

OECD ENVIRONMENTAL OUTLOOK

Modelling the triple planetary crisis of climate change, biodiversity, and pollution

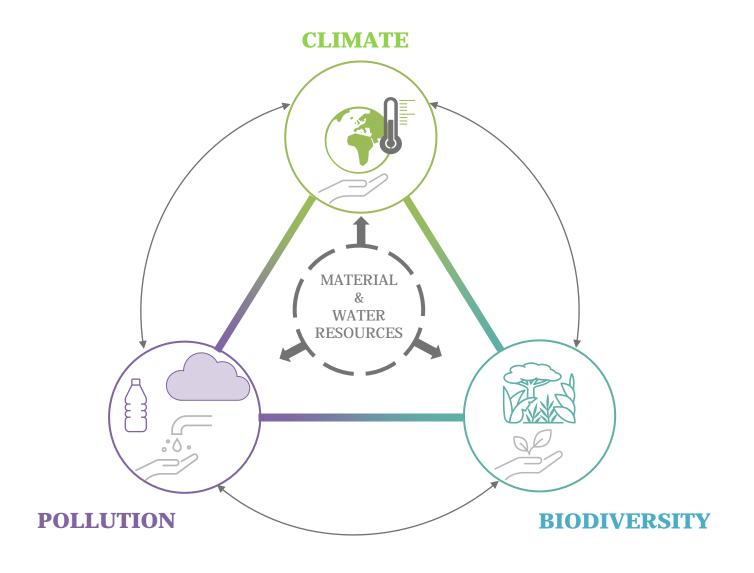
Toon Vandyck, OECD Environment Directorate

