 2015 Kohlstedt, K. 2015. "World's Largest Indoor Farm is 100 Times More Productive." The Web Urbanist. Accessed 24 October 2016.

Opportunities for the Region

- A sense there is a real opportunity for the University of Kent and others to offer a breadth and depth of research and innovation in this topic
- Supported by closeness to market, in a region with a strong representation in horticulture – to develop into urban horticulture
- An understanding of science and economics from a wide sustainability perspective
- Harper Adams, Nottingham, Sussex are all undertaking research on this subject, but it lacks depth, scale, a supply chain perspective and a closeness to the market, in our case London
- Urban farming – indoor – potentially modular is a potential direction – this though needs more research

Contents - Factors for innovation in UPA (1)

The need:

A. Environmental and social benefits of UPA – breaking the link between urbanisation and environmental degradation

- Climate change
- Air quality
- Water

B. The opportunity now for UPA

- Lower cost of technology – taking advantage of technology
- Maximising the benefits of lower resources – chemicals and water

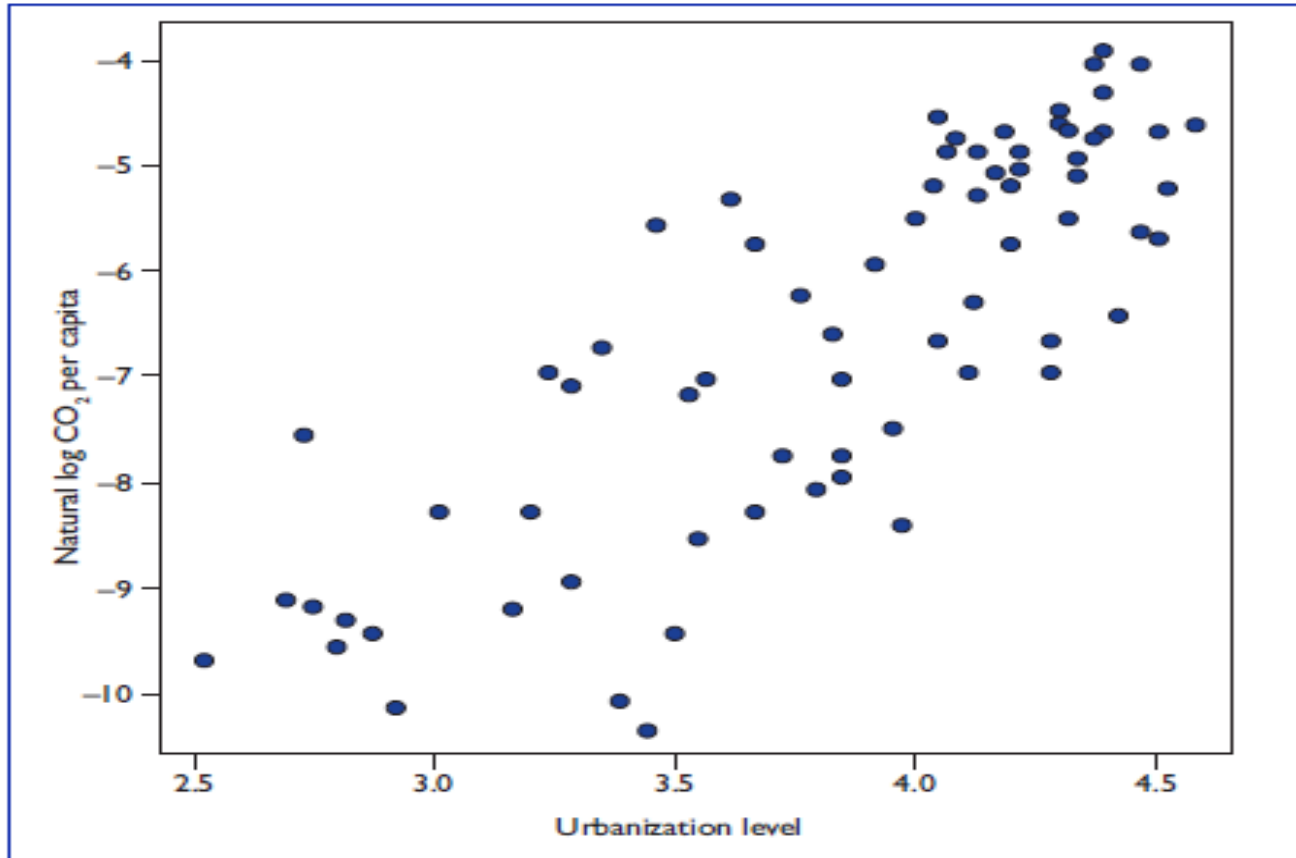
Contents - Factors for innovation in UPA (2)

