

# **Regional Economy-Environment Input-Output Model (REEIO)**

Measuring methods to inform SCP policy-making

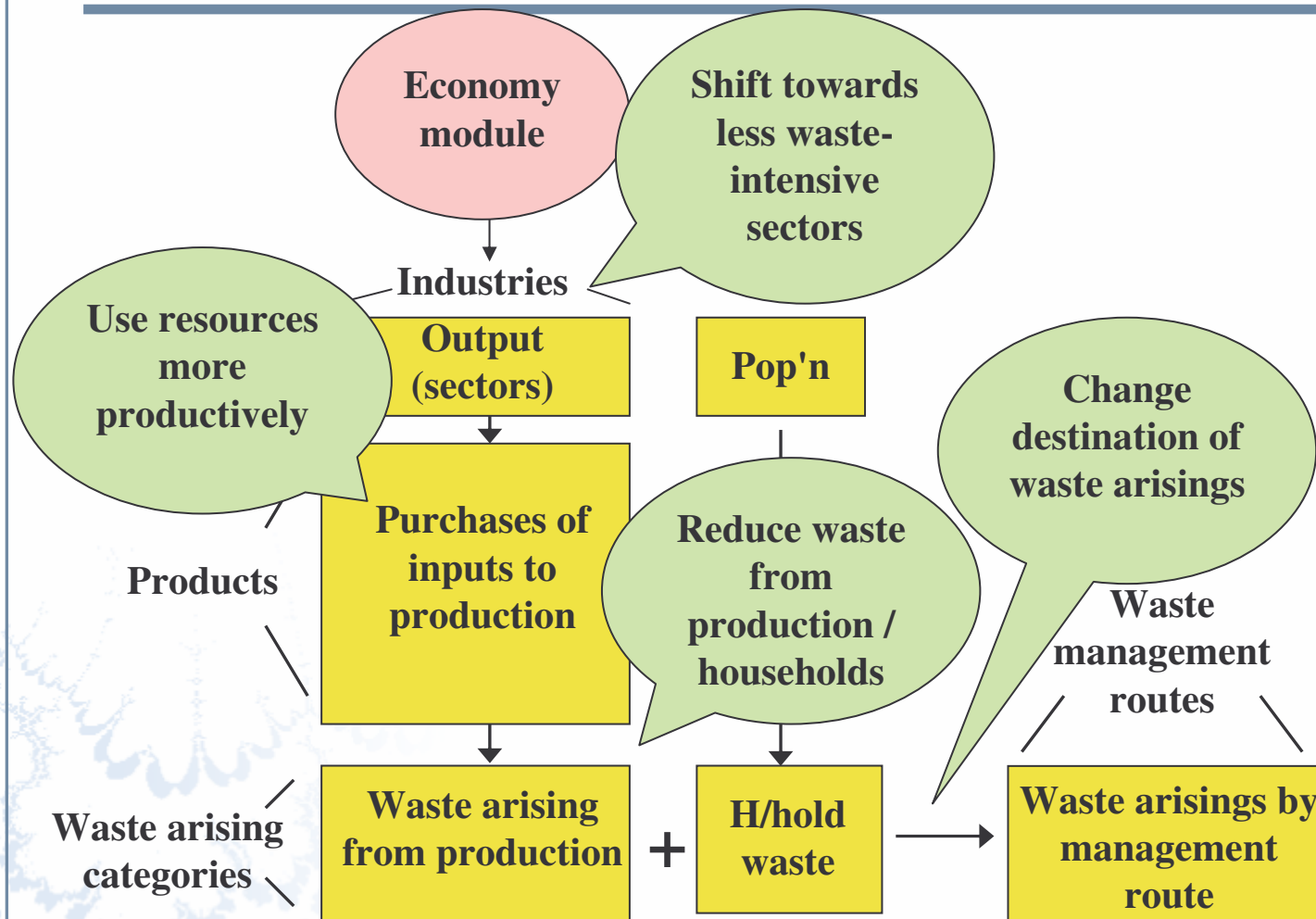
Anthony Barker, Cambridge Econometrics

# What is REEIO?

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- **Regional Economy-Environment-Input Output Model (REEIO)**
  - Forward-looking framework to consider possible environmental pressures
    - Scale of economic activity (GDP, population)
    - Structure of economic activity (which industries)
    - Trends in environmental ‘intensity’
  - Designed in consultation with EA and RDAs to provide ‘strategic-level’ analysis
- **Links economic development to selected environmental pressures**
  - Waste arisings and management options, energy use and emissions to air, water demand

