

Environmental-economic accounts in the European Union: results and analytical applications

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E.2 Environmental Accounts & Climate Change

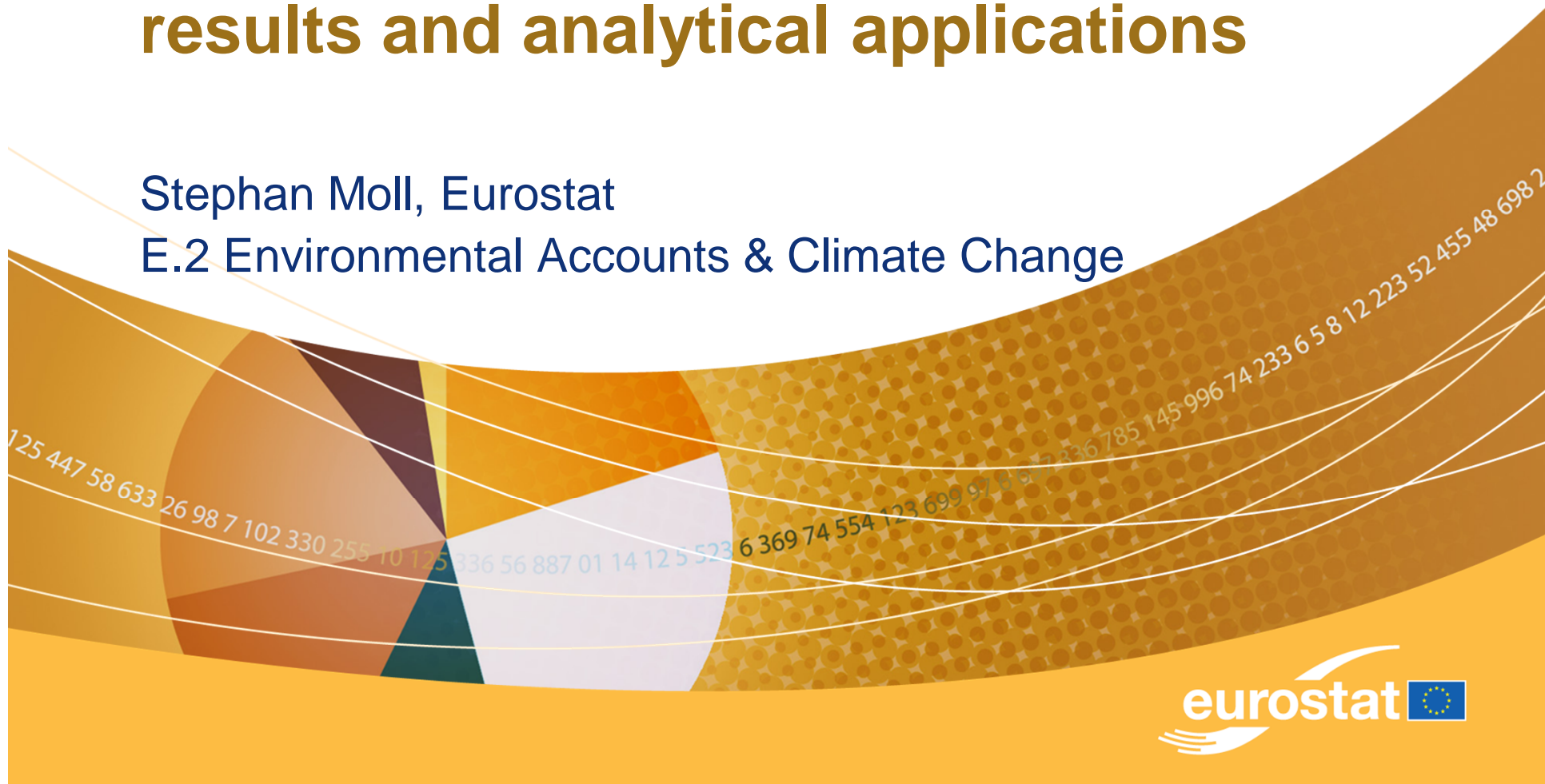


Table of Content

- History: EA at Eurostat
- Current organisation of work
 - Actors and roles
- Examples:
 - Resource productivity
 - CO₂ emissions – consumption perspective ("carbon footprint")
 - Environmental taxes by economic activities and by ESA categories
- Legal base

History

- Environmental Accounts work started in 1993 following Brundtland report and first Rio conference (1992)
- Concern was “green GDP” allowing for depletion of natural assets.
- Early work focused on forests, sub-soil assets (oil, gas, coal, minerals...)
- However each asset interested only a few countries so work at EU level was discontinued around 2003 (though individual countries continued)

History (2)

- Early work also included accounts which pick up the environment-related flows in the economy
 - Environmental protection expenditure (joint questionnaire with OECD)
 - Environmental taxes (price signals, also with OECD)
 - Air emissions by industries and households
- Development work produced many handbooks and contributed to SEEA 2003 then SEEA 2012.