C. The challenges of UPA – further research needed:

- Designing urban and peri-urban to combine with the best of (UK) agriculture
- Land cost and availability – overcoming pressure for housing and infrastructure
- Development of supply chains – sufficiently flexible, mature, not retailer dominated
- Planning pressure and regulations – creating the right environment for urban farming – as well as public perception

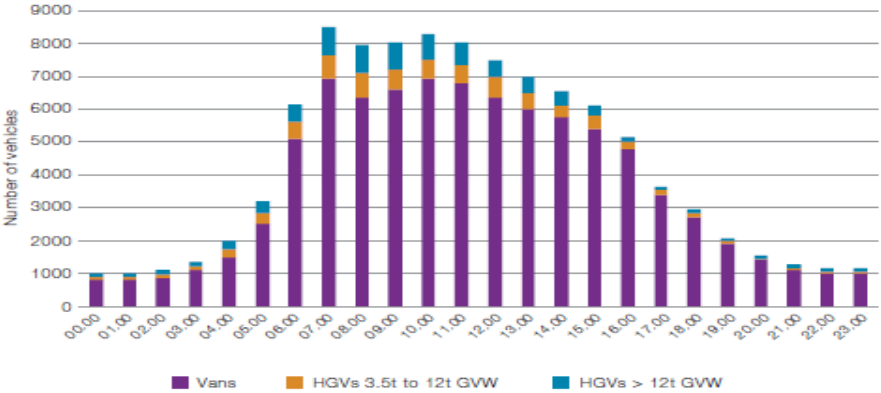
D. The Project – opportunity, scope, size and challenges for the University

A. The need for innovation – breaking the Link between urbanisation and CO2 emissions



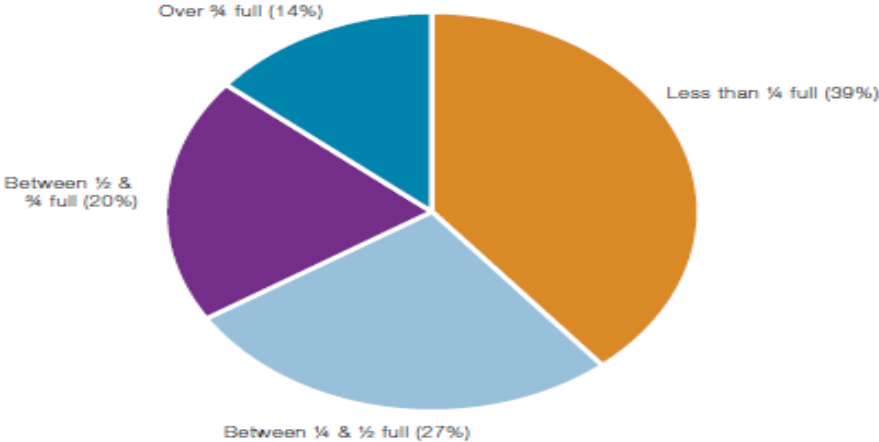
Relationships between urbanisation levels and Co2 emissions per capita Source Romero, Lankao et al 2008

A. The need - the impact of the growth of online on urban roads – grocery deliveries can feed urban congestion



Source: TfL (2016d)

Figure 5.1: Van utilisation in London



Source: TfL (2011: 5, Figure 6)

Vans account for a high percentage of traffic on London’s roads, much more than Heavy Goods Vehicles. Not all are on line deliveries but vans are the fastest growing sector of traffic.

