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| | <h1>National Accounts Matrix Including Environmental Accounts (NAMEA)</h1> | | | | |
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| | <h2>Applications of Environmental Input/Output Analysis</h2> <p>Jacob Madsen, ERM Oxford, UK</p> | | | | |

Applications of Environmental Input/Output Analysis
Jacob Madsen, ERM Oxford, UK

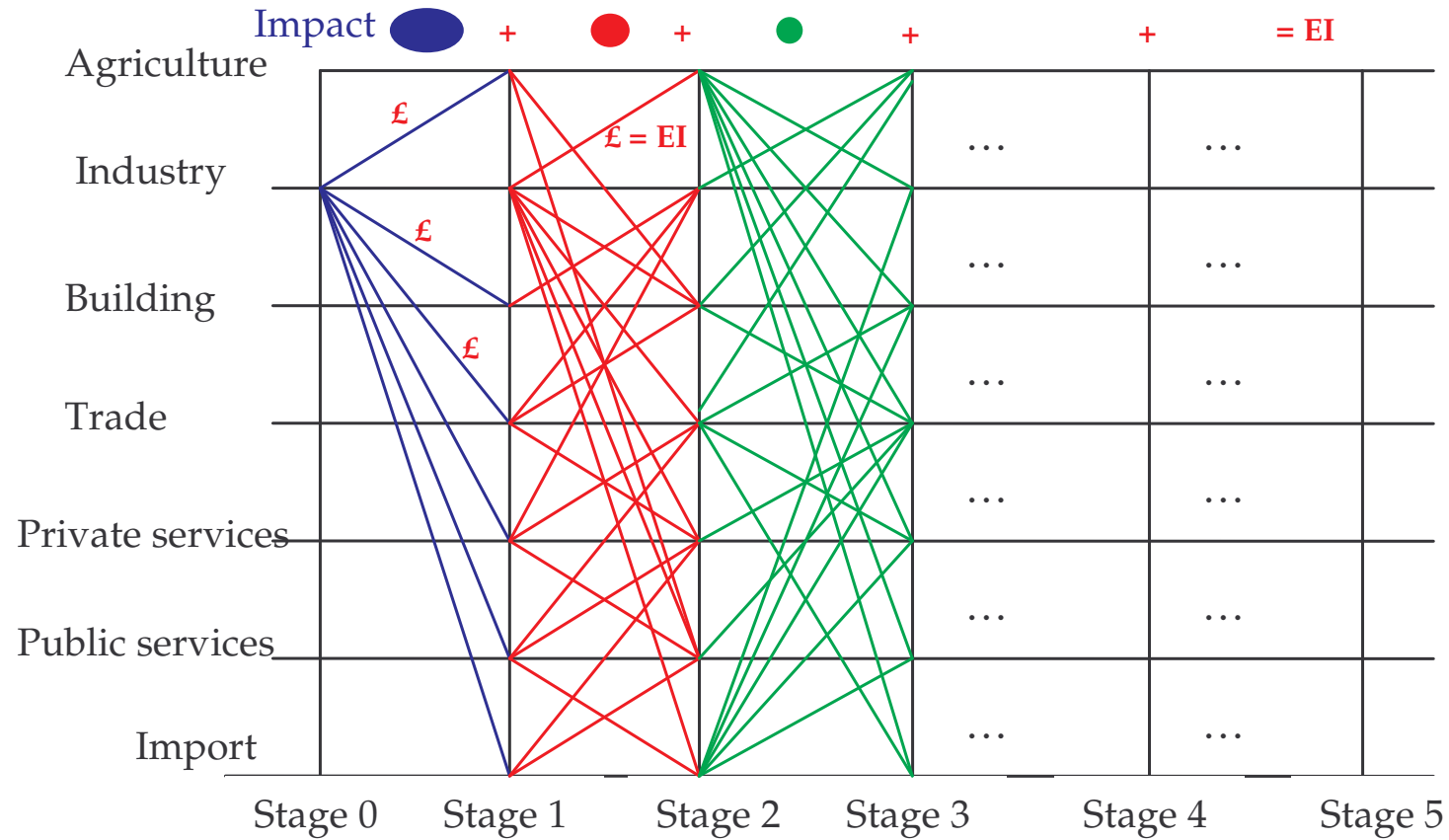
Content of presentation

- **I/O approach**
- **Application of I/O**
- **Policy relevant outputs**
- **Lessons learned and possible next steps**

I/O methodology (NAMEEA)