History (3)

- New unit (E2) created at Eurostat in 2010
- Voluntary data collection in several areas
- First Regulation was approved in July 2011
- Full information on Environmental accounts on the Eurostat website:

http://epp.eurostat.ec.europa.eu/portal/page/portal/environmental_accounts/introduction

Environmental Accounts in the EES and Eurostat

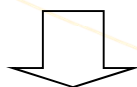
Physical Flow Accounts

Air Emissions Accounts (AEA) by industries and households

Economy-wide Material Flow Accounts (EW-MFA)

Physical Energy Flow Accounts (PEFA)

Physical Water Flow Accounts (PWFA)



adding to ESA IO framework

Monetary Flow Accounts

Environmental taxes by industries and households

Environmental Goods and Services (EGSS)

Environmental Protection Expenditure Accounts (EPEA)

Environmental subsidies (D3) and similar transfers (D7, D9)

Resource Use and Management Accounts (RUMEA)

Eurostat environmental accounts activities – current situation

- Regular collection of data on a voluntary basis in the following areas:
 - Air emissions in a breakdown by economic activities
 - Economy-wide material flow accounts
 - Environmental taxes – revenues as well as taxes paid in a breakdown by economic activities (annual)
 - Environmental expenditure (two-yearly) with joint OECD/Eurostat questionnaire
 - Environmental expenditure in a regional breakdown
 - Environmental goods and services sector (two-yearly)

Eurostat environmental accounts activities – current situation

- Experimental collection of data on a voluntary basis in the following areas:
 - Environmental subsidies and similar transfers
 - Energy accounts (PEFA)
 - Resource management expenditure

Actors & roles

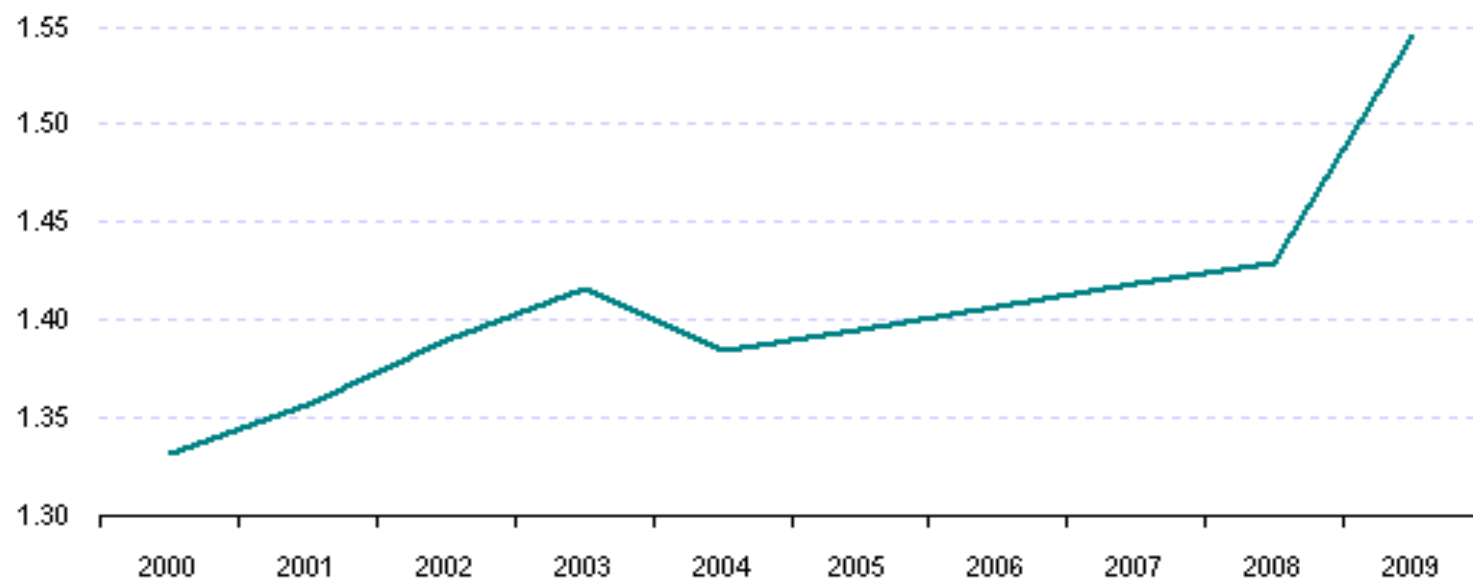
- Statistical Offices (Eurostat) – data providers (neutral)
=> clients
- Environment Agencies (EEA) – data & analyses
- Research Centres (JRC) – pilot data & analyses
- Ministries (European Commission) – policy making
- Consultants – analyses & policy advice