They will account for 22% of all traffic in London by 2035, growing at between 3% and 6% year on year.

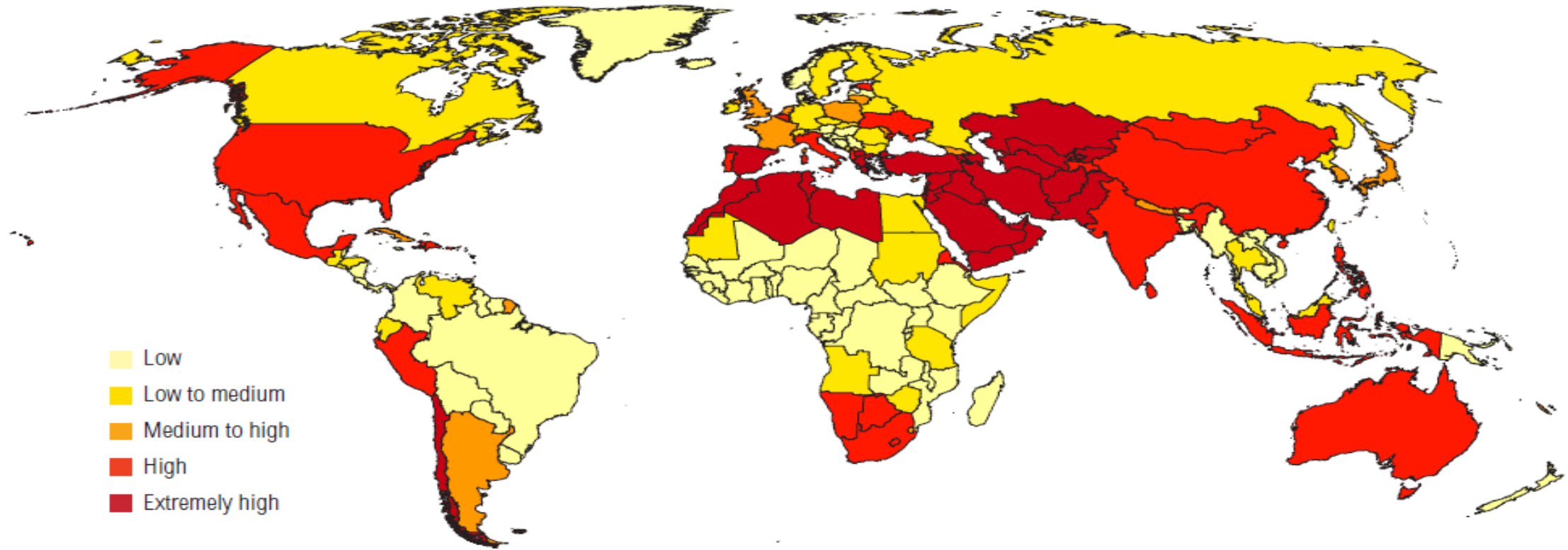
66% of vans in London are less than half full

