



City Research Online

City, University of London Institutional Repository

Citation: Reynolds, C. (2025). Finding Coherent Actions to Support Food Waste Reductions. Paper presented at the Sixth Future Food Symposium, the University of Birmingham,, 21-22 May 2025, Birmingham, UK.

This is the presentation version of the paper.

This version of the publication may differ from the final published version.

Permanent repository link: <https://openaccess.city.ac.uk/id/eprint/35228/>

Link to published version:

Copyright: City Research Online aims to make research outputs of City, University of London available to a wider audience. Copyright and Moral Rights remain with the author(s) and/or copyright holders. URLs from City Research Online may be freely distributed and linked to.

Reuse: Copies of full items can be used for personal research or study, educational, or not-for-profit purposes without prior permission or charge. Provided that the authors, title and full bibliographic details are credited, a hyperlink and/or URL is given for the original metadata page and the content is not changed in any way.

Finding Coherent Actions to Support Food Waste Reductions

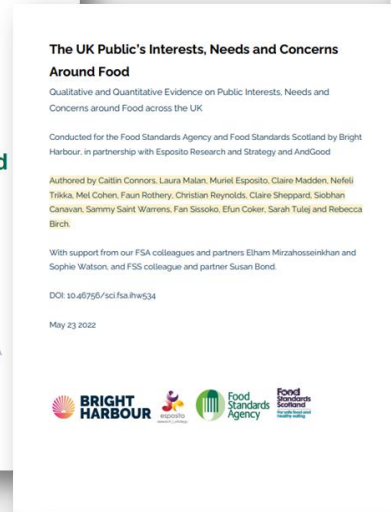
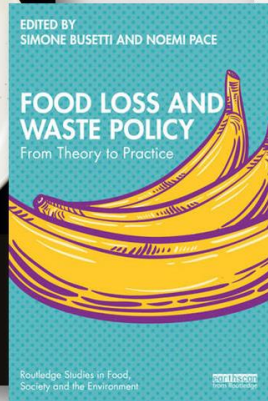
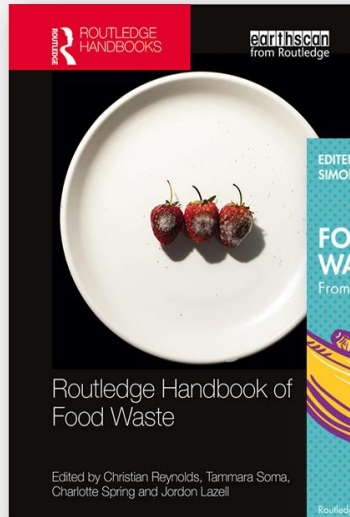
The sixth Future Food Symposium, the University of
Birmingham, 22nd May 2025

Dr Christian Reynolds
Centre for Food Policy,
City St Georges, University of London
@sartorialfoodie @FoodPolicyCity
@sartorialfoodie.bsky.social
<https://www.linkedin.com/in/christianjreynolds>
christian.reynolds@city.ac.uk

Who am I?

Reader at the Centre for Food Policy.

- Focus on sustainable food systems and food waste.
- Supporting the FSA/Defra through research projects. Scottish food systems research (ZWScotland). Household Simulation modelling (WRAP). Local food strategy development.
- Nutrition Society Food Systems theme lead. IFST Sustainability working group.
- Recent publications



Shout out my other research: The Household simulation model

HOUSEHOLD FOOD SIMULATION

The Household Simulation Model: A decision making tool for building more sustainable food systems.