Examples

- Use of EA data
- Combining with macro-economic data (modelling)

Example: Resource productivity

Figure 3: Resource Productivity (GDP¹/DMC), EU-27 2000-2009
(EUR per kg)

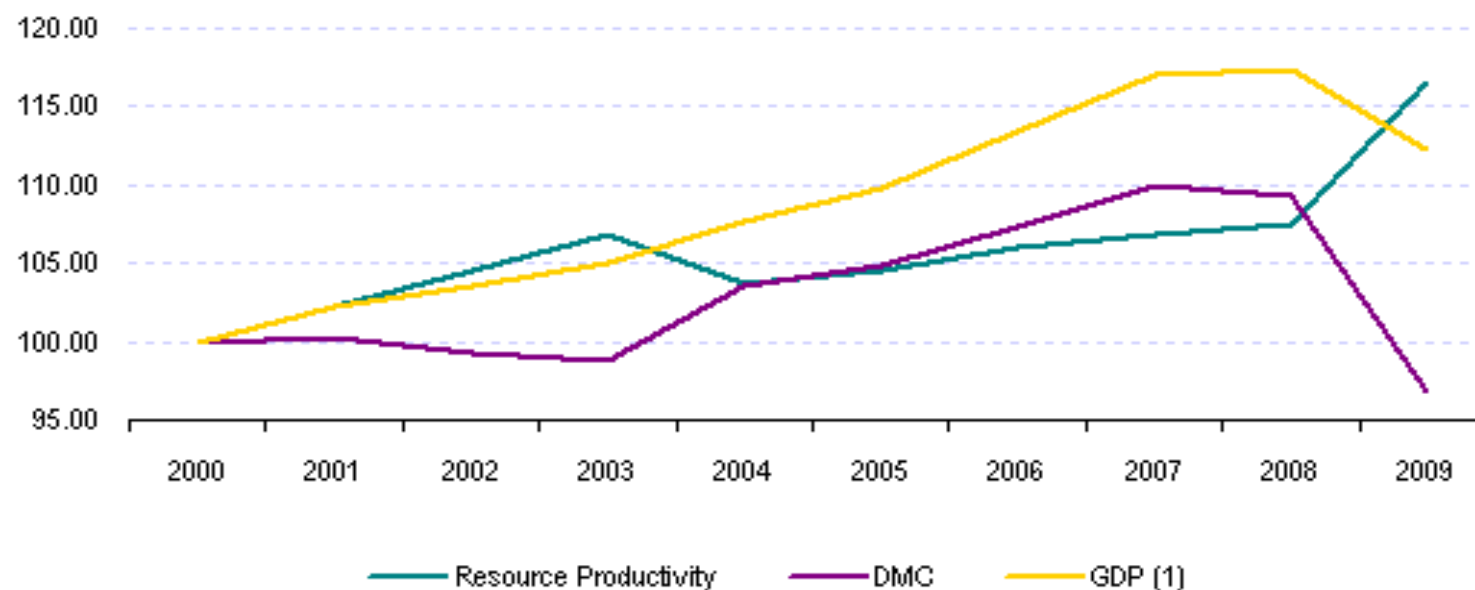


(1) GDP in chain-linked volumes, reference year 2005; suited for comparing single country over time
Source: Eurostat (online data code: [env_ac_mfa](#))

Example: Resource productivity

Figure 4: Resource Productivity in comparison to GDP and DMC, EU-27, 2000-2009

(Index: 2000=100)