96% of vans in London are currently diesel powered

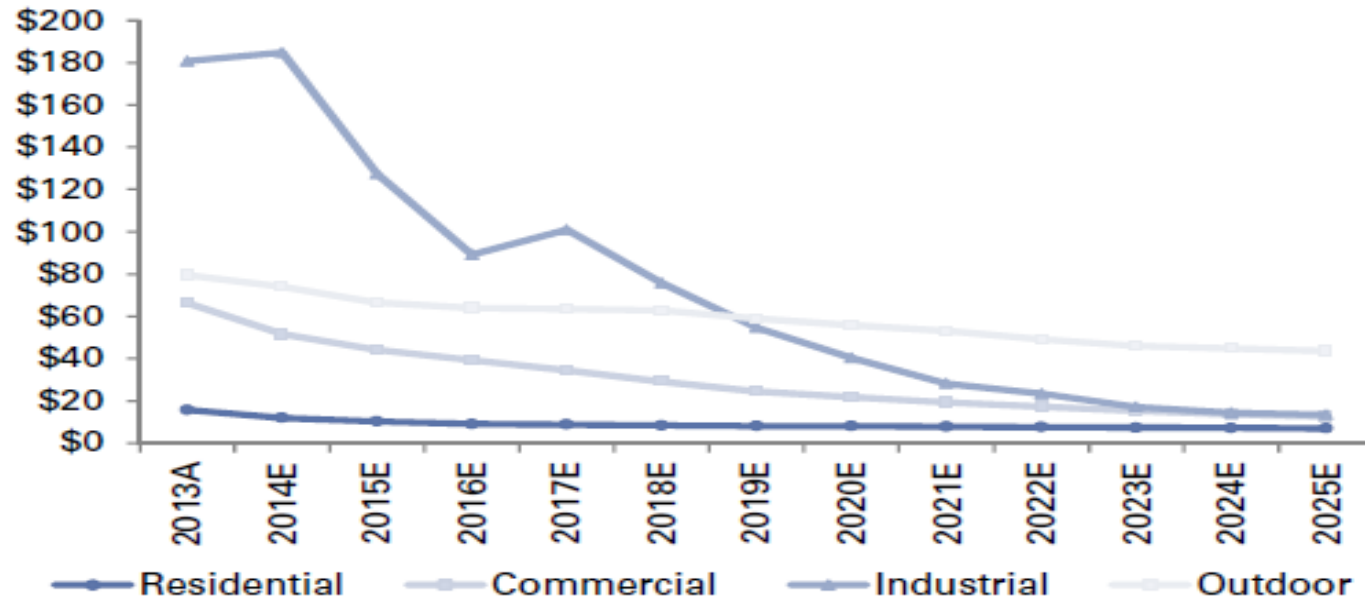
Source: The Implications of the Growth Internet Shopping on the Van Fleet and Traffic Activity RAC Foundation 2016

A. The need for less water intensive agricultural production - Water Stress

Figure 2 | Country-Level Water Stress in 2040 under the Business-As-Usual Scenario



B. The opportunity - the forecast cost of LED lighting



Source: Goldman Sachs Global investment Research.

Industrial LED lighting is seeing the biggest decline – the decline an improvement in technology supports indoor urban farming

B. Potential benefits of Urban Farming - Australia

- Improved productivity
- Reduced cost base for fertilizers, herbicides, and pesticides
- No losses due to floods, droughts or sun damage
- Reduced transportation costs
- No requirement for farm-rolling stock
- Production can be programmed to match demand because no seasonality issues
- Export potential of clean, green, and food
- No soil is required if hydroponics is used
- Reduces fossil fuel use by employing renewable energy sources
- Reduction in carbon levels
- Rejuvenation of the ecosystem
- Environmental sustainability
- Provides employment in regional areas
- Addresses social isolation in remote rural communities by providing jobs in towns
- Increases demand for trade workers in construction, renovation, and ongoing maintenance
- Provides new jobs in engineering, biochemistry, biotechnology, construction and maintenance, and research and development
- Encourages a more holistic lifestyle where apartments and food production are localized and therefore reduces need for vehicles and transport

B. Benefits of Urban Agriculture - Japan

- New conceptual approaches
- Increased interest of urban residents in agriculture
- Green economy: urban agriculture for sustainable consumption–production networks
- Innovative finance mechanisms: payment for urban ecosystem services and biodiversity
- Urban regeneration and political momentum for urban agriculture
- Green innovation

Source United Nations University website accessed 24th May

C. Challenges to Urban Farming - Japan

Definition and, hence, its regulation. In Japan, urban agriculture falls under the MAFF, which is in charge of policies concerning agriculture, and the Ministry of Land, Infrastructure, Transportation and Tourism (MLITT), which deals with urban planning. This, in turn, results in policy challenges at the ground level, often aggravated by regional and local regulation.