FOOD AND PACKAGING TRADE-OFFS

RESEARCH ON NEW PACKAGING SYSTEMS
REUSABILITY AND REFILLABILITY



PACK SIZE

ALIGNMENT WITH CONSUMPTION NEEDS
PACKAGING LIGHTWEIGHTING



SHELF-LIFE EXTENSION

PACKAGING TECHNOLOGIES EXTENDING SHELF LIFE OF
PRODUCTS



STORAGE PRACTICES

EDUCATE CONSUMERS ABOUT THE BENEFITS OF MAXIMISING
PRODUCT SHELF LIFE THROUGH APPROPRIATE STORAGE
PRACTICES

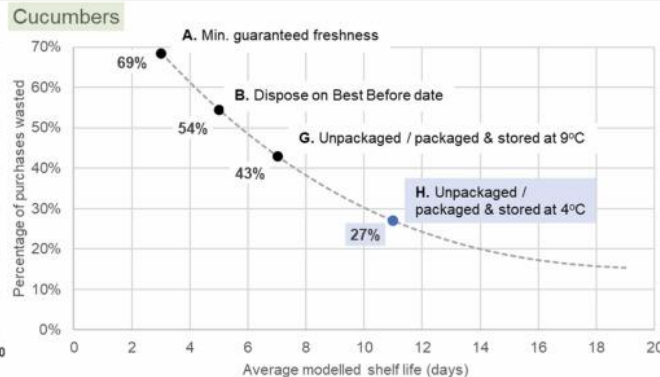
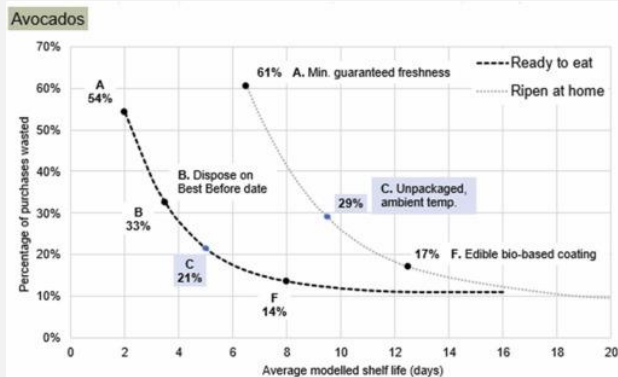
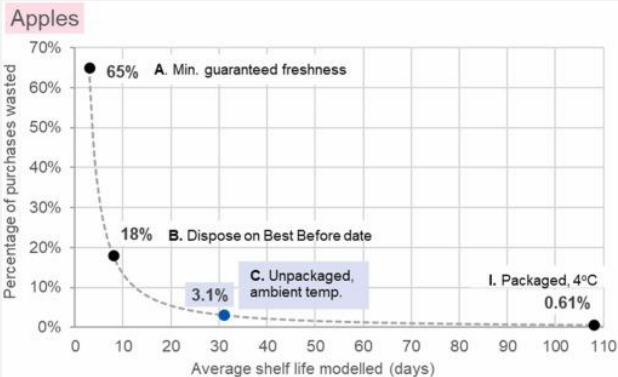


COMBINATION OF INTERVENTIONS

SINGLE INTERVENTIONS MAY HAVE LIMITED IMPACTS

▪ <https://blogs.city.ac.uk/householdfoodsimulation/>

New results on fresh produce → food systems actions to reduce HH food waste



Three main actions:

- Removing best-before dates,
 - Refrigerate most of their fruit and veg at home (at the correct temp)
 - Selling fruit and vegetables loose
- Ready-to-eat avocados: increasing the shelf life from 3.5 days to 5 days reduced the estimated waste by more than a third



Today is a work in progress and part of wider research on FLW policy solutions.



- All input warmly received.
(Feedback, questions, your thoughts.)
- Who should I be talking to?

Dr Christian Reynolds
@sartorialfoodie @FoodPolicyCity
christian.reynolds@city.ac.uk

In 2019 I presented this... and published this...



N8 AgriFood

What can local authorities do to reduce food waste?
What can we learn from ten years of food waste interventions.

