Measuring sustainability with REAP

Examples from the UK

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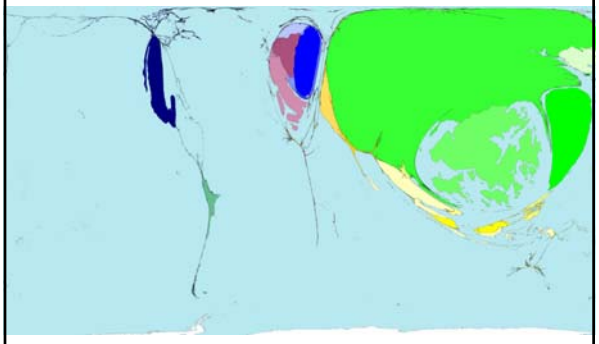
Background

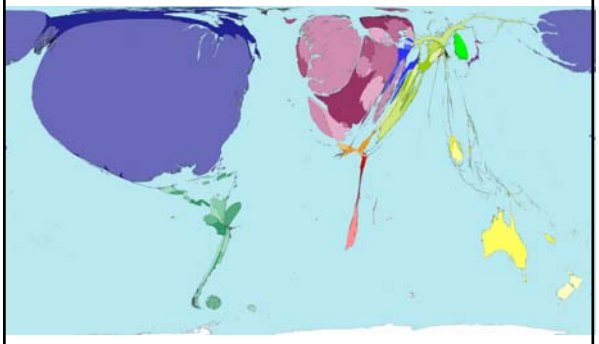
- SEI has become a leader in the field of Sustainable Development
- In the past 8 years the York centre has built expertise in Sustainable Consumption and Production
- This includes analysis of the environmental pressures associated with consumption patterns

World toy exports



Territory size shows the proportion of worldwide net exports of toys (in US$) that come from there. Net exports are exports minus imports. When imports are larger than exports the territory is not shown.

World toy imports



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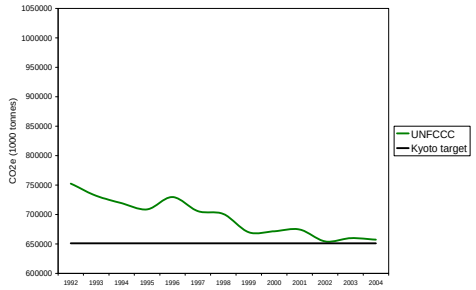
Accounting for UK emissions

Tracing emissions by time



Accounting for UK emissions

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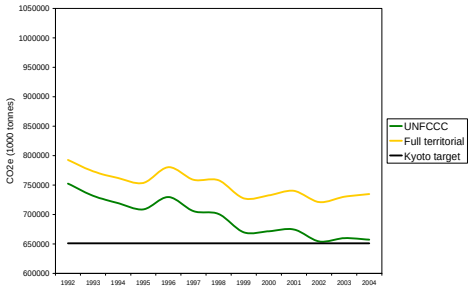

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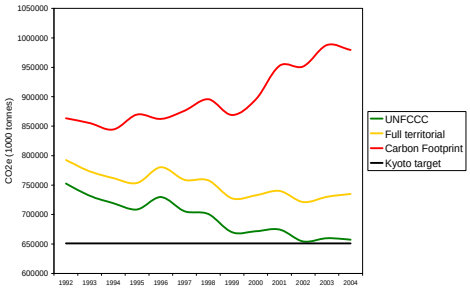
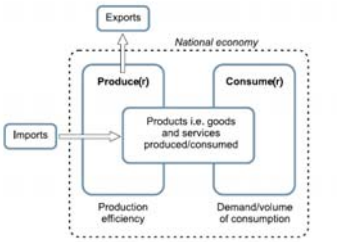
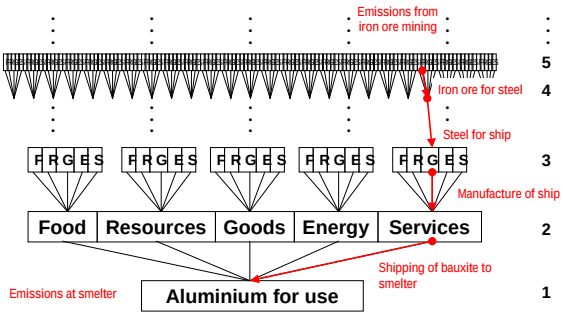


How do we do this?

- Trace environmental impacts and flow through the economy using Input Output analysis

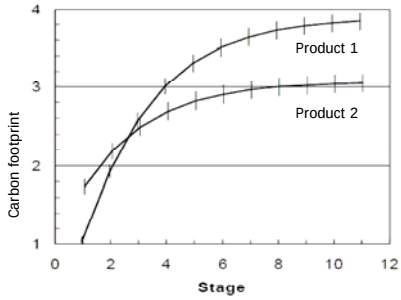


Example: Aluminium manufacturing



Input Output vs Life Cycle analysis

- IO measures system completeness – the full supply chain
- LCA better for making comparisons between products

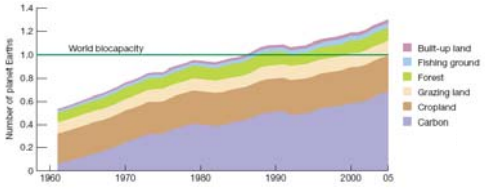


What do we measure?