- $(I-A)^{-1}$ – Leontief inverse (technology matrix)
- Specifies for one monetary output of a sector how much input of other sectors is required for producing it.
- Specifies how the production of one unit is distributed over all users of the product/service involved
- B – Direct environmental interventions per sector
- The total direct and indirect environmental interventions per sector (M) is calculated by:
$$M = B(I-A)^{-1}$$

I/O methodology

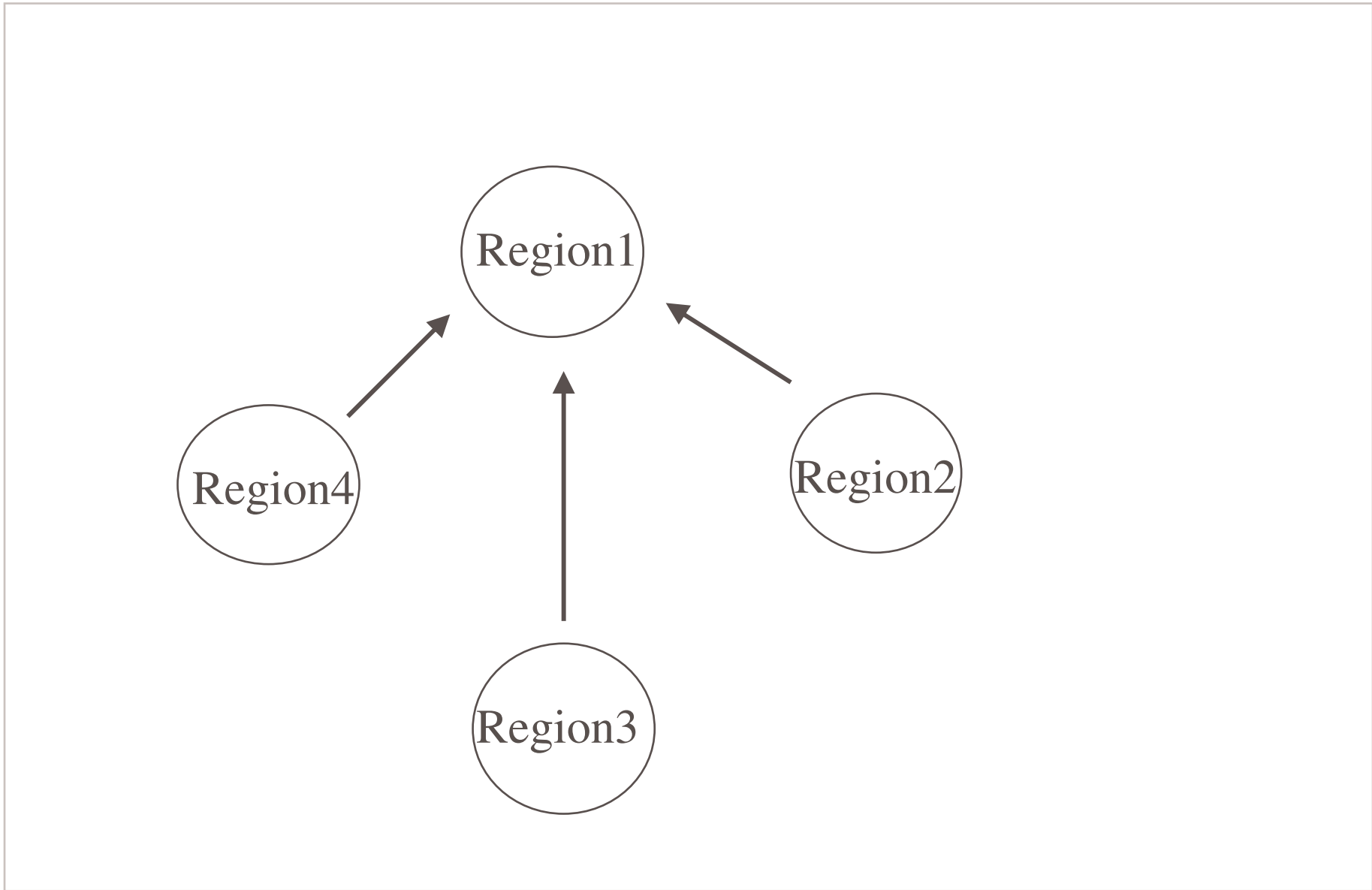


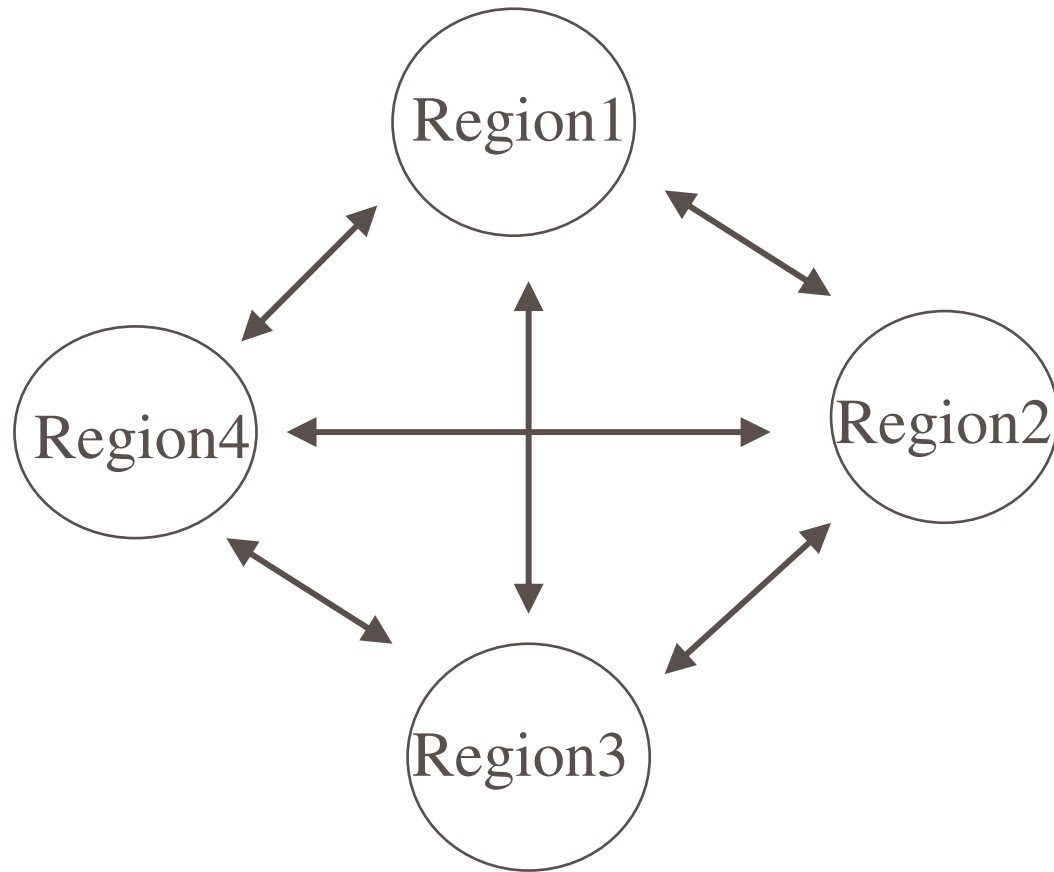
Application of I/O

- **Integrated product policy**
 - Minimising environmental impact in a products life cycle and taking action where it is most effective.
 - LCA vs I/O
- **Production and Consumption**
- **Spatial levels**
 - European, National, Regional, City, Sector, Household, Product

Spatial scope

- **EU, National, Regional, City, Sector level**
 - Who is responsible? Producers or consumers?
 - Trade implications ie import and export





Spatial scope

- **Household**
 - Sustainable lifestyles
 - Age, Income, Consumption patterns
- **Products and services**
 - Food,
 - Housing,
 - Transport

STATUS OF UK NAMEA

- **Expanded current UK NAMEA from 78 sectors to 129 sectors**

| Emission | Emission | Emission | Emission/raw material |
|------------------|-----------------|-----------------|------------------------------|
| CO ₂ | PFCs | Pb | Se |
| NO _x | SF ₆ | Cd | Zn |
| SO _x | CO | Hg | V |
| CH ₄ | PM10 | As | Coal use |
| N ₂ O | NMVOC | Cr | Natural Gas use |
| NH ₃ | Benzene | Cu | Oil use |
| HFC's | 1-3 butadiene | Ni | |

Use of UK Namea

- **To identify sectors/activities that have most environmental impact**
- **To carry out LCA for the chosen sectors**
- **To identify sectors/activities with the greatest potential for environmental improvement**

Potential future work

- **Link I/O tables to consumption (final demand)**
 - Make the IO methodology more product related using COICOP headings (Classification Of Individual Consumption Of Purpose)
- **Include imports of products**