

# Helping businesses respond to climate change

Mike Berners-Lee

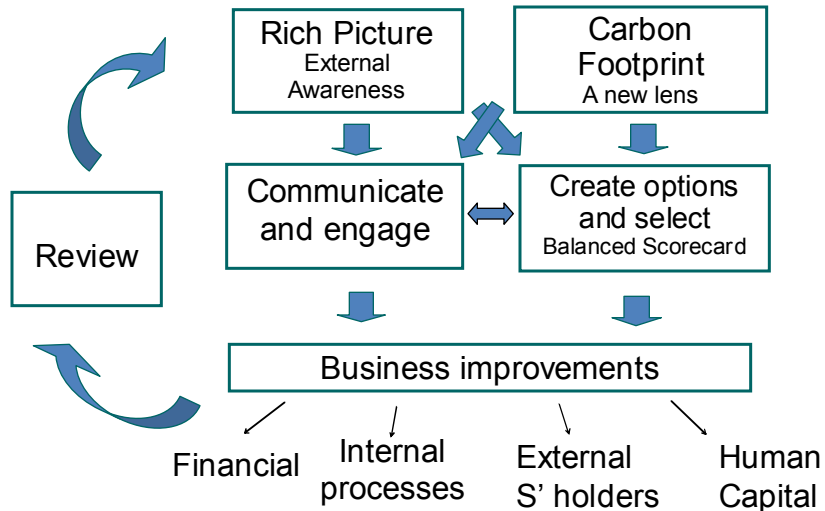


## Coming up....

- About footprints and metrics
- Example 1: Booths Supermarkets
- The role of input output analysis
- Example 2: Langdale Leisure
- Example 3: Lancaster University
- Decision making
- Closing messages



