



Citation for published version:

Cooper, S 2018, 'Environmental benefits of avoided counterfactual expenditure - why you should eat out!', 2nd International Conference on Sustainable Energy and Resource Use in Food Chains 2018, Paphos, Cyprus, 17/10/18 - 19/10/18.

Publication date:
2018

Document Version
Publisher's PDF, also known as Version of record

[Link to publication](#)

Publisher Rights
CC BY

University of Bath

Alternative formats

If you require this document in an alternative format, please contact:
openaccess@bath.ac.uk

General rights

Copyright and moral rights for the publications made accessible in the public portal 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.

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Environmental benefits of avoided counterfactual expenditure – why you should eat out!

Dr. Samuel JG Cooper, sjgcooper@bath.edu

How do the environmental impacts of eating out compare to those of eating at home? We can compare the direct and embodied (supply chain) effects of supplying the food and environment but is there more to it?

Consequential LCA

– what would happen?

In addition to nutrition, meals supply other needs. How do we ensure like-for-like (an appropriate functional unit)?

We can use **SYSTEM EXPANSION**:



How could we estimate what the counterfactual expenditure or activity would be?

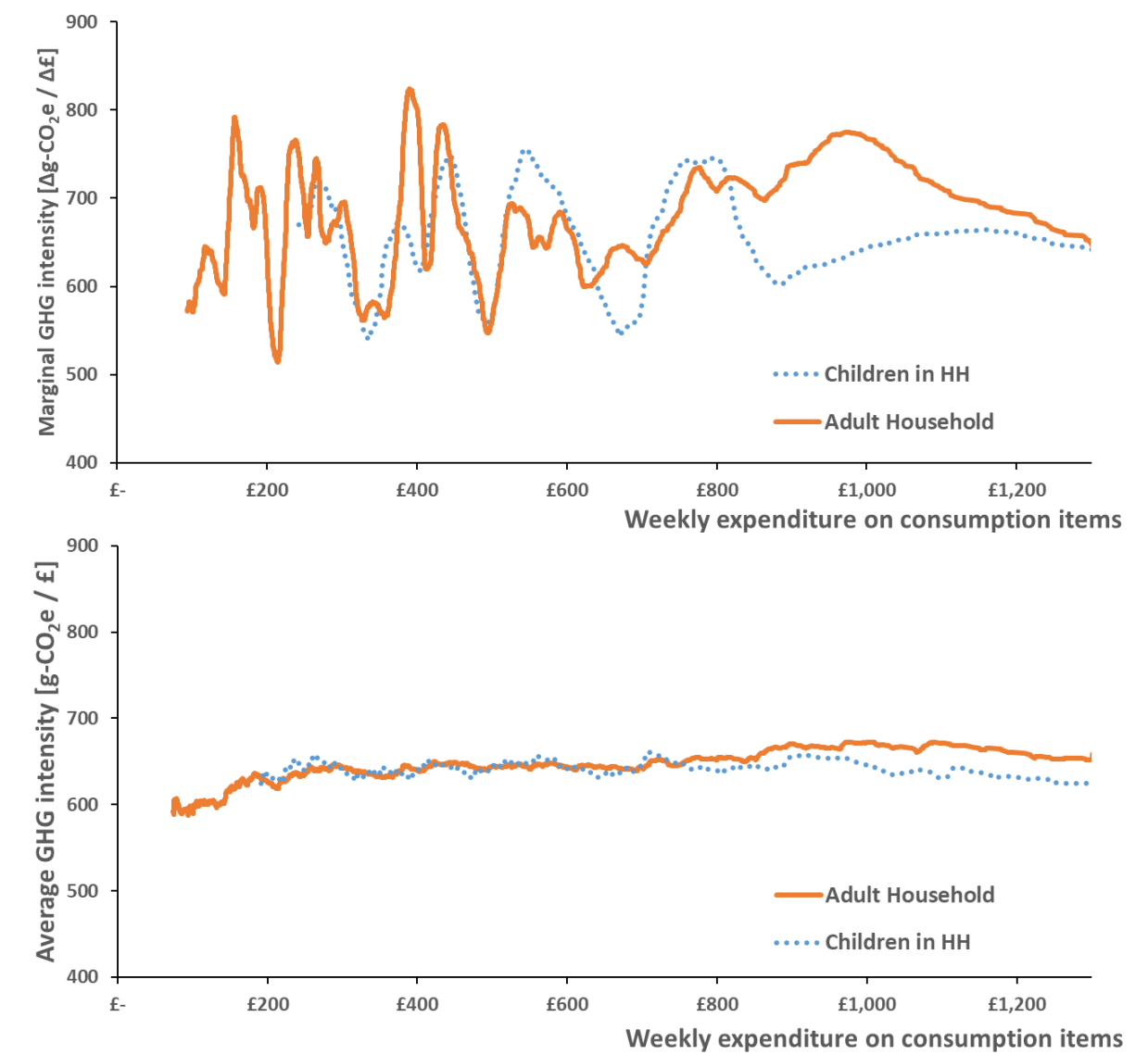
- Patterns of expenditure
 - Marginal
 - Average
 - Machine Learning
 - Other statistical approaches
- Patterns of time-use and interaction
- Clustering “needs” / other behavioural science
- Interviews

studied so far...

