Imperial College London

Driving a Positive, Regenerative Future

An Analysis of Green Swan Market Shifts and their Opportunities for Exponential Impact

26TH FEBRUARY 2021

Imperial College London

Cities

Imperial College London

Food

Agenda

Part 1: Tasks & Method

- Objectives
- Methodology
- Task One, Two & Three

Part 2: Findings

- Green Swan 1
- Green Swan 2
- Commonalities

Part 3: Conclusions

- What does this mean for the future of cities & food?

Part 1:

Tasks & Method

Objectives

Imperial College London

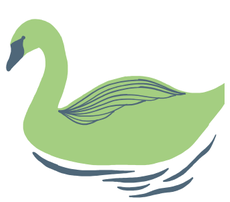
Green Swan Observatory

to demonstrate what a regenerative future could look like and consider what is already happening today that could get us there.

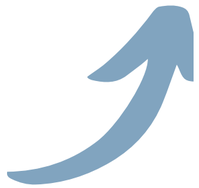
The Team @ ICL

to identify and analyse Green Swan (GS) market shifts that can deliver exponential impact across economic, social and environmental parameters by 2030

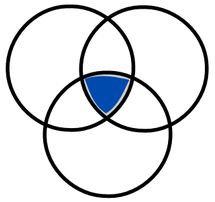
Methodology



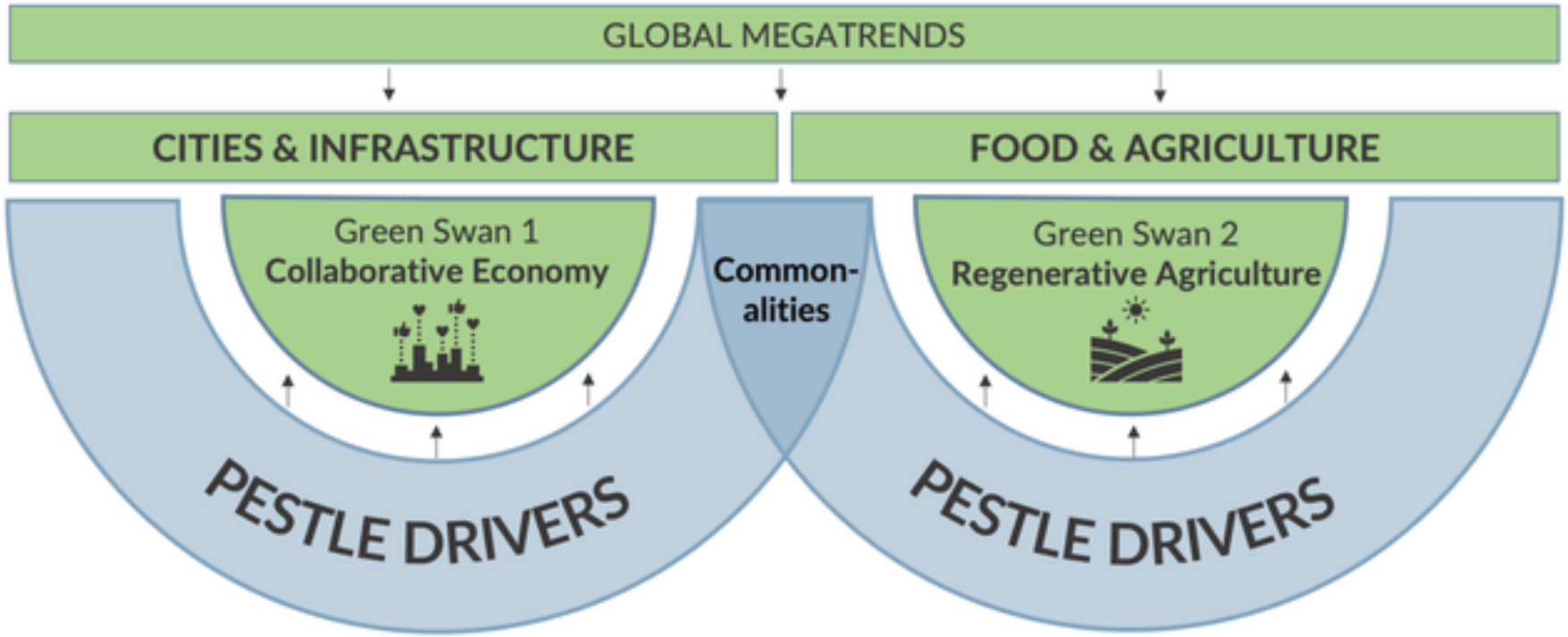
Task One:
Identify GS market shifts



Task Two:
Analyse key drivers

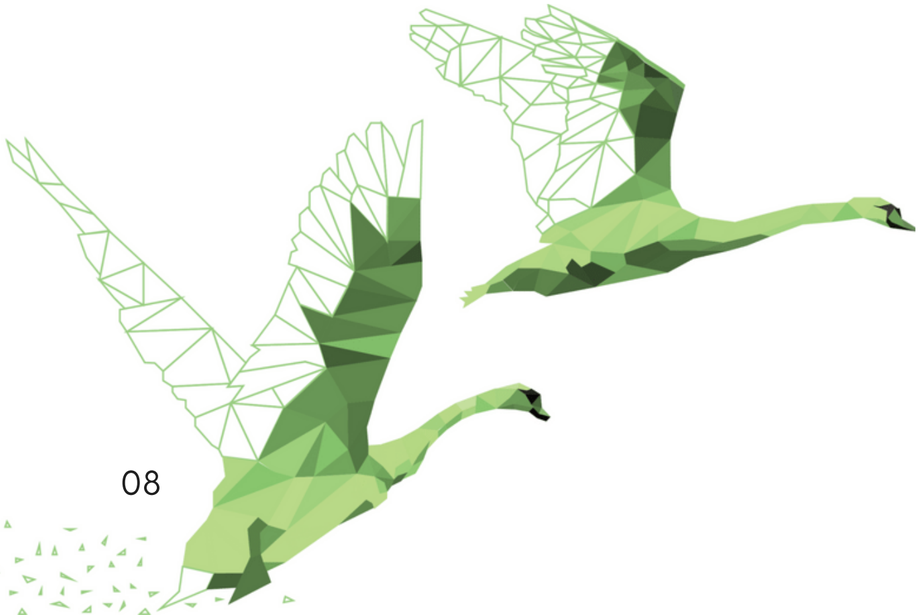


Task Three:
Identify Commonalities



Task One

Identify GS market shifts



1. Initial Research
2. Identification of GS market shifts in two areas
3. Evaluation of GS market shifts

- Research into areas and related current issues, global megatrends, future reports
- Gathering initial GS ideas

- Focus: Cities and Infrastructure, and Food and Agriculture.
- Four GS market shifts per area

- Evaluation method developed to score and select the most promising GS market shifts

Evaluation of GS market shifts

Step 1. Determining evaluation criteria and their relative importance

	CRITERIA
1	**Exponential Impact by 2030**
2	**Regenerative**
3	**Economic Impact**
4	**Environmental Impact**
5	**Social Impact**
6	**Ability to Excite**
7	**Likelihood of happening**

Step 2. Scoring the GS market shifts according to the criteria

- **Likert scale**

  Strongly agree (5) Moderately agree (4) Neutral (3) Moderately disagree (2) Strongly disagree (1)