## A basic process



## Fit-for-purpose footprinting



Black box



£250,000 per item

~~5.43264~~  
Unrealistic claims



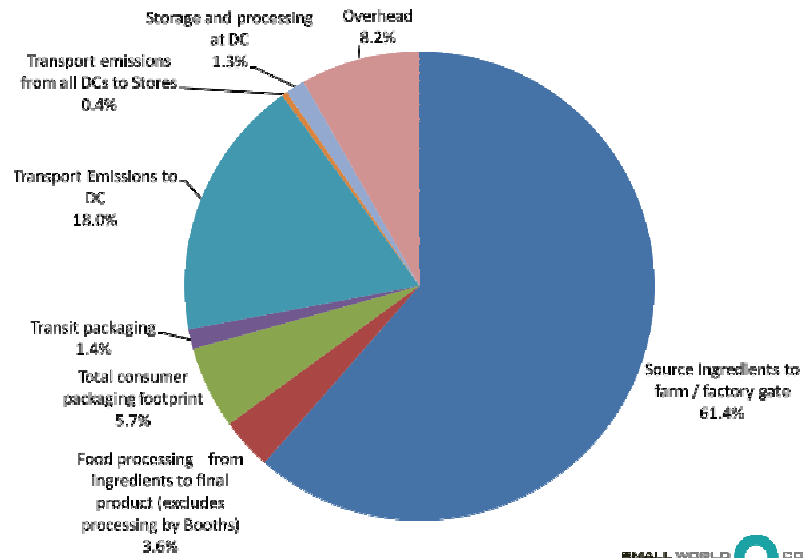
CO<sub>2</sub> only

Being Locked in

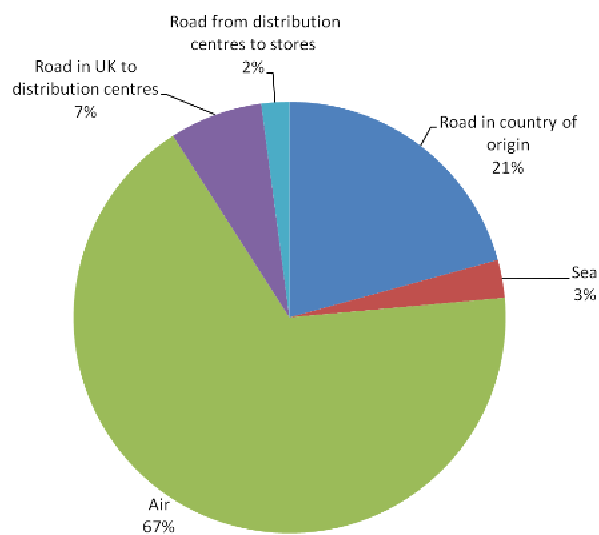


But it is about:  
**transparency, realism, inclusiveness.**

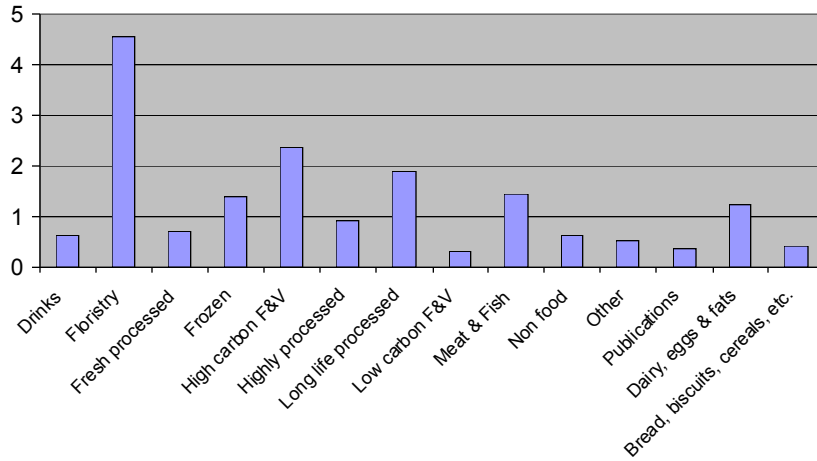
## Booths GHG footprint



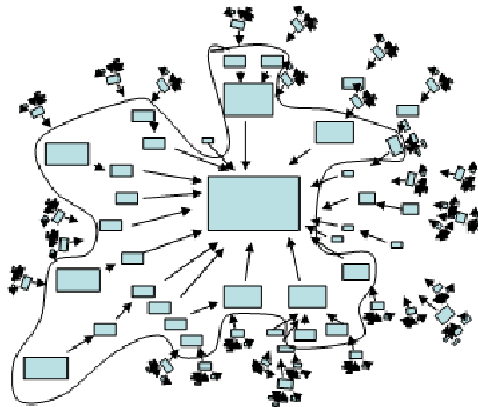
## Transport – 18% of total



## Greenhouse gas impact per £

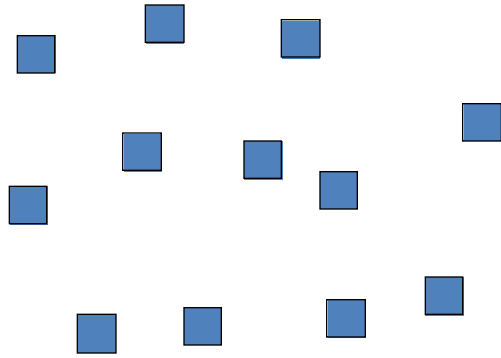


## Process Based Life Cycle Analysis



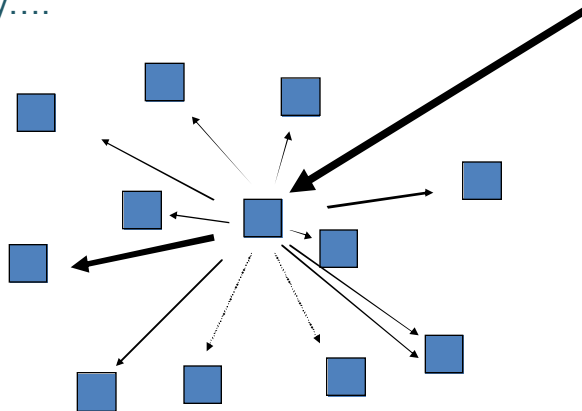
# Input Output Analysis

Looks at the whole economy divided into industry sectors.