Unfortunately, marginal expenditure patterns are not very stable (over the ~5000 households of UK Living Costs and Food survey).

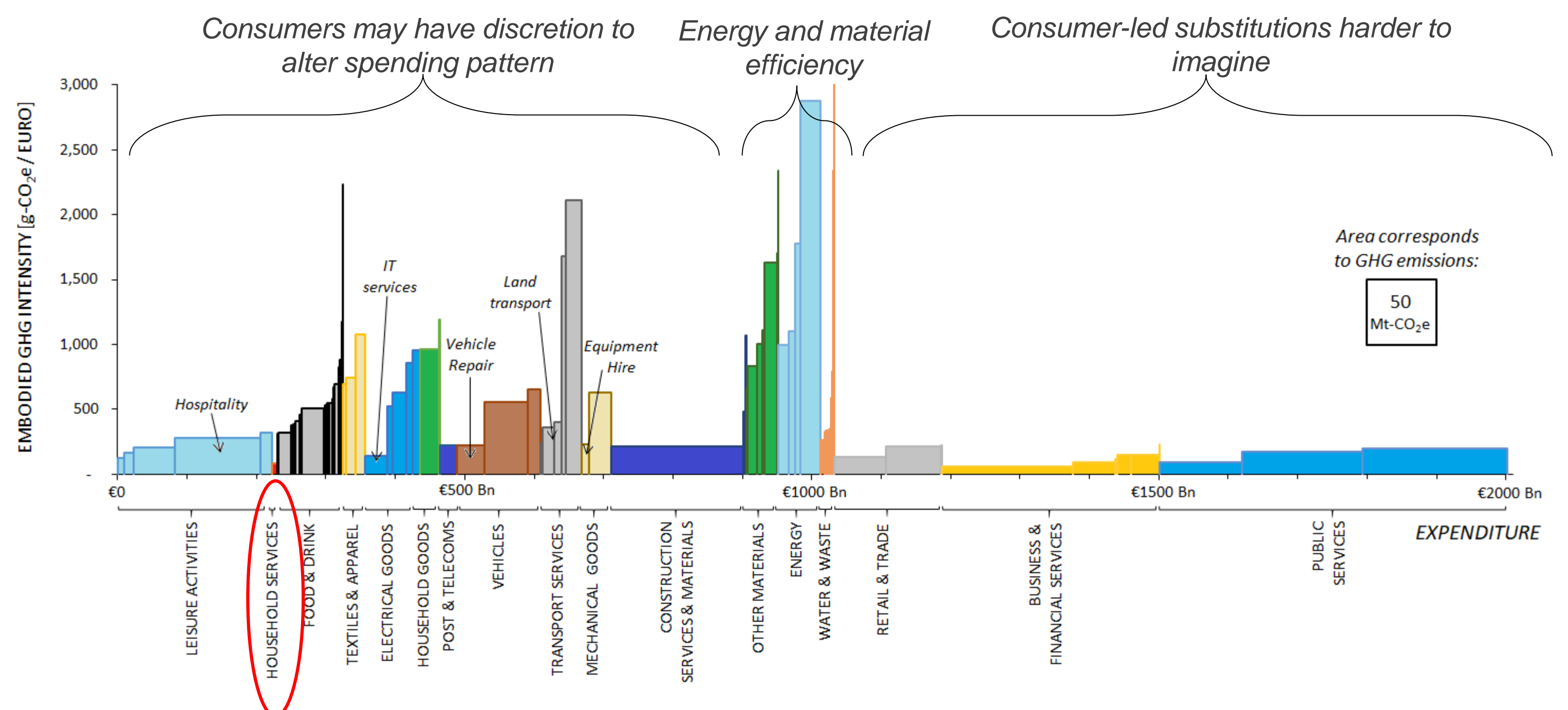
An average could be used but clearly doesn't fully capture the dynamics of people's decisions.

For simplicity, GHG impacts are shown here (average 653 g-CO₂e/£) but situation is similar for other impact categories.



Bigger picture:

For a given size GDP, impacts can be reduced by encouraging consumption from low-intensity sectors if it displaces activity elsewhere. This could be to an alternative means of supplying same products (e.g. repair) or by meeting the “need” in another way.



Future: What is the abatement potential if some of the £1.24T/yr of unpaid work in UK (cleaning, childcare, travel) displaces formal economy activity – i.e. people value their time higher relative to other expenditure and buy it back?