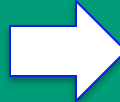
Public Policy Exchange, London, 13 February 2019
Dr Christian Reynolds
Knowledge Exchange Research Fellow (N8 AgriFood project)
Department of Geography, University of Sheffield
[@sartorialfoodie](#)



hefce
HIGHER EDUCATION
FUNDING COUNCIL
FOR ENGLAND



SheFF
The University of Sheffield
Sustainable Food Futures



Food Policy
Volume 83, February 2019, Pages 7-27



Review

Review: Consumption-stage food waste reduction interventions – What works and how to design better interventions

[Christian Reynolds](#)^{a, b}, [Liam Goucher](#)^c, [Tom Quested](#)^b, [Sarah Bromley](#)^b, [Sam Gillick](#)^b, [Victoria K. Wells](#)^d, [David Evans](#)^e, [Lenny Koh](#)^c, [Annika Carlsson Kanyama](#)^f, [Cecilia Katzeff](#)^g, [Åsa Svenfelt](#)^h, [Peter Jackson](#)^a

[Show more](#) ▾

[+ Add to Mendeley](#) [Share](#) [Cite](#)

<https://doi.org/10.1016/j.foodpol.2019.01.009> [Get rights and content](#) ▸

A Local Authority representative in the audience asked
"So what can we do to reduce food waste if we follow WRAP guidance already..."
For five years, I have been trying to answer!
So what do we know in 2025?



Review of wider policy actions

2019 - Review: Consumption-stage food waste reduction interventions

- 17 applied interventions that claim to have achieved food waste reductions.
- 13 quantified food waste reductions.
 - Plate size interventions resulted in up to **57%** food waste reduction.
 - Changing nutritional guidelines in schools reduced vegetable waste by up to **28%**.
 - Information campaigns had up to **28%** food waste reduction.
- Lots of gaps and missing data.