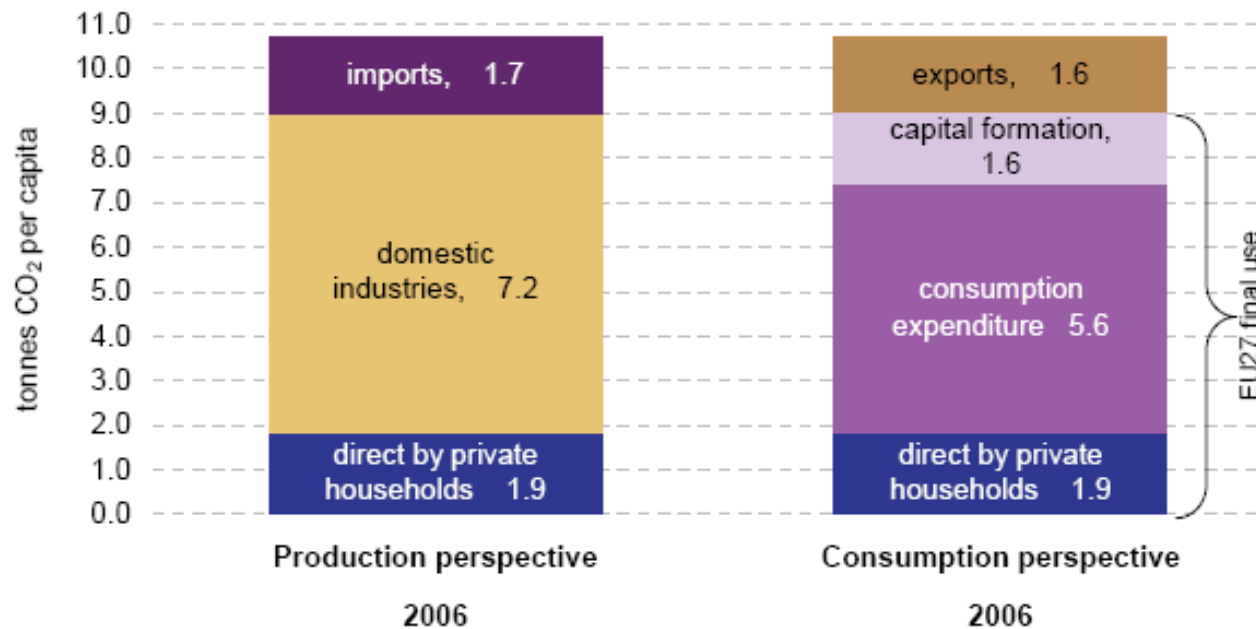


(1) GDP in chain-linked volumes, reference year 2000; suited for comparing single country over time

Source: Eurostat (online data code: [nama_gdp_k](#), [env_ac_mfa](#))

Example: IO analysis with air emission accounts

Figure 1: Domestic and global CO₂-emissions - production and consumption perspective, EU27 2006 (tonnes per capita)



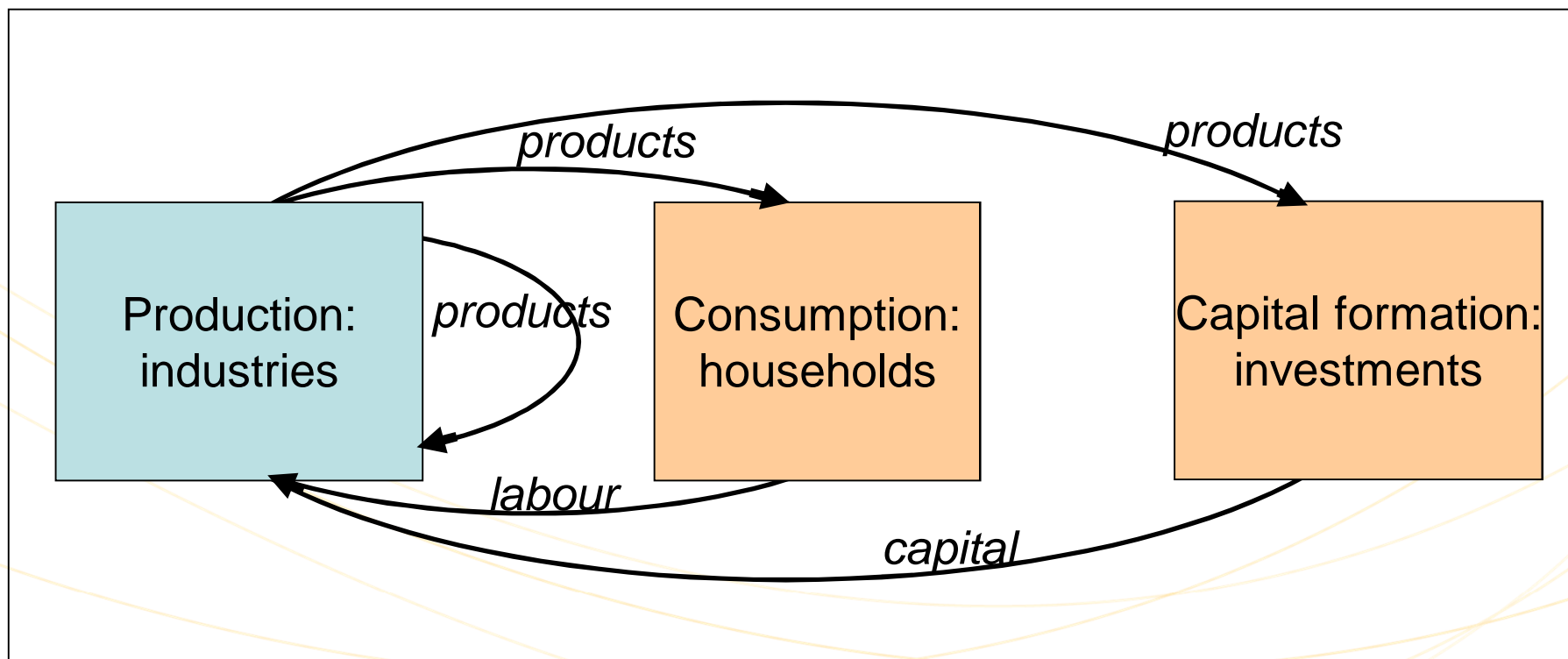
Source: Eurostat (online data codes : [env_ac_ainacehh](#), [env_ac_io](#))