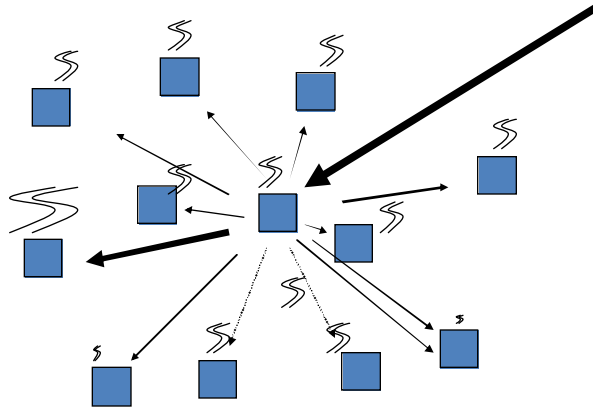
# Input Output Analysis

Demand for products stimulates output across the economy....



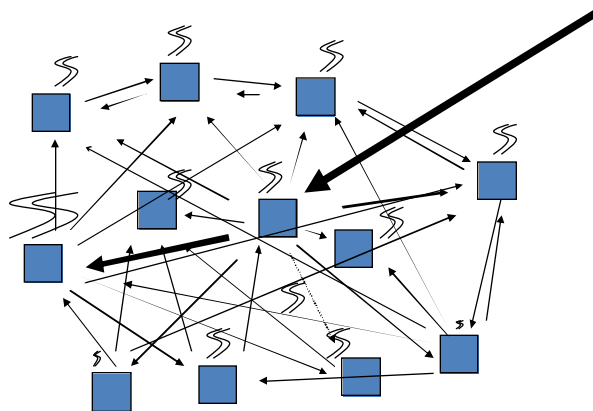
# Input Output Analysis

.... causing both direct and indirect emissions...



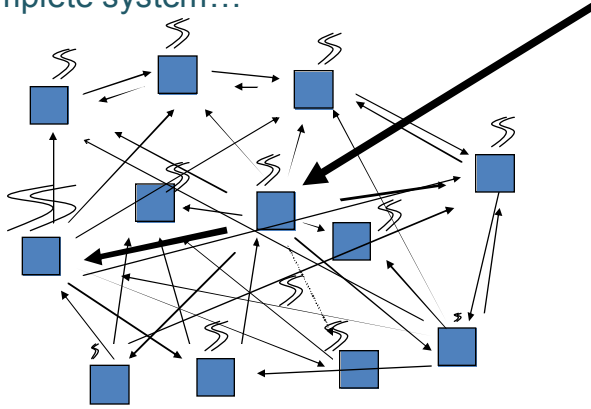
# Input Output Analysis

.... the ripple effects are endless...