Welsh FW Route map 13 actions

Figure 4: Estimated savings in 2030 by intervention

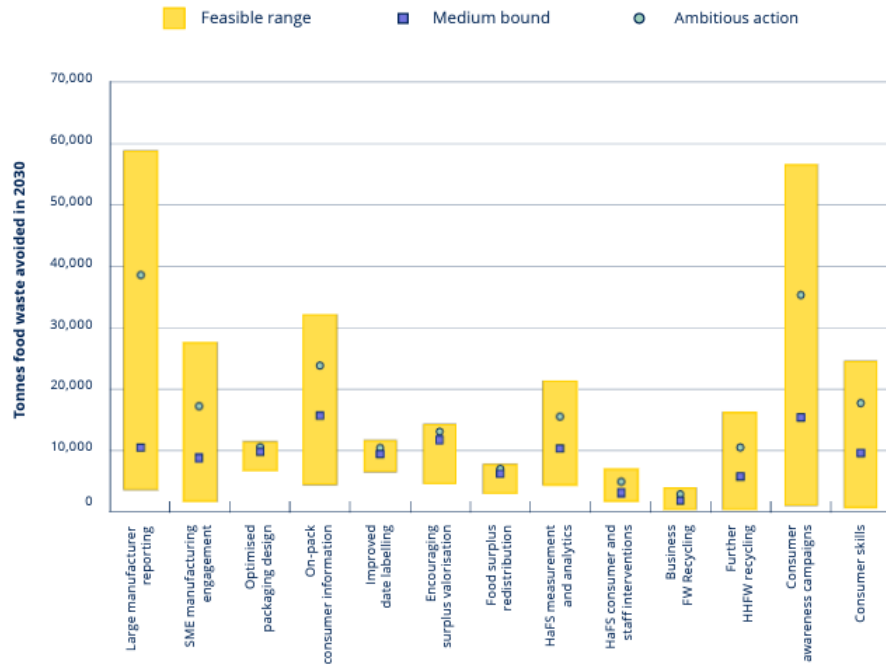
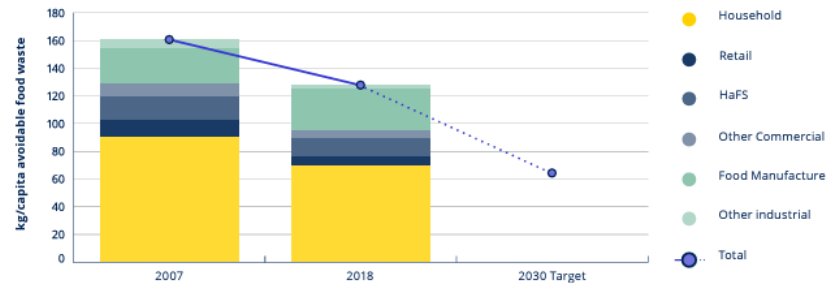
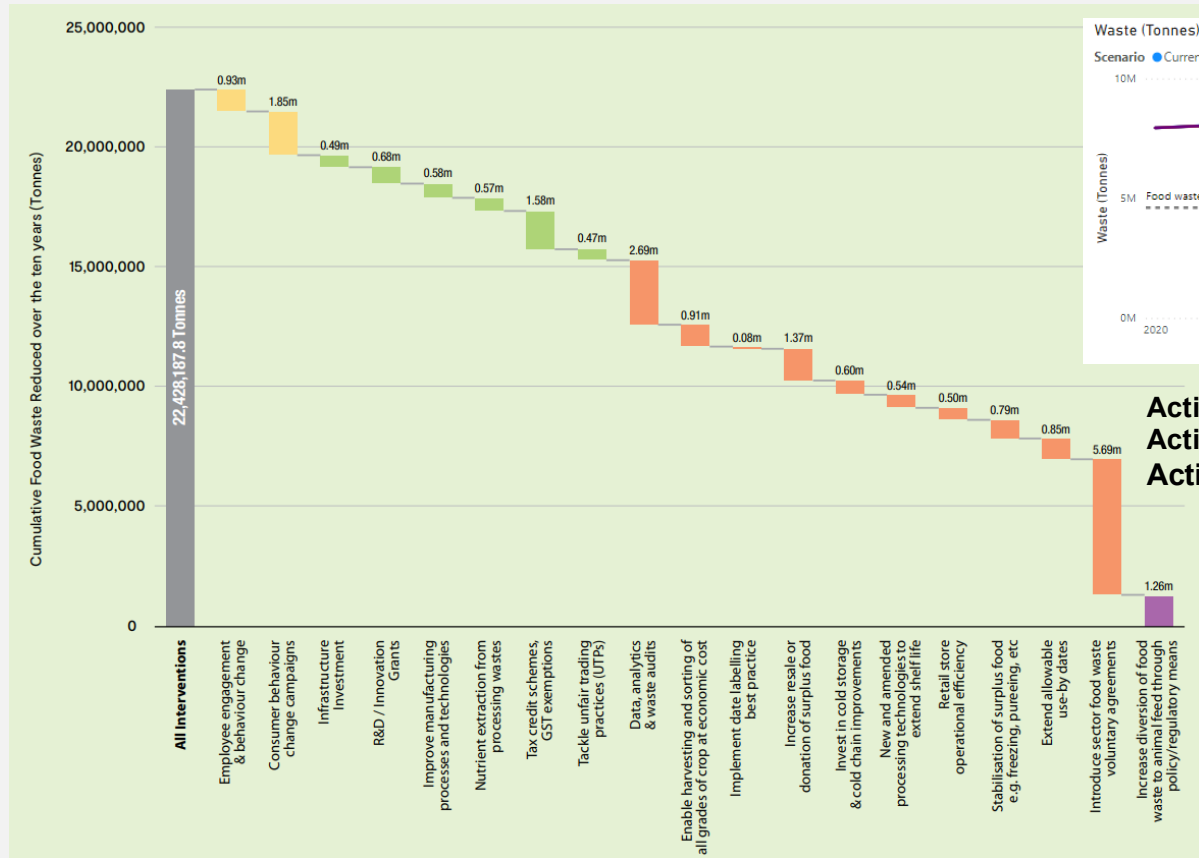