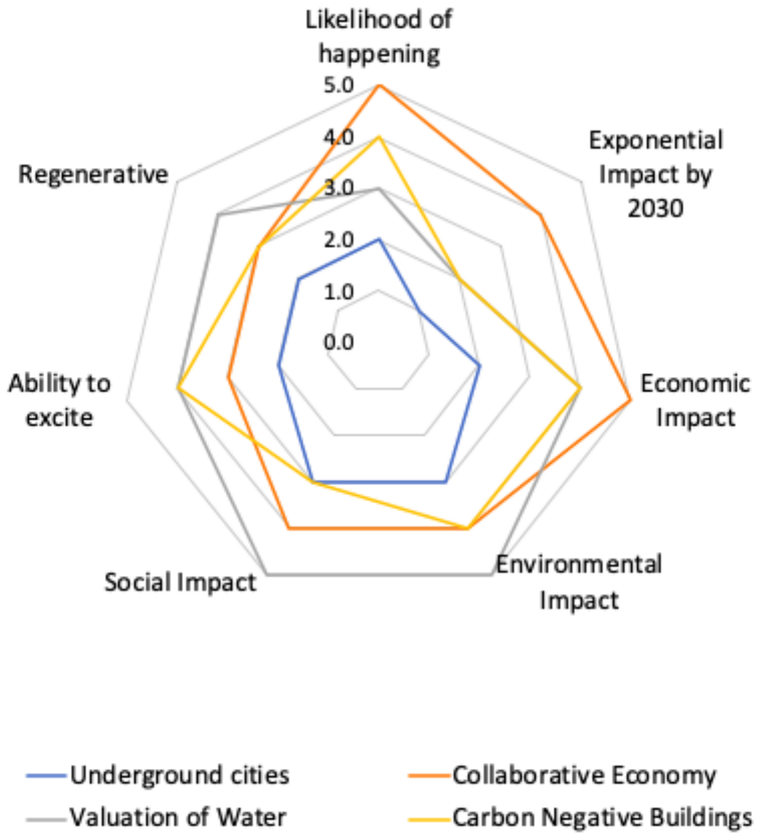
- **Estimate-talk-estimate technique** (Similar to Delphi method)