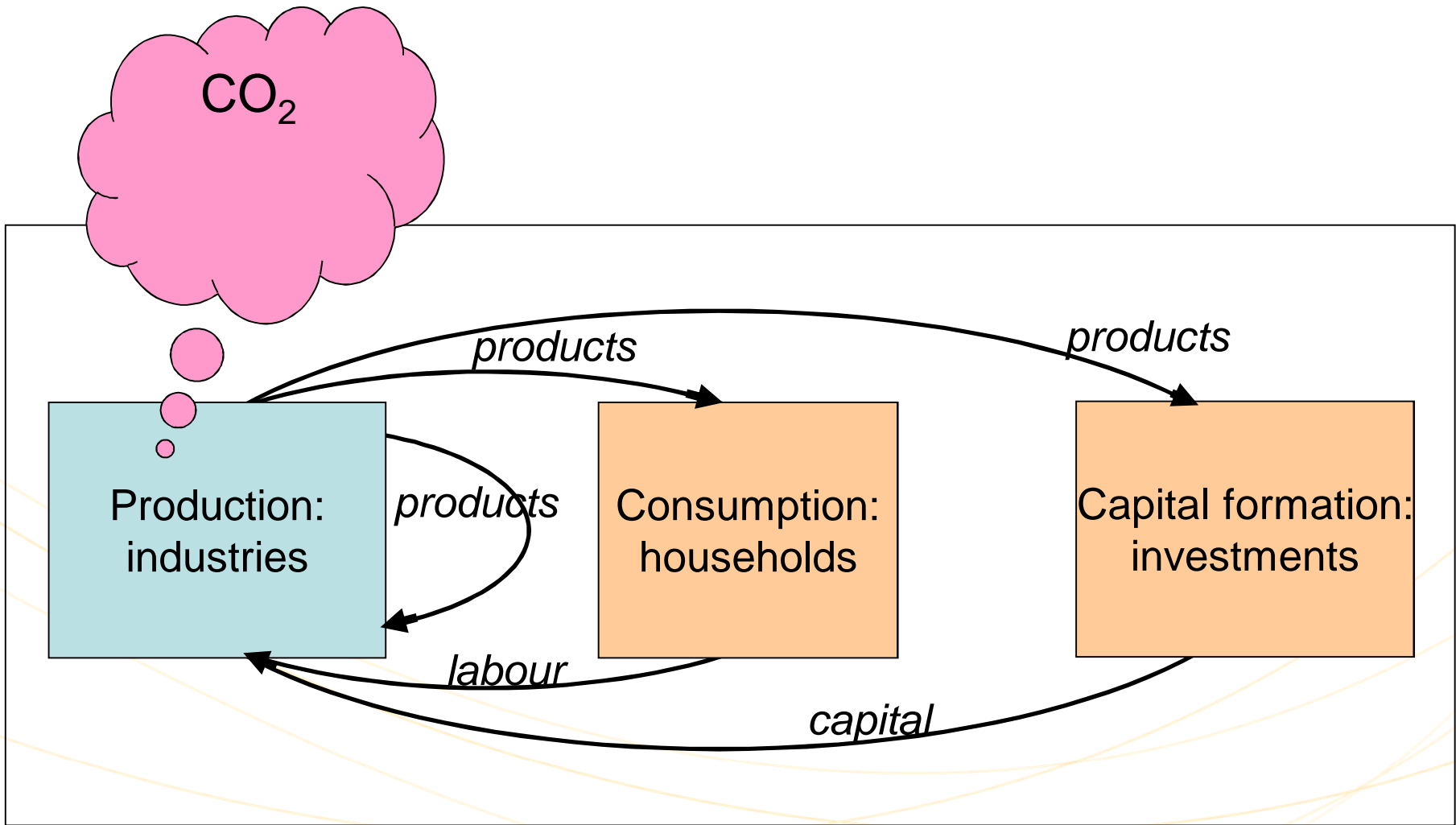
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