Figure 1: Progress to food waste target

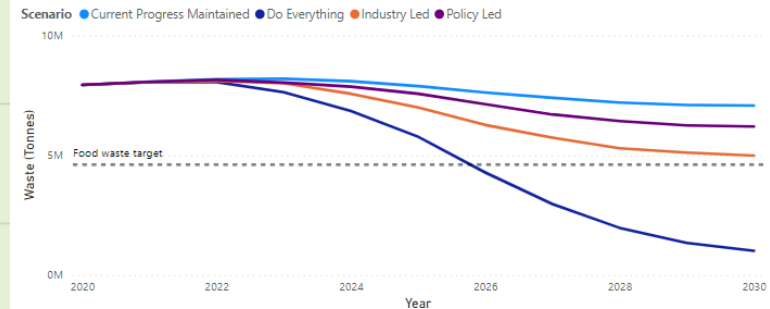


Actions impact on different parts of the food system
Actions reduce different amounts of waste
Actions happen over different periods of time

Australian FLW strategy 41 actions



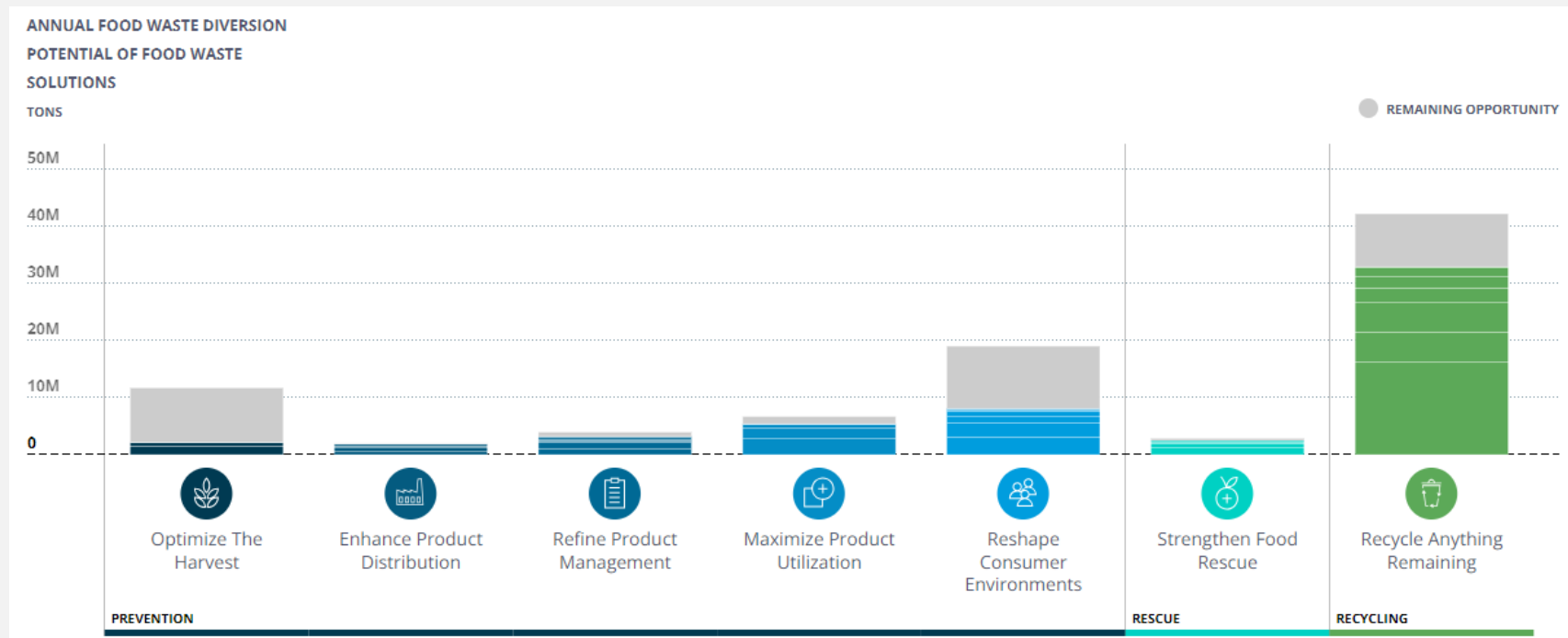
Waste (Tonnes) by Year and Scenario



Actions impact on different parts of the food system
Actions reduce different amounts of waste
Actions happen over different periods of time