- Calculation of **Median Score**

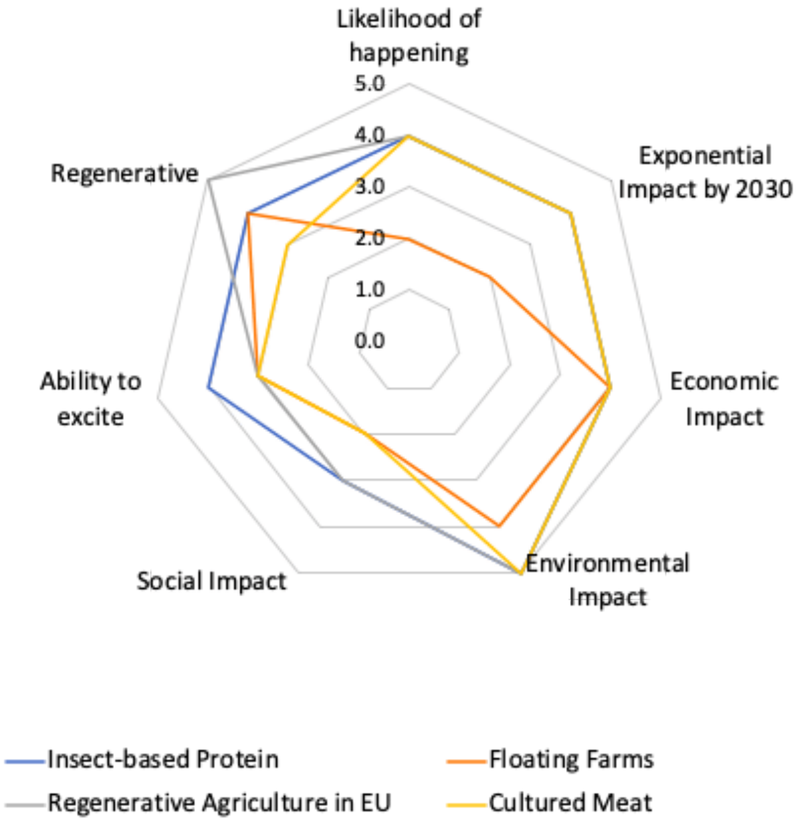
Evaluation of GS market shifts

Step 3. Radar Plots

Cities and Infrastructure

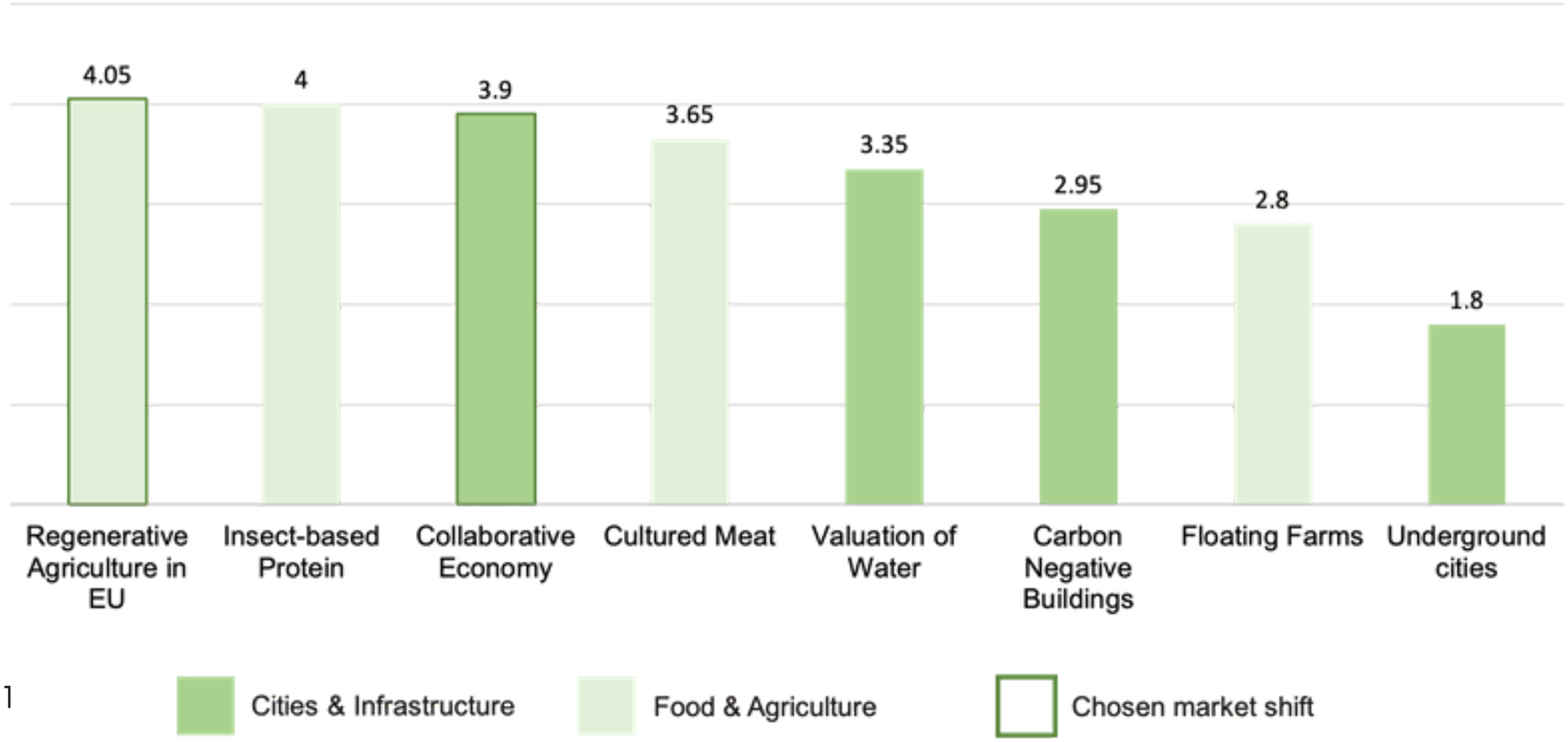


Food and Agriculture



Evaluation of GS market shifts

Step 4. Selection based on Weighted Average Calculation

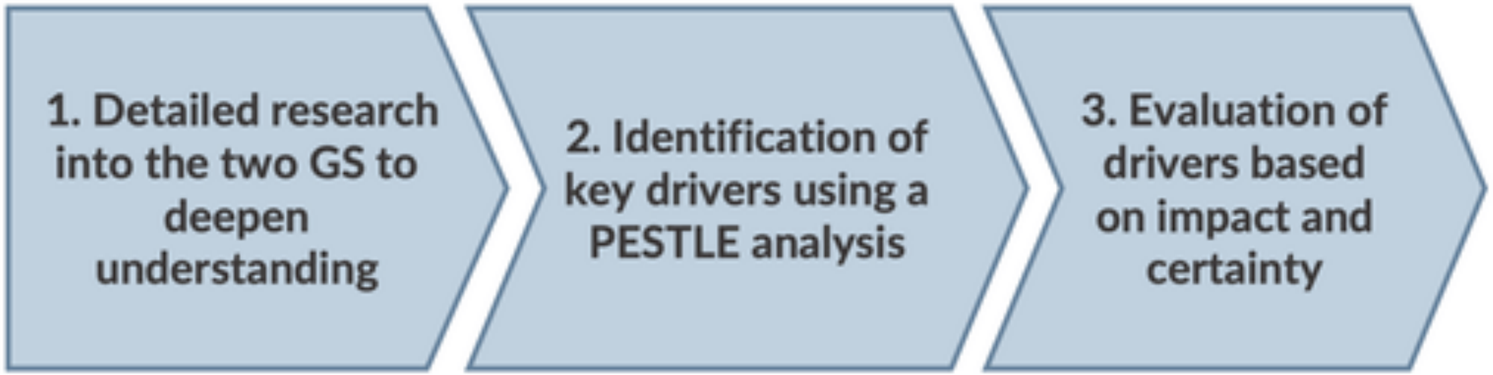


1. Collaborative Economy

2. Regenerative Agriculture

Task Two

Identify and analyse key drivers



- Desk-based research into conditions, key barriers, key impacts, factors driving the change

- **P**olitical
- **E**conomic
- **S**ocial
- **T**echnological
- **L**egal
- **E**nvironmental

- Analysis of impact and certainty of factors for driving exponential change.