TFIAM 53, Paris 16 April 2024



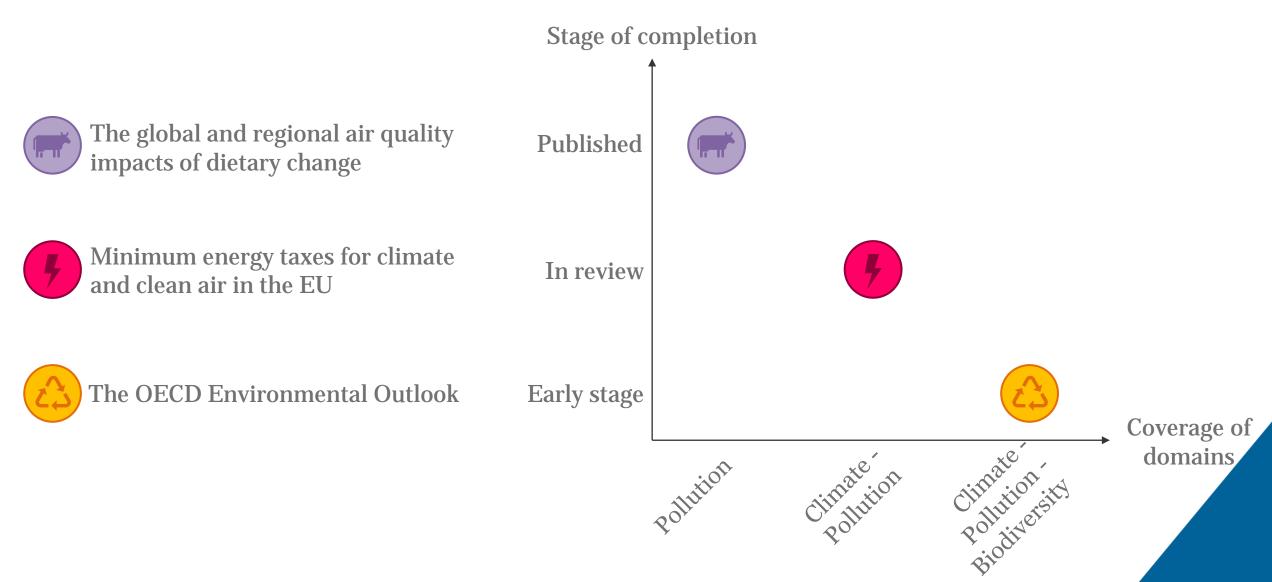


The Triple Planetary Crisis





Outline of this presentation





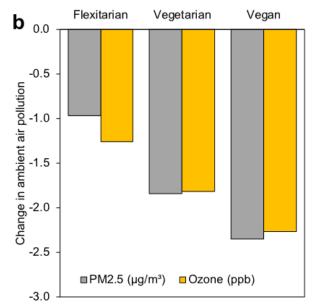




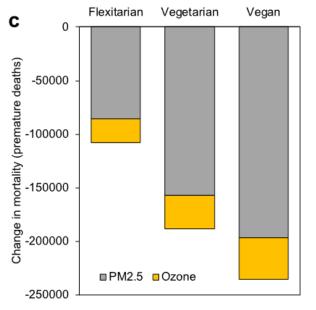
NH3 emissions

So,000 - milk&eggs pork&poultry beef&lamb oil&sugar legumes&nuts fruits&veg staple crops