Aging of farmers — Important challenges for urban agriculture also arise from the national demographics. The average age of most people practicing agriculture in Japanese cities, as is also the case in rural areas, is rapidly rising.

Tax barriers — For the most part, maintaining productive farmland in the urban areas of Japan poses an economic burden for landowners, who face significantly high taxes such as the so-called inheritance tax.

Commercialization — For urban agriculture to thrive in Japanese cities, bringing consumption of local, eco-friendly products from its current niche market into a mainstream one remains a challenge.

Productivity shift — For urban farming to make a significant contribution to sustainability and local well-being, it needs to transition to a fully systemic, ecological approach so as to sustain production over time without compromising urban biodiversity and other local ecosystem services.

C. Designing urban and peri-urban to combine with the best of UK agriculture

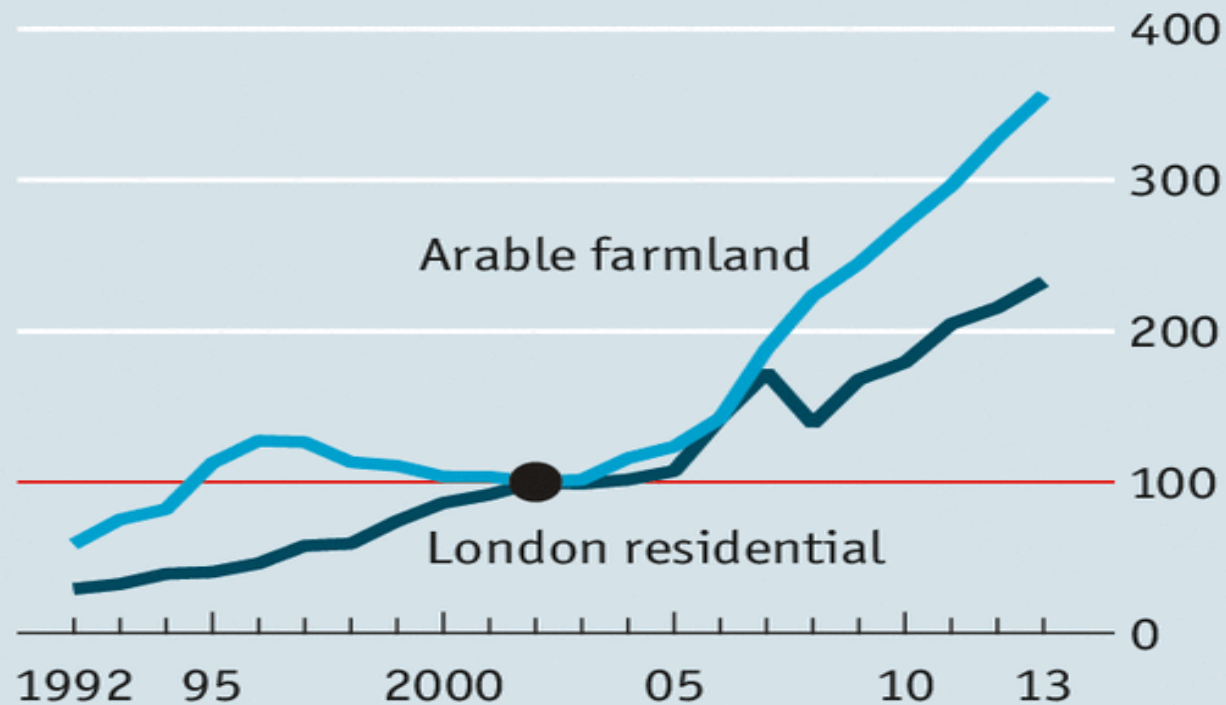
We need to research into the design and development of the best urban agriculture using Kent-based knowledge of emerging agritech

“Traditional economics will tell you that as a society develops into a service and knowledge economy, agriculture is the first thing to go. Not so. The most important thing is for traditional agriculture to regenerate as urban agriculture through its integration with the urban. When this happens, the logistics associated with producing food for health and fashion and plants for fashion, which is where the demand exists, also contributes to a knowledge industry.”