- Ecological Footprint
- Carbon Footprint
- All Greenhouse gases
- Water

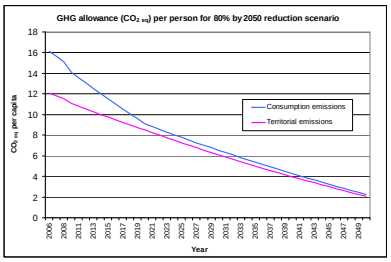
Ecological Footprint & Carbon emissions

The land area required to sequester carbon is the fastest growing and largest component of the ecological footprint

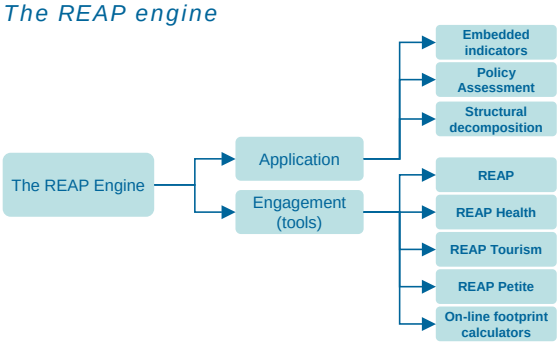


Emissions targets

An 80% cut = around 2 tonnes CO2e per person by 2050



The REAP engine

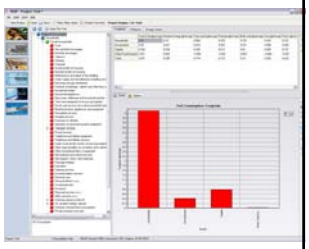


Introducing REAP

REAP is a software tool designed to evaluate the impacts of future policy decisions on the environment using footprint analysis

The user can:

- interrogate a detailed interactive database
- create scenarios modelling future changes in population and their consumption
- model changes in production efficiencies



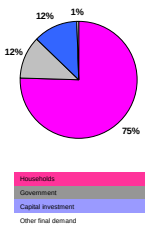
Provides footprint data at Local Authority level

Footprint composition:

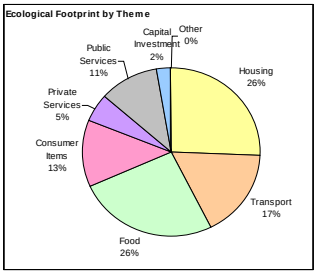
TOP LEVEL	THEMATIC	DETAILED
Households	Housing	Wild fish and fish products from catch
Government	Transport	Clothing
Capital investment	Food	Electricity; gas & other fuels
Other final demand	Consumer items	Hospital services
	Private services	Newspapers; books & stationery
	Public services	Catering services
	Capital investment	Insurance
	Other final demand	Air transport
		Dairy products
		Purchase of vehicles

Footprint Contribution:

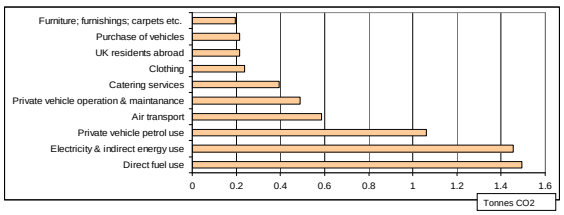
TOP LEVEL



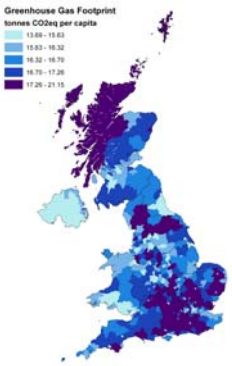
THEMATIC



High impact product groups



Tracing emissions by geographical area

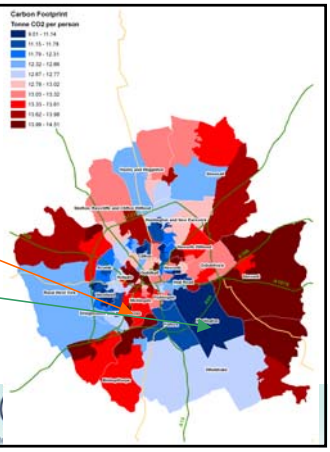


york GREEN STREETS challenge

SUSTAINABLEWOW

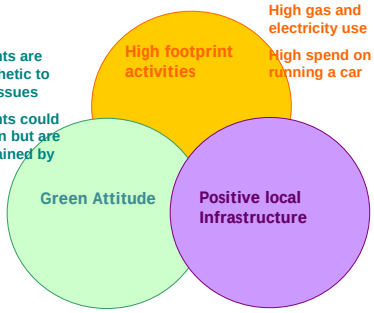
WITHOUT WALLS

The carbon footprint of neighbourhoods



- Highest = 14.51 tonnes
- Lowest = 9.01 tonnes

Who could reduce their footprint?



Residents are sympathetic to Green issues

Residents could be green but are 'constrained by price'

High gas and electricity use

High spend on running a car

Lots of potential to retrofit the home

Occupiers able to make improvements to the home's efficiency

Lots of local services nearby

Good bus and cycle facilities nearby

Working with neighbourhoods

- Survey residents' consumption
- Residents sign up to pledges
- Aim to reduce average neighbourhood footprint by 10% by 2010
- Link to the 10:10 campaign

EUREAPA – a national level tool for EU27

- The goal of the One Planet Economy Network Europe project is to help transform the EU economy to a One Planet Economy by 2050.
- Partners:
  - WWF,
  - University of Twente
  - Ecologic
  - GFN
  - University of Trondheim
  - Sustainable Europe Research Institute
  - Institute for European Environmental Policy
  - SEI-Y

EUREAPA – a national level tool for EU27

Building the evidence base:
> footprint family of indicators – Ecological, Carbon and Water footprint

Building the applications:
> scenario modelling and indicator analysis – web-based tool

Building the capacity and dissemination:
> network of decision-makers – user forum, training programme

Thank you