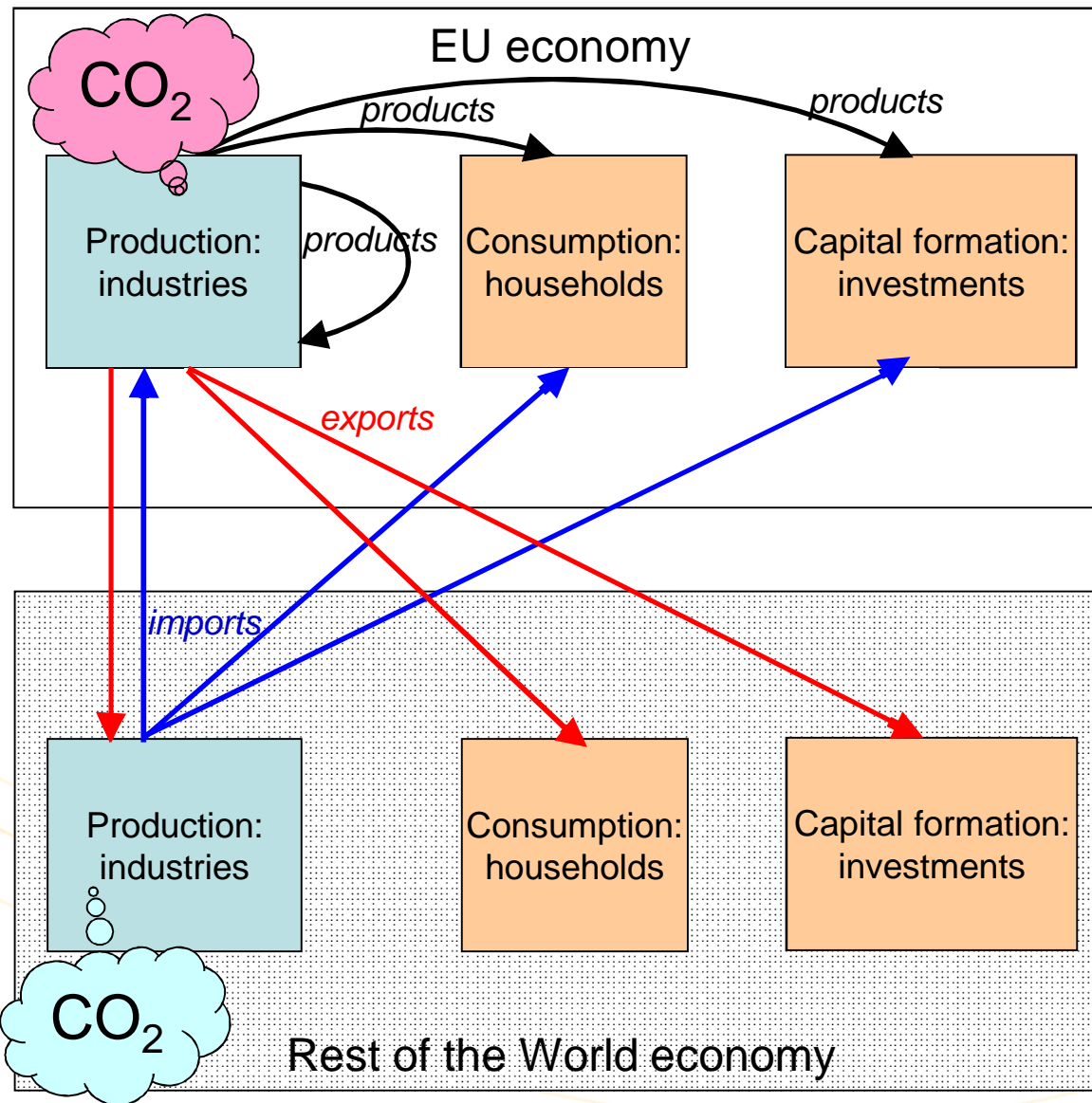
Concepts