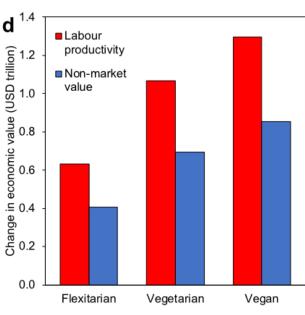
PM2.5 & O3 concentrations



Health impact



Economic impact

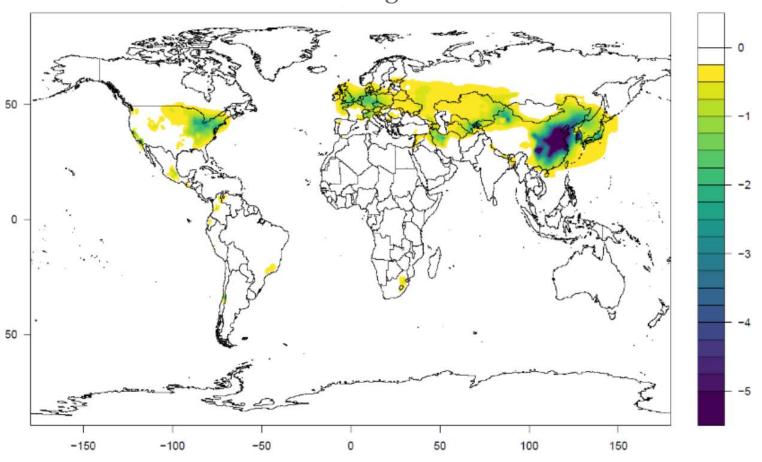






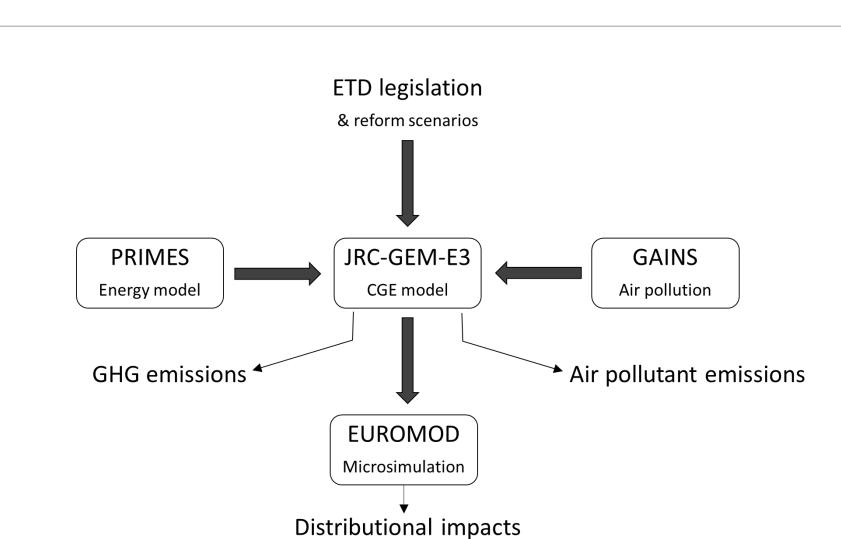


PM2.5 concentration change, Flexitarian, 2030





Minimum energy taxes for climate & clean air in the EU



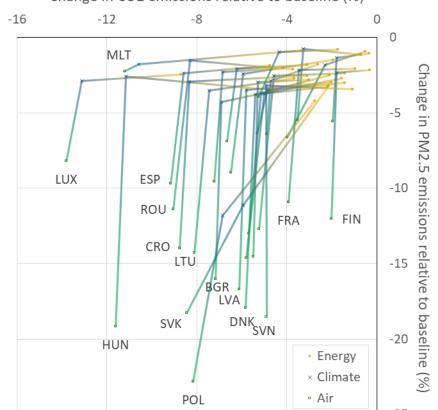


Minimum energy taxes for climate & clean air in the EU

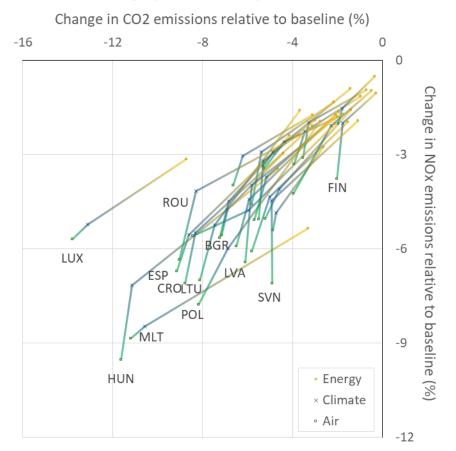
Environmental co-benefits

CO2 ~ PM2.5

Change in CO2 emissions relative to baseline (%)



CO2 ~ NOx



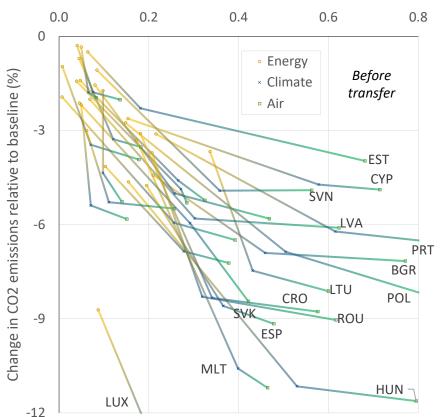


Minimum energy taxes for climate & clean air in the EU

Social trade-offs?

Poverty

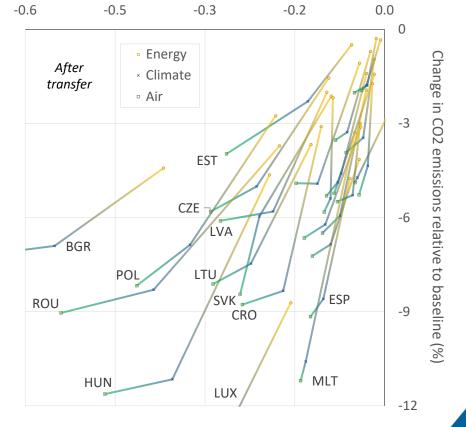
Change in AROP - fixed line (percentage point)



Before transfer of revenues

Inequality

Change in Gini coefficient (percentage point)



After transfer of revenues

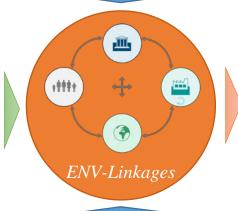


The OECD Environmental Outlook



Technological progress and behavioural change

Macro long-term model ENV-Growth



Economic projections

Partnership with PBL Netherlands **Environmental Assessment Agency –** IMAGE modelling suites

Projections of environmental pressure

- Greenhouse gas emissions
- Pollution: air and plastics
- Mismanaged plastic waste

Environmental pressures

GHG, air pollutants, materials. plastics

External inputs Land use, Energy use

Extended modelling suite

- Land use
- Water and soil pollution
- Water use and availability
- Terrestrial biodiversity



The OECD Environmental Outlook: Expert workshop



- Introduction
 - The triple planetary crisis context and research gaps
 - Framing the triple planetary crisis: impact, economic, and policy interlinkages
- Session 1. Modelling impact pathways and interactions
- Session 2. Modelling thematic policy action and spillovers
- Session 3. Modelling integrated policies for the triple planetary crisis





THANK YOU

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