# How the REEIO Model Determines Waste Projections



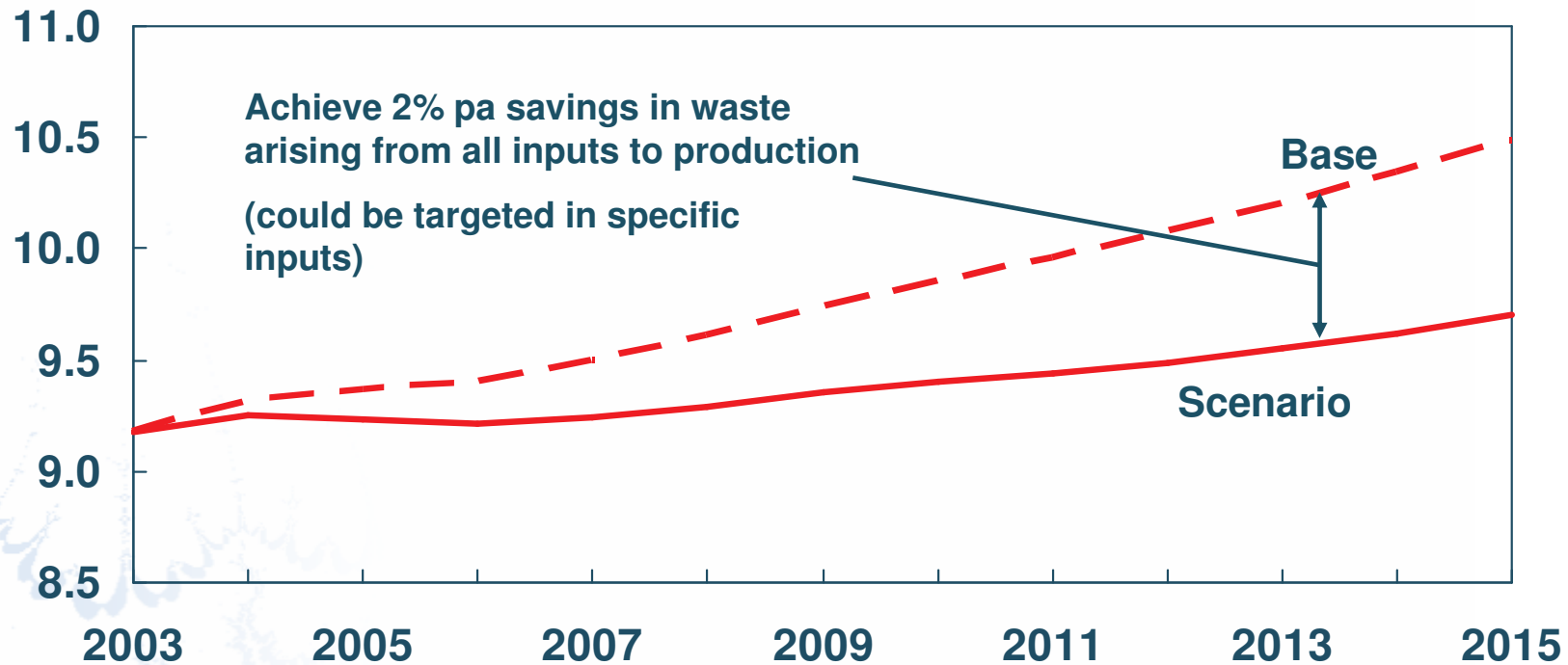
# REEIO Applications

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- **Environmental implications of alternative patterns of economic development**
  - Developing regional strategies (economic, waste, energy)