- simple economic cycle
- assigning CO₂-emissions: two perspectives
 - production perspective (national production system)
 - consumption perspective (global production chains)

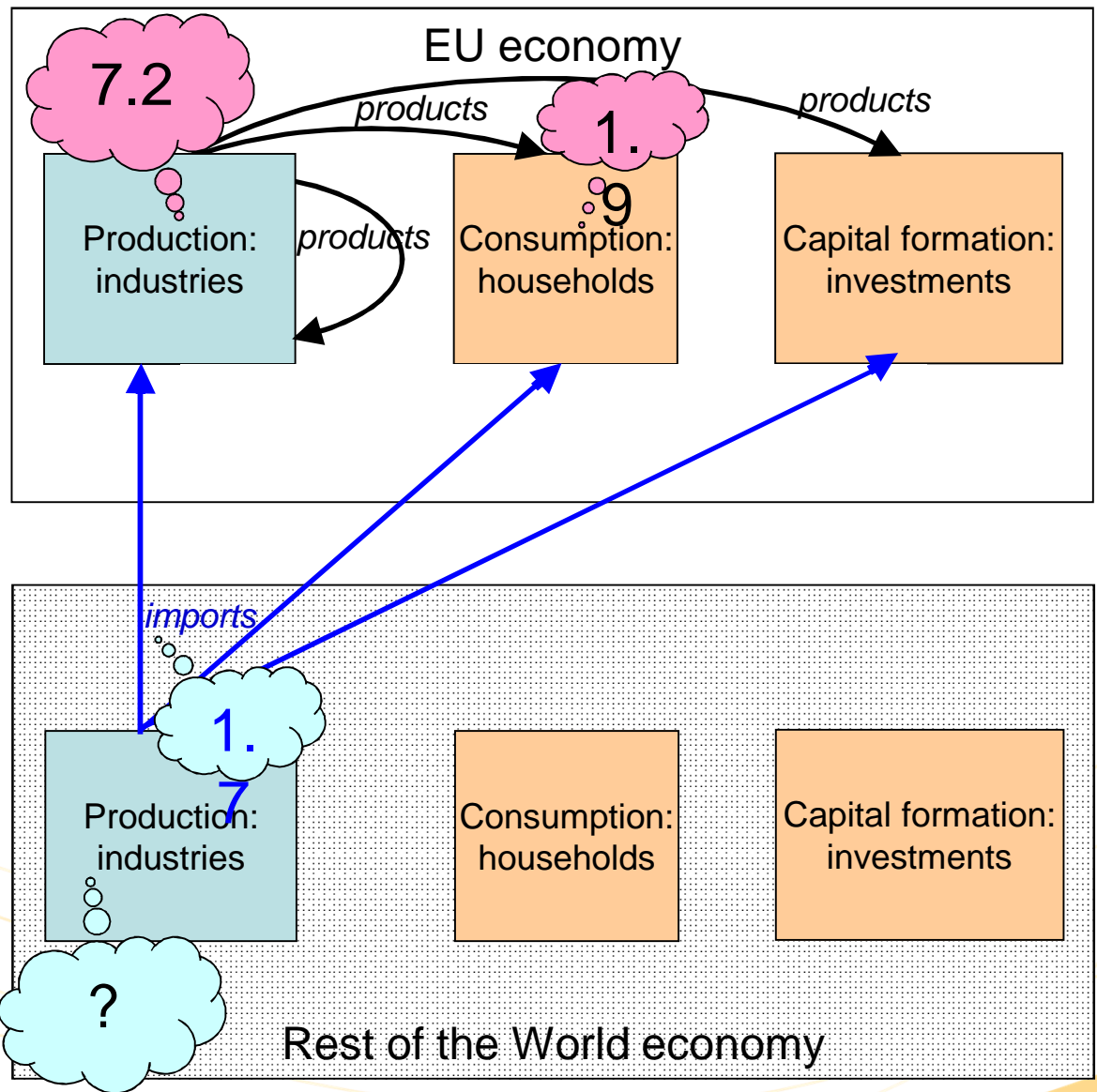