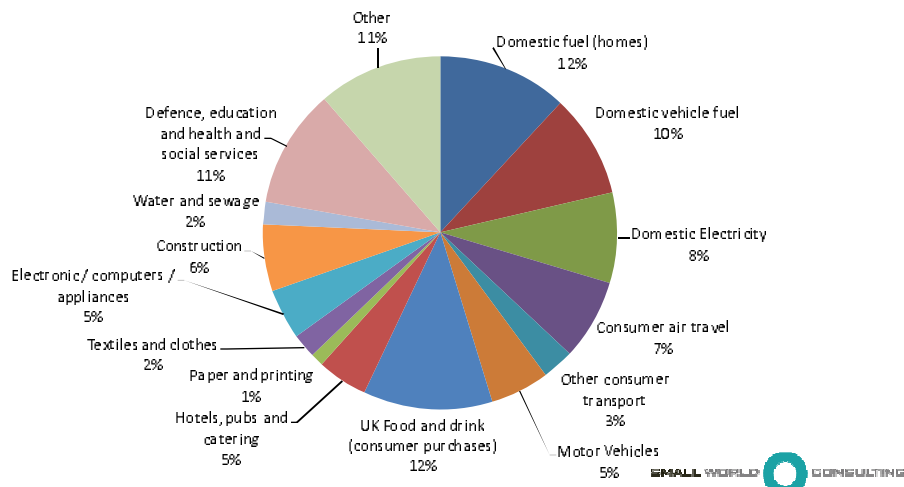
# Input Output Analysis

.... the ripple effects are endless... but can be modelled as a complete system...

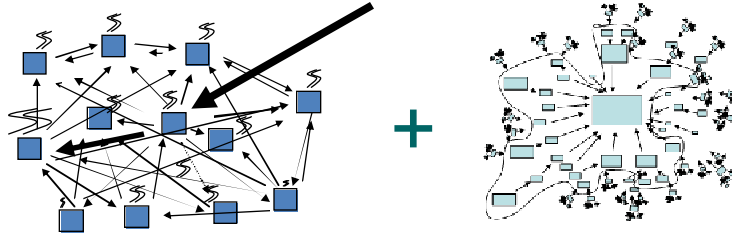


...without systematic underestimation

## UK GHG consumption footprint: 926 million tonnes CO<sub>2</sub>e

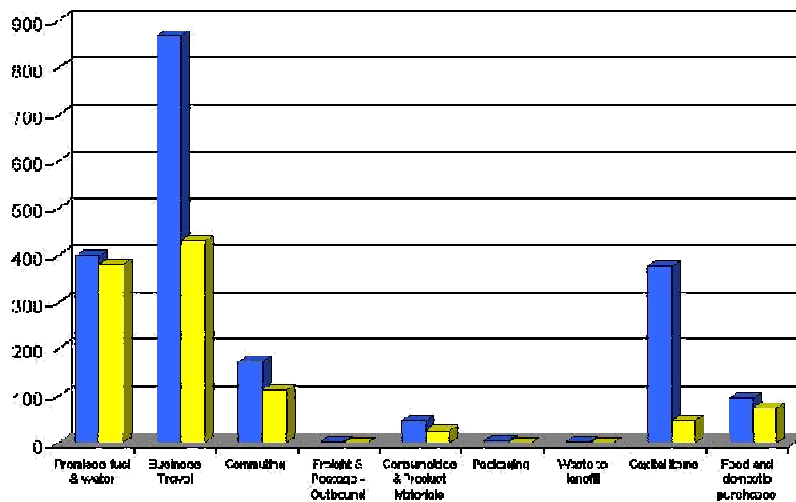


## We use a hybrid methodology

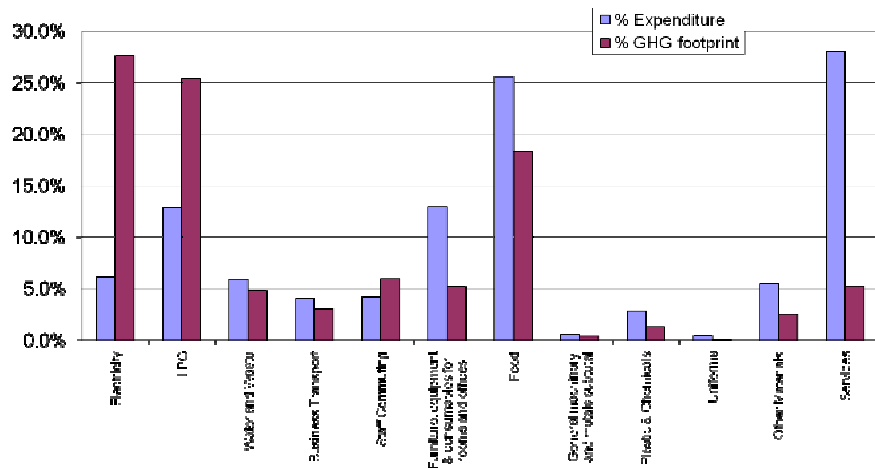


- **Defra conversion factors** for direct emissions and electricity generation
- **Input Output Analysis** for many products, services and supply chains
- **Process Based LCA** for food and for bespoke adjustments to EIO figures where appropriate.