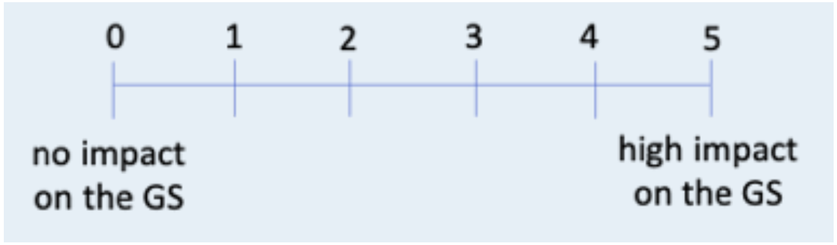
Evaluation of drivers

Step 1. Determining criteria

Impact
A powerful effect that the driver has on the GS

Certainty
Likelihood of the driver happening by 2030

Step 2. Scoring the drivers

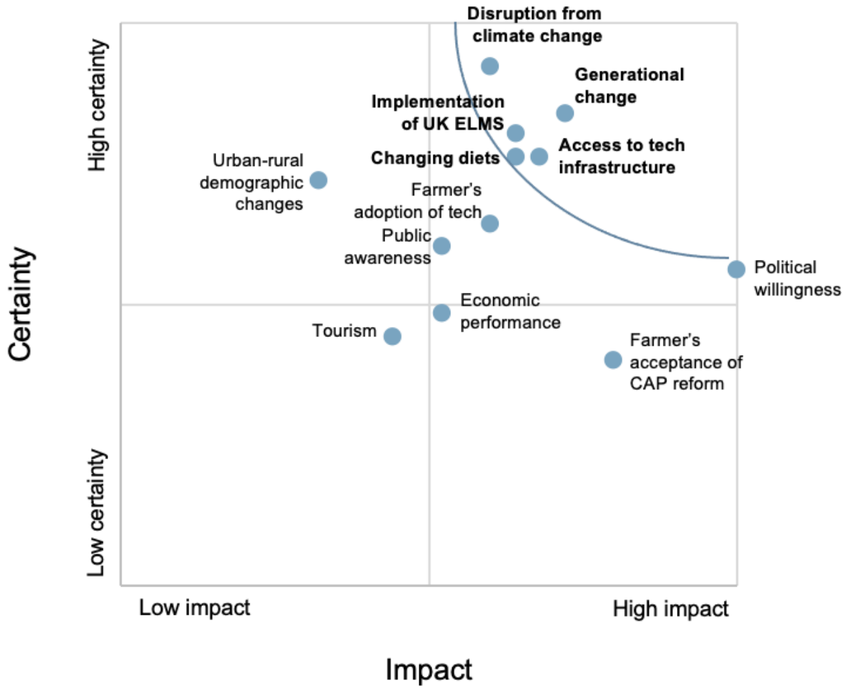


Evaluation of drivers

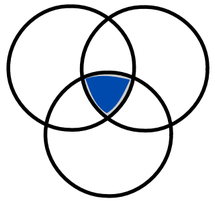
Step 3. The impact-certainty matrix and the selection of key drivers

Collaborative Economy

Regenerative Agriculture



Task Three



Identify commonalities

1. Identification of commonalities
2. Further research into the common drivers
3. Understanding of specific areas within the common drivers that power both GS

- Review of key drivers for each GS and identified the commonalities.
- Desk-based research to understand what was required for each driver to exponentially impact each GS.
- Identification of overlap in GS to understand drivers, commonalities and how these can power the GS market shifts.

Part 2:

Findings

Collaborative Economy

Overview

- Away from **individual consumerism**
- Increased use of resources extending life cycles
- Addressing cities **overconsumption** and **waste issues**

Ugly Duckling (governmental)
- Seoul Sharing City

Ugly Duckling (business)
- Intermediary sharing platforms

How is it Regenerative?

- Utilisation of idle capacity
- Increased use value
- Reduced demand for resources
- Entrepreneurial opportunities
- Chance for businesses to **rethink**

Key Drivers

1. Funding
2. Economic Crisis
3. Generation Change
4. Availability of Technology
5. Appropriate Legal Framework

I do not need a drill.
I need a hole in the wall

Impacts

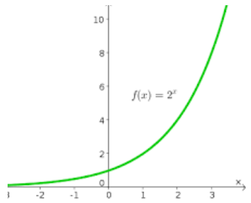
Environmental - reduces demand for the earth's natural resources

Social - community engagement, trust and access to services

Economic - provides economic wealth, more flexible employment options and entrepreneurial opportunities

The following SDGs will be **positively** impacted

Exponential by 2030



- The technology available, operating at scale and rapidly improving (shown by table)

CE Recommendations

1. Legal framework
2. The private and public sector funding
3. Greater access to technology

Collaborative Economy

Regenerative Agriculture in the EU

Overview

- The Common Agricultural Policy - a €58bn(!) budget in 2020
- Soil and water quality poor, huge fertiliser and pesticide use, wildlife marginalised
- UK ELM Scheme - pay farmers for environmental goods
- If it can happen in the UK, could it work in the EU?