C. Land cost and availability – pressure for housing and infrastructure

Pricey digs

Prime land prices, 2002=100

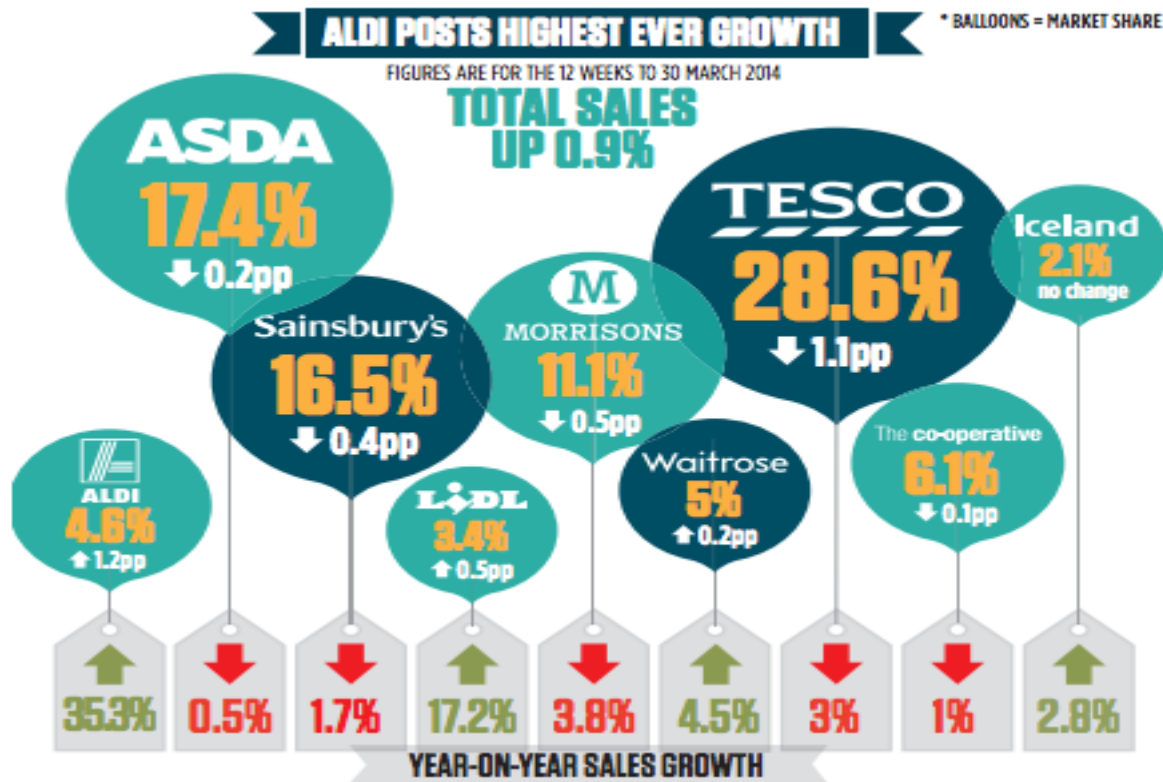


Source: Savills World Research

The value of land (or cost) is increasing – this should drive increased productivity?

We need to understand the impact of this land value on the potential for urban farming in the UK

C. Development of supply chains – sufficiently flexible and mature



We need to understand how urban agriculture will fit with the UK supply chain – to maximise the sustainability impact

C. Planning pressure and regulations – creating the right environment

In the New London Plan December 2017 the words 'farm' and 'agriculture' appear once in a 525 page document.

We need to address London's need for Urban Farming

At a more macro scale, providing land for food growing helps to support farming and agriculture. Providing food closer to source helps to create a sustainable food network for the city, supports the local economy, and reduces the need to transport food, thereby reducing transport emissions and helping to address climate change. There are also longer term biodiversity benefits, and farmers adopting agri-environmental stewardship schemes are more likely to deliver good environmental practice. For all food growing, consideration should be given to the historic use of the land and any potential contamination.