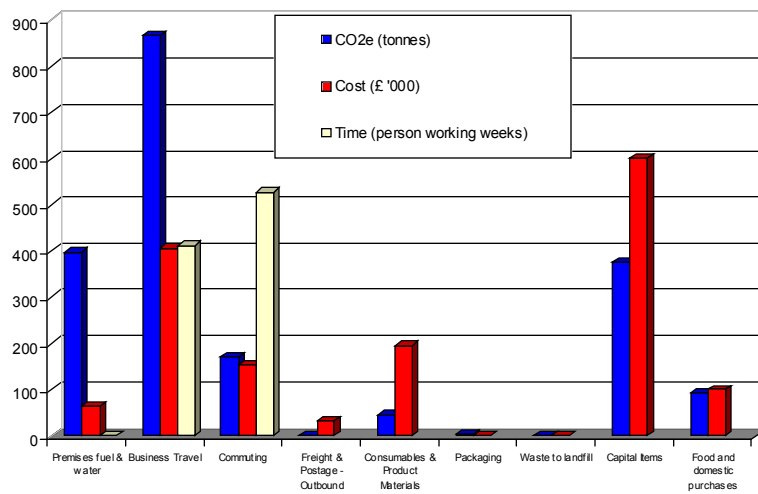
## Different methodologies give different results



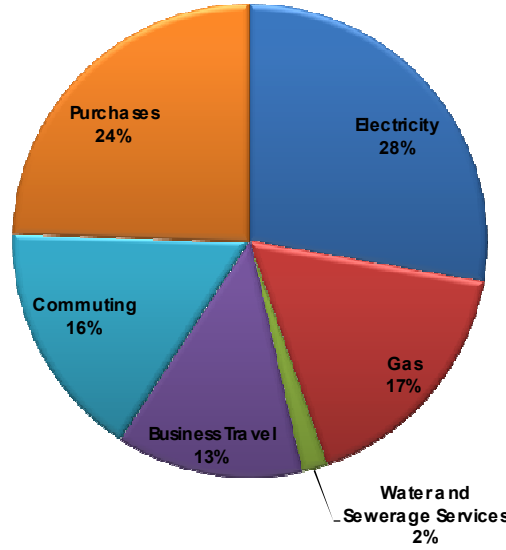
## Langdale Leisure: Cost and carbon using EIO analysis