ReFed Solutions Database USA 73 actions




Actions impact on different parts of the food system
Actions reduce different amounts of waste
Actions happen over different periods of time





**We have a growing number of lists
of actions across multiple countries...**



**But we don't have a review of
effectiveness of these actions!**

Objective: Create an evidence base for Actions

- "Imperfect" review of the literature, using 25 Academic articles, NGO reports and policy documents.
- Looking for the suggested actions to reduce and divert FLW
- Recording tonnages and % of diversion
- Mapping these actions to
 - 1) 89 Keywords
 - 2) 11 categories from the Food Systems Transformation Solution-Bank

Different rates of effectiveness for different actions.

Different levels of quantified evidence base.

| Category (primary) | Average of Average diversion or reduction potential % | Total mentions | Number of quantified studies |
|-----------------------------|---|----------------|------------------------------|
| Certification and standards | 5% | 8 | 3 |
| Direct food provision | | 43 | 13* |
| Economic/financial | 7% | 36 | 1 |
| Framework policies | 10% | 47 | 3 |
| Governance/organisation | 17% | 50 | 5 |
| Information/communication | 13% | 206 | 29 |
| Market intervention | | 11 | 0 |
| Not sure | 7% | 17 | 2 |
| Regulatory | 13% | 125 | 28 |
| Technology/innovation | 26% | 167 | 25 |