Ugly Duckling (small scale)
- UK ELMS

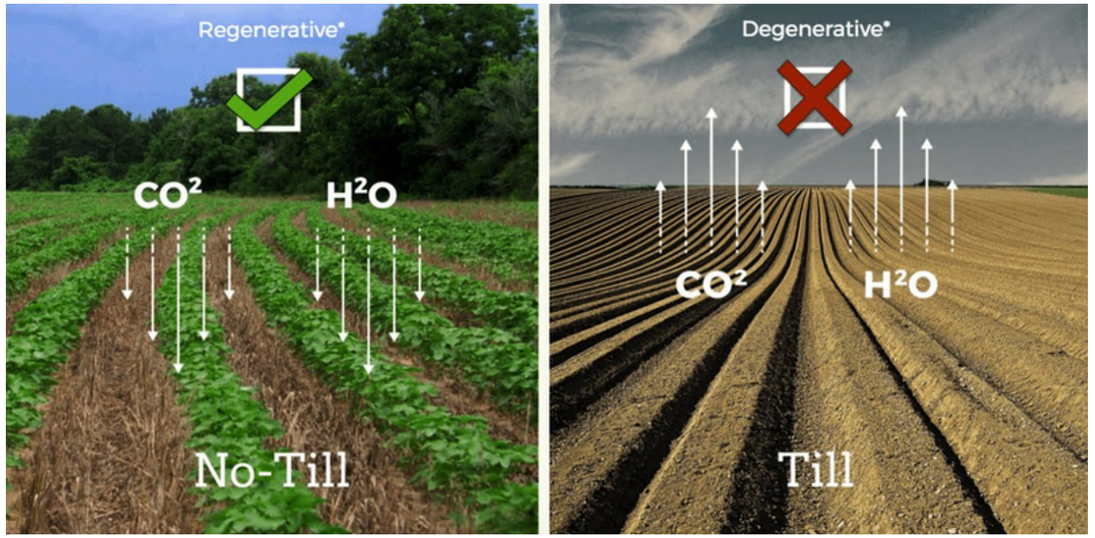
Ugly Duckling (supra-national)
- CAP

How is it Regenerative?

Farmers not paid to grow food; instead paid to:

- Mitigate climate change
- Improve soil and water quality
- Restore wildlife habitat

Convert 20% of farmland to wildlife habitat - 34m hectares of land (an area the size of Germany!)



Key Drivers

1. Implementation of UK ELM Scheme
2. Access to Technology Infrastructure
3. Increased disruption from Climate Change
4. Changing Diets
5. Generational Change

Impacts

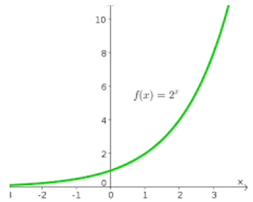
Environmental - target them via subsidy payments (50% reduction in GHG emissions from agriculture, 25% reduction in water use, etc.)

Social - tie into increasing environmental awareness

Economic - technology reduces cost of production, plus additional income from tourism (USD10bn p.a. and 5 million jobs)

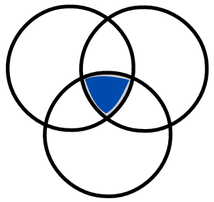
The following SDGs will be **positively** impacted