Source the London Plan 2017

Proposed Key Performance Indicators for the success of Urban Farming - Australia

- 1 Start-up costs
- 2 Energy consumption
- 3 Number of crop types
- 4 Production volume
- 5 Scaling-up issues
- 6 Venture capital
- 7 Skilled workforce for maintenance
- 8 Disruption to the rural sector
- 9 Transport savings
- 10 Clean, green and gourmet food

Source: Future food-production systems: vertical farming and controlled-environment agriculture, Kurt Benke ORCID Icon & Bruce Tomkins, November 2017, School of Engineering, University of Melbourne, Parkville, Victoria, Australia; Department of Economic Development, Jobs, Transport, and Resources (DEDJTR), State Government of Victoria, AgriBio Centre, Bundoora, Victoria, Australia

D. The Opportunity

- For the University (with partners) to lead or and or develop a roadmap and plan for the development of UPA in the UK
- To the UoK to be seen as innovative and collaborative in the Food and Agriculture sector – that could lead to other opportunities
- To garner the support of the LEP and other strategic players
- To drive research and potential teaching programmes in the University
- To ultimately secure international recognition for our work

D. The Scope

Project streams or swimlanes might include:

1. The business case for UPA – location, size and format of urban farming, export and licensing potential
2. The technology – optimising the use of LED and sensing technology to maximise output and minimise use of resources
3. The plants themselves – best varieties – new varieties
4. Developing the supply chain – nursey for plants, growing, cropping, packaging
5. Wholesale and retail models
6. Regulation and licensing

D. The size and challenges of the project

- We should be ambitious - Other similar Industrial Strategy projects in other sectors will have attracted funding in £'s millions
- We will require match funding streams – largely from the engagement of commercial business – who are these?
- Who should our partners be?
- If we go ahead who should be the Champion of the project in the University? – this will require a time commitment

THE UK'S EUROPEAN UNIVERSITY

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NIAB/EMR presented an overview of their project for which they're making a bid to the 'Strength in Places Fund'. EOI deadline is 25 July.

Post Brexit rural recommendations for SELEP workstream

Stuart Gibbons presented the proposal for a piece of consultancy work to establish SELEP's rural priorities during the Brexit transition period and beyond. It was suggested that there may be links with the UK Prosperity Fund and that these should be taken into account. The group endorsed the proposal and agreed its inclusion in the application to SELEP's Sector Support Fund.

Good Food Growth Campaign workstream

Stephanie Durling presented the proposal for the Good Growth Food Campaign. Comments included the suggestion that a form of 'Meet the Buyer speed dating' could be included as part of the programme. The group endorsed the proposal.

Rural Skills workstream

David Stokes was unable to attend the meeting and Stuart Gibbons presented the draft proposal for the Skills and Training agenda. Due to workloads of those on the task and finish group it has not been progressed as far as we would have liked but the group endorsed it as a draft and agreed that it should be developed further as a full proposal. Sarah Nurden suggested we should link with one of her board members on KMEB who is heavily involved in the skills and training agenda. Dave Hughes said it is important to promote the rural sector as a positive career choice.

Next steps

The next step is for Stuart Gibbons to draw together the three proposals and support the application process to the Sector Support Fund.

Stuart is attending a SELEP Sector Support Funding Workshop on the 1st August.

The deadline for the Expression of Interest is 10 August.

Urban and Peri-urban agriculture

Simon Barnes from the University of Kent at Canterbury gave a presentation on Urban and Peri-urban Agriculture which generated a range of questions and discussion including the impact of disruptive technology, opportunities for collaborative working and increasing levels of automation. It was noted that the New Anglia LEP had strongly driven forward the agri-tech agenda. Is this something that SELEP should do? Graham Peters (Chairman) indicated that there has been no pressure from rural partners to do so and that we already have a 5 year Rural Strategy which highlights the importance of the agri-tech agenda.

Date of next meeting TBC – likely to be in September.

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