# 'Best Use of Resources': Impact on Business Waste

m tonnes



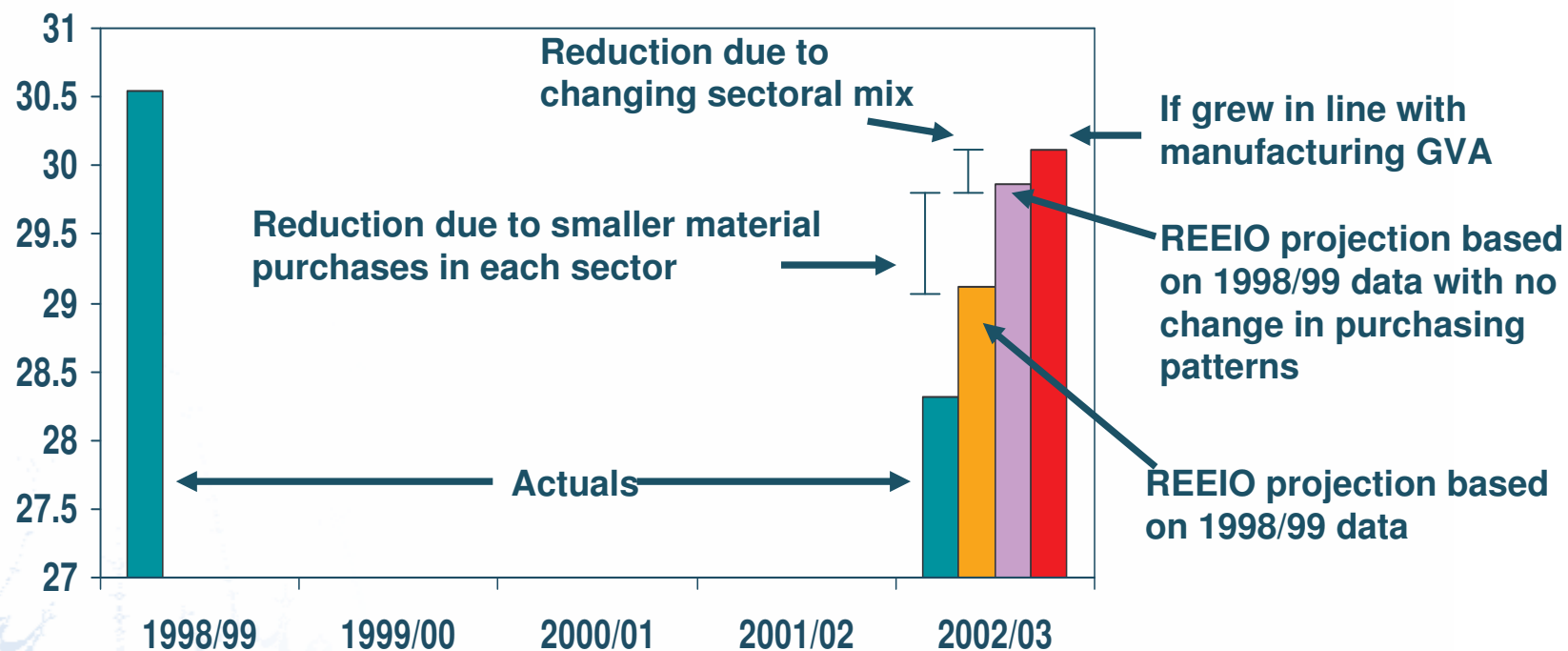
# REEIO Applications

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- **Environmental implications of alternative patterns of economic development**
  - Developing regional strategies (economic, waste, energy)
- **Supporting development of regional resource efficiency programmes**
- **Understanding past changes in resource use**
  - eg deconstructing reasons for changes in industrial/commercial waste

# C&I Waste Arisings in England, Manufacturing

m tonnes



Note(s): Excluding blast furnace slag and recycling waste.

# Outputs: Disaggregated

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- **Economy**
  - Includes value-added, employment by sector
- **Waste**
  - 27 waste arising streams (aggregated from sectors and commodity inputs)
  - Seven waste management routes
- **Energy use**
  - 44 fuel users, 14 fuels
- **Emissions to air**
  - 13 types of emissions
- **Water demand**
  - 28 water users; 2 household types

# Lessons: Modelling

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- **Focus on the production side of economic activity**
  - REEIO has detailed household consumption forecasts – opportunity to link to REAP/footprint analysis
- **Waste: modelled directly from spending on commodities rather than from material use**
  - two effects (dematerialisation of the commodity and efficiency) are combined
  - waste attributed to some industries linked to level of activity rather than the inputs to production
- **Influence is from economy to environment**
  - resource efficiency does not affect economic prospects

# Lessons: Application

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- **Extensive consultation when designing/implementing /rolling out model**
  - tried to pre-empt future need
- **‘Awareness’ still low**
  - varying capacity across the regions