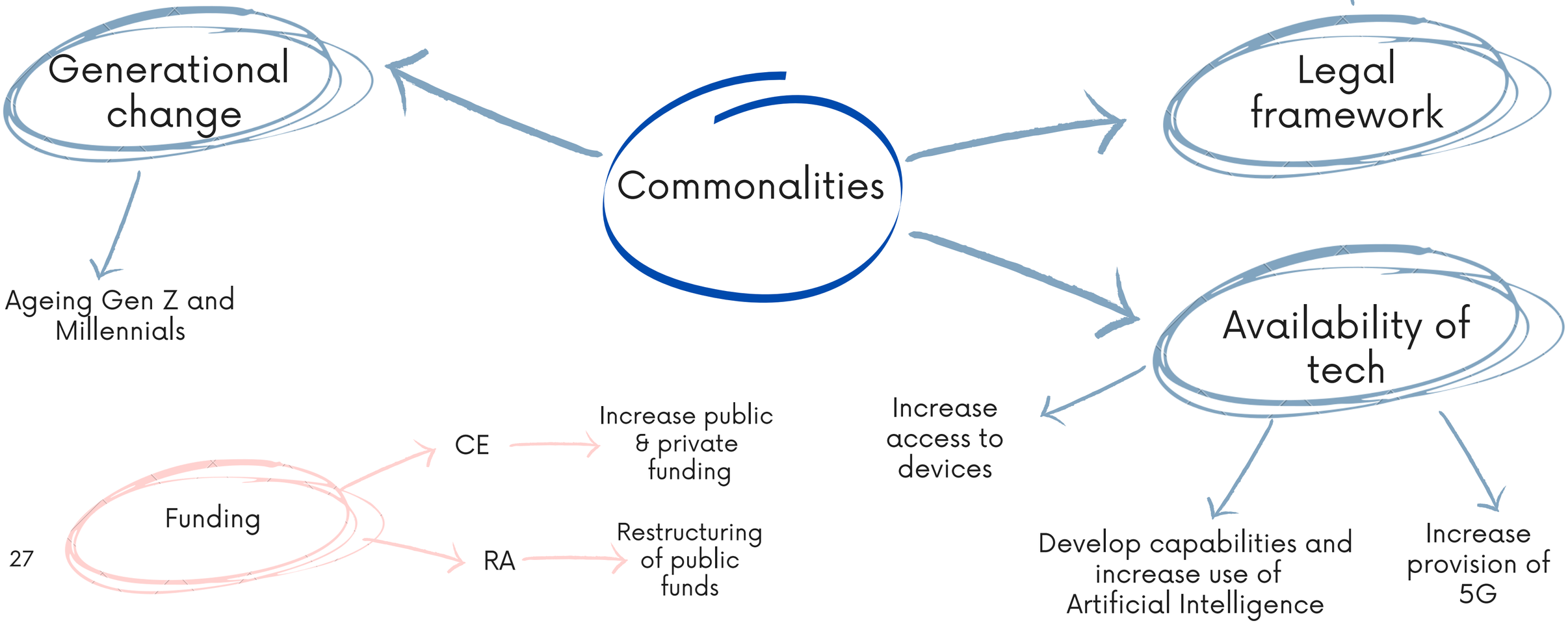
Exponential by 2030



- **ELM Scheme** fully implemented
- **Technology** will drive efficiency in regen techniques
- **Generational Change -** new agricultural practices and changing public perceptions towards agriculture
- EU legislation such as **Green New Deal** will make CAP reform imperative
- Make the **polices** and **subsidies** as straightforward as possible

Commonalities





Part 3:

Conclusions

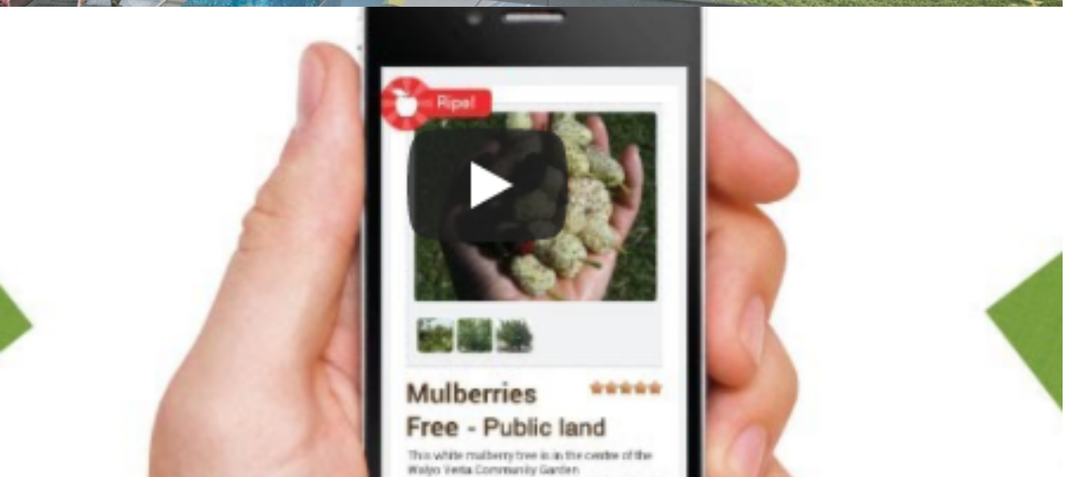
What does this mean?

A different future for

- Cities
- Agriculture

A paradigm shift of

- the way we consume
- the way we grow our food



A more sustainable model of consumption

A fundamental change in social attitudes toward a sustainable model of consumption

- Environmentally friendly consumer choices
- Focus away from product and ownership toward servitisation, cooperation and experience

A more sustainable food system

A fundamental change in the way we view and relate to agriculture, land and the wildlife

- Agricultural governance
- Preservation of natural habitats
- Human re-connection with nature

Thank you!

Any questions?

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