** Not all data provided as a % so these could not be included.*

Different rates of effectiveness throughout the supply chain

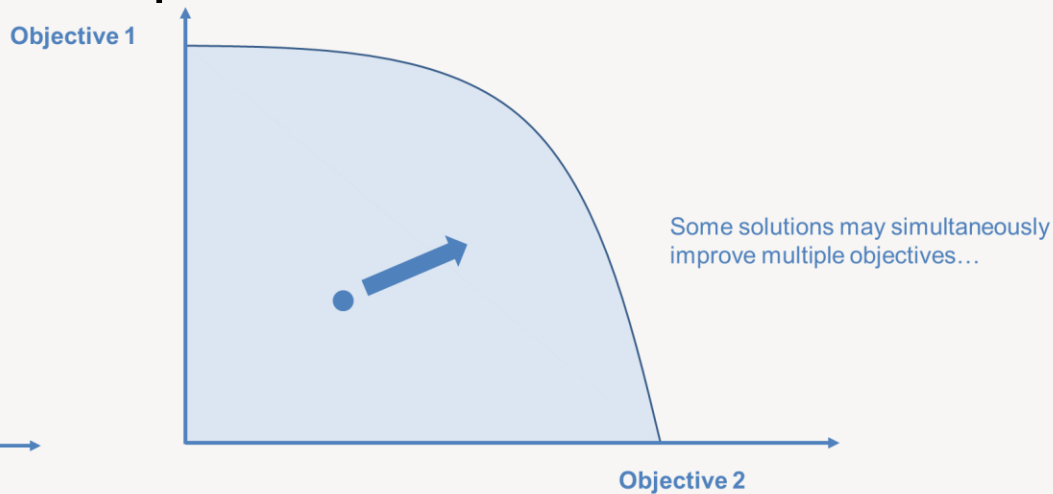
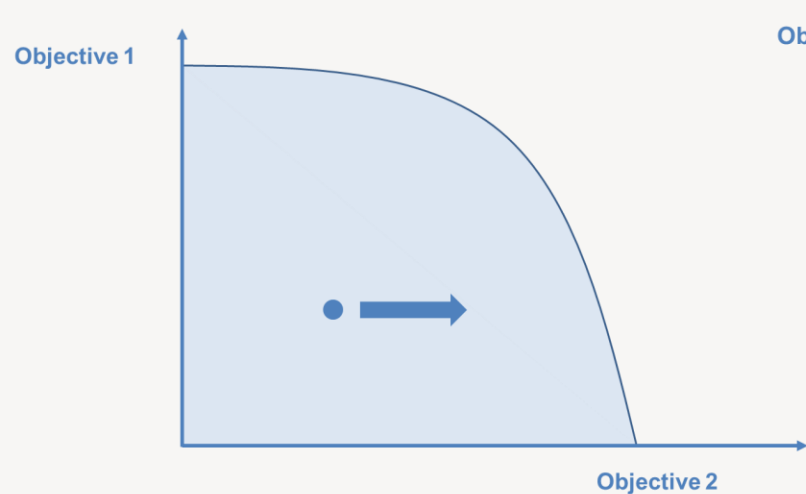
| Average diversion or reduction potential % | | | | | | | | |
|--|----------------------------|---------------------------------------|----------------|-------------|---------------|----------|------------------|----------------------|
| | On farm/Primary Production | Supply chains Wholesale Manufacturing | Grocery/Retail | Out-of-home | Institutional | Informal | Local government | Consumers & Citizens |
| Certification and standards | 5% | | | | | | | |
| Direct food provision | | | | | | | | |
| Economic financial | 7% | | | 7% | | | | |
| Framework policies | 10% | 10% | 10% | 10% | 10% | | | |
| Governance organisation | | 25% | 25% | 17% | 17% | 25% | | |
| Information communication | | | | 5% | 10% | | | 14% |
| Market intervention | | | | | | | | |
| Regulatory | 18% | 12% | 14% | 20% | 17% | 23% | 33% | 18% |
| Technology innovation | 17% | 28% | 31% | 27% | 24% | 24% | | 32% |
| Average % per supply chain stage | 15% | 20% | 22% | 21% | 19% | 23% | 33% | 19% |

So what works?