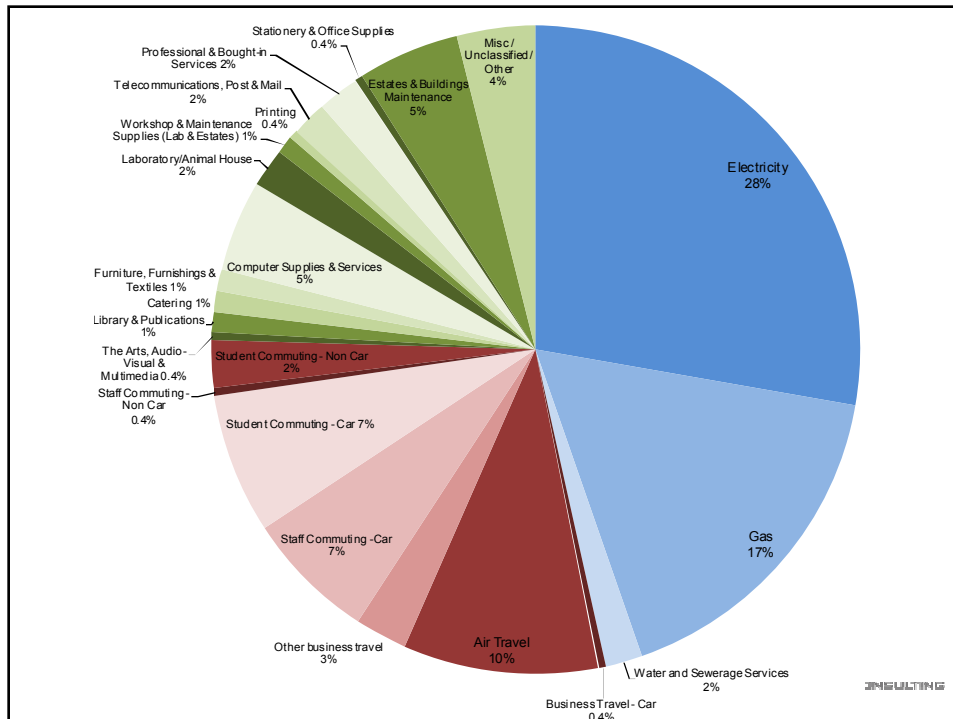
## Time/cost/carbon – an illustration



# Lancaster University: 72,000 tonnes CO<sub>2</sub>e

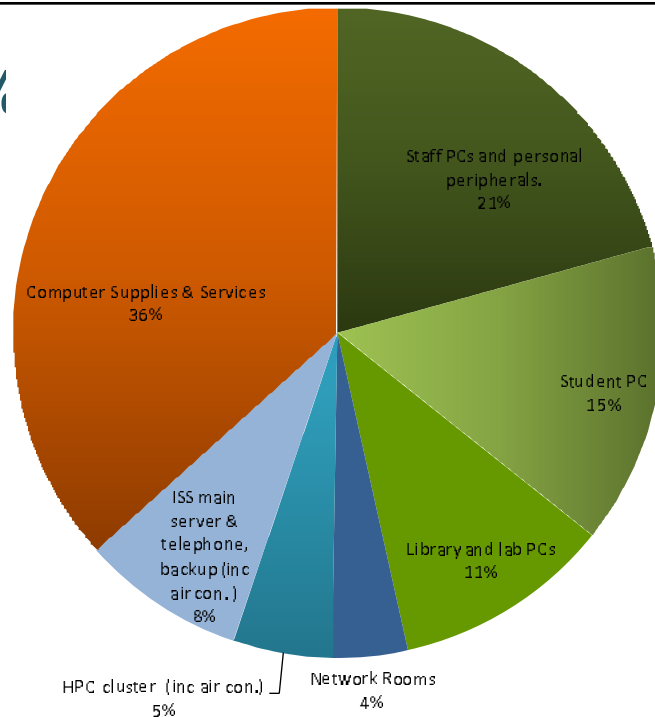


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**IT: 12%**



## Idea Highlights

- Wake on Lan
- Systematic trawl of lighting
- PC stickers: 'Can / can't be turned off'
- Air-con drips onto cooling pipes
- Procurement guidelines & models
- Airmile trading scheme
- Educate and engage porters
- Monitor skip contents

# Dealing with options

Action	Costs (carbon, £ and time)										Savings (carbon, £ and time)										Other Criteria					Other Issues	
	Orig. Eff.					Revised					Accepted Benefits					Physical					Net Present Value	Other Considerations					
	Year	CO2	£	Time	Value	Year	CO2	£	Time	Value	Year	CO2	£	Time	Value	Year	CO2	£	Time	Value							
<b>All Selected Actions</b>	-2,230,000										8,888,875										-2					0.0000	
Overage Provision from open																											
Provision for freight by rail																											
Cost of freight by rail																											
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## Closing messages

- Supply chains are an essential part of carbon management.
- Process based LCA systematically underestimates
- Hybrid methods can offer an improvement
  - Holistic
  - Realistic
  - Practical



**Thank you for listening.**

**Questions?**

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