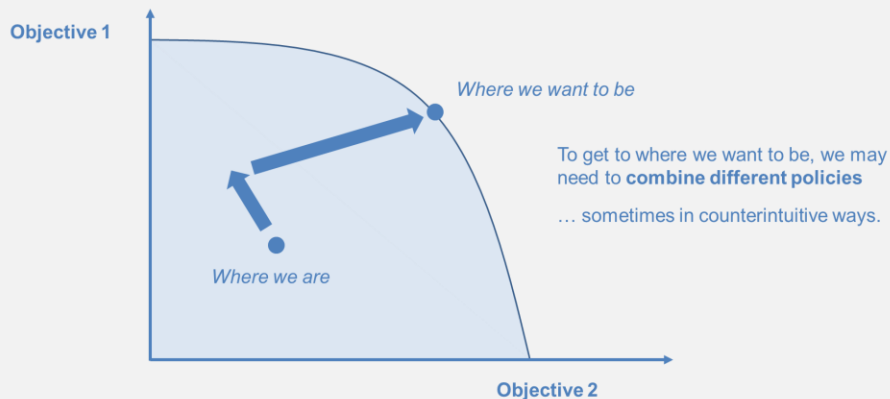
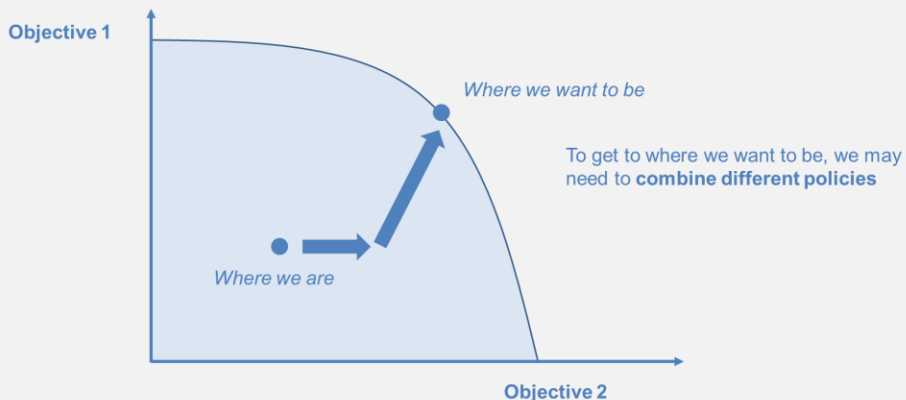
| | | Average diversion or reduction potential % | Min diversion or reduction potential % | Max diversion or reduction potential % | # of quantified studies |
|-----------------------------|---|--|--|--|-------------------------|
| Regulatory | Advisory Guidelines | 3% | 3% | 3% | 1 |
| | Food-Related Laws | 16% | 3% | 28% | 2 |
| | Food-Related Rules | 33% | 12% | 54% | 2 |
| | Industry Voluntary Agreements | 20% | 20% | 20% | 1 |
| | Labelling | 5% | 5% | 5% | 1 |
| | Self-Regulation | 11% | 1% | 30% | 12 |
| Technology & innovation | Distribution of Food Surplus | 21% | 1% | 50% | 7 |
| | Financing of Innovation | 58% | 25% | 90% | 2 |
| | Research Activities on Food System | 33% | 25% | 50% | 3 |
| Information & communication | Consumer Information Campaigns | 10% | 2% | 18% | 3 |
| | Digital content | 7% | 6% | 8% | 2 |
| | Labelling | 5% | 5% | 5% | 1 |
| | Skills, Knowledge Training | 16% | 15% | 16% | 2 |
| Governance & organisation | Mapping, Measuring and Monitoring | 17% | 9% | 25% | 3 |
| Certification and standards | Standards – Food Safety, Quality, Composition | 5% | 1% | 8% | 3 |

Lack of data and discussion of Policy Bundles!

- When we think about food waste reduction we think about the movement **towards** the objective (SDG12.3)
- We have not thought about comparing the **magnitude** of reduction
- We don't tend to think about impacts on **other outcomes**.



Lack of data and discussion of Policy Bundles!



- Bundles of solutions/policies may have synergies together,
 - They may have tradeoffs or other interaction effects.
-
- We have not looked into this much at all!

The Path to Half (Victoria, Au) 25 Solutions

ReFED (USA) 73 Solutions

Australian food waste strategy 41 Solutions

**Recommendations for Action
in Food Waste Prevention** (EU Platform
on Food Losses and Food Waste) 47 Solutions

Today is a work in progress and part of wider research on FLW.



- All input warmly received.
(Feedback, questions, your thoughts.)
- Who should I be talking to?

Dr Christian Reynolds

@sartorialfoodie @FoodPolicyCity

@sartorialfoodie.bsky.social

<https://www.linkedin.com/in/christianjreynolds>

christian.reynolds@city.ac.uk

End of presentation

School of Health & Medical Sciences
City St Georges, University of London
United Kingdom

Dr Christian Reynolds
Centre for Food Policy,
City St Georges, University of London
@sartorialfoodie @FoodPolicyCity
@sartorialfoodie.bsky.social
<https://www.linkedin.com/in/christianjreynolds>
christian.reynolds@citystgeorges.ac.uk

The Centre for Food Policy, City, St
Georges University of London offers the
following courses

Food Policy MSc/PGDip/PGCert/MSc **Distance Learning**

Postgraduate taught degree

PhD/MPhil Food Policy

Postgraduate research degree

<https://www.citystgeorges.ac.uk/prospecti-ve-students/courses/postgraduate/food-policy>