Economic cycle - national economy



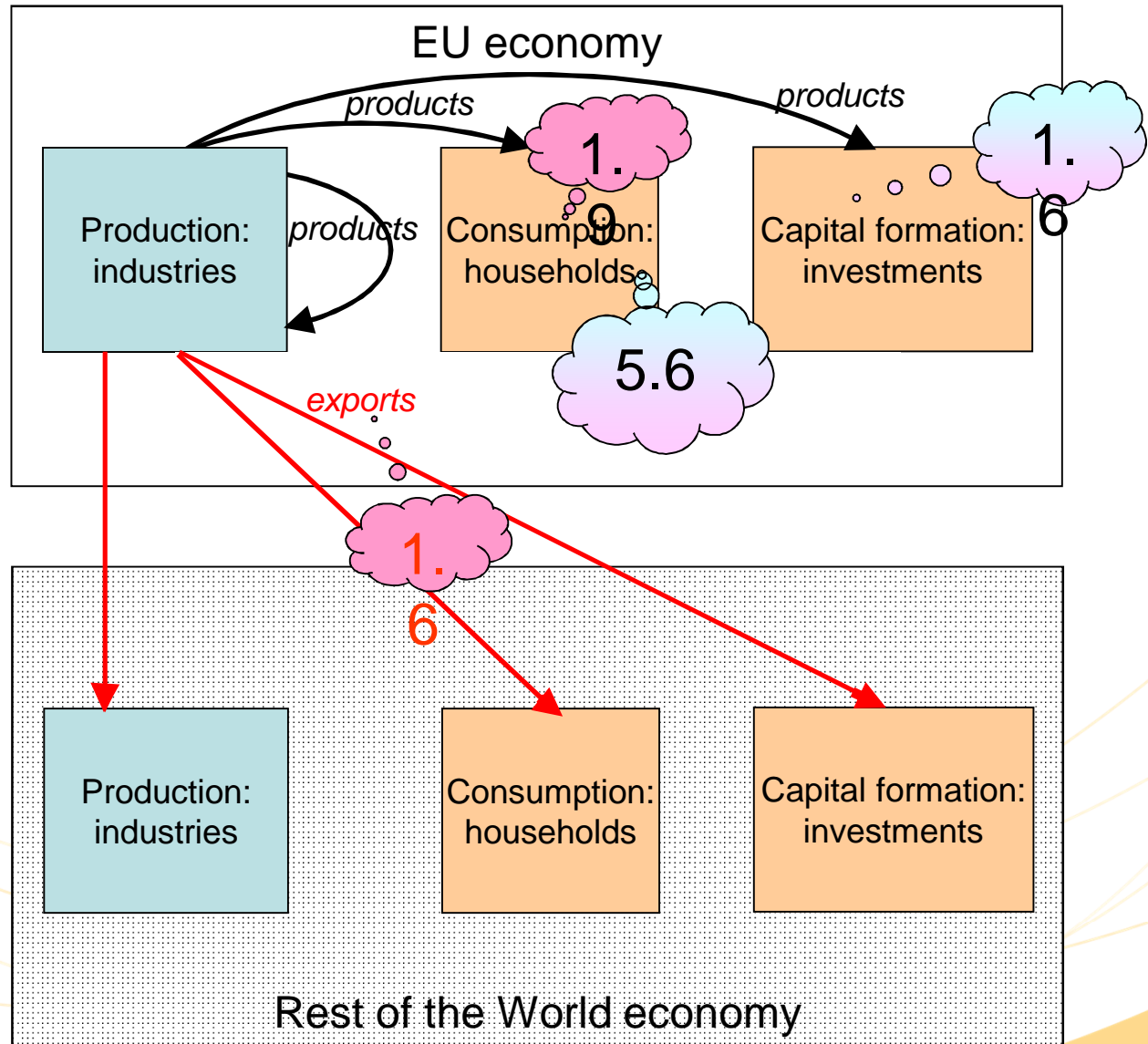




Production perspective

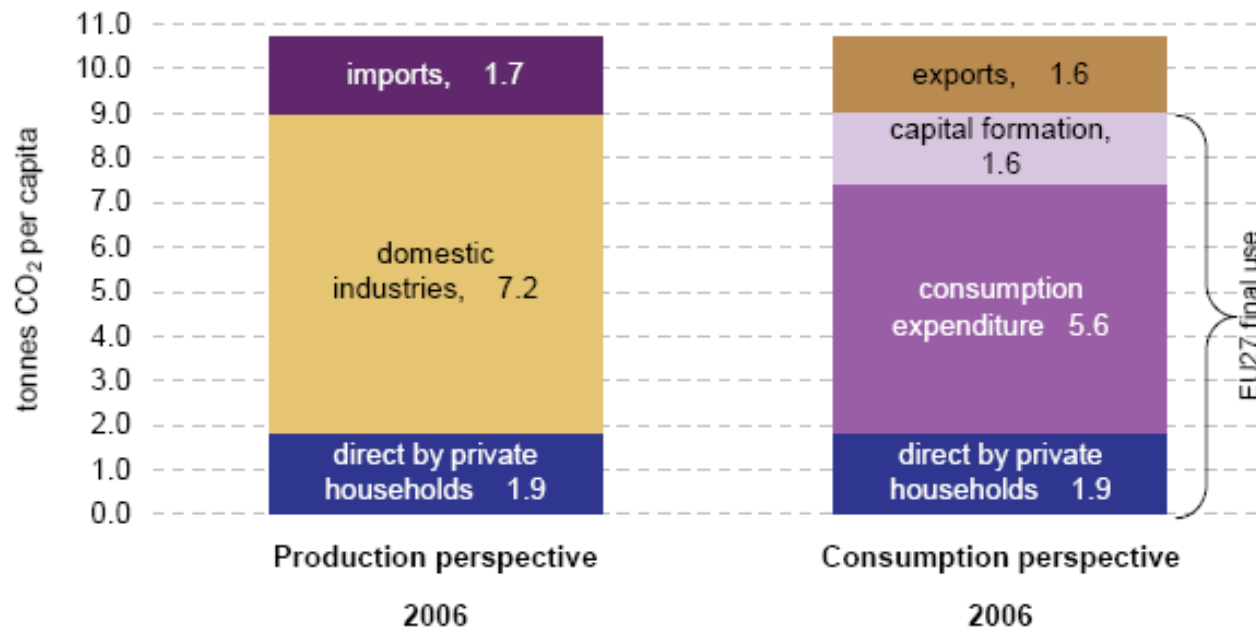


Consumption perspective



Example: IO analysis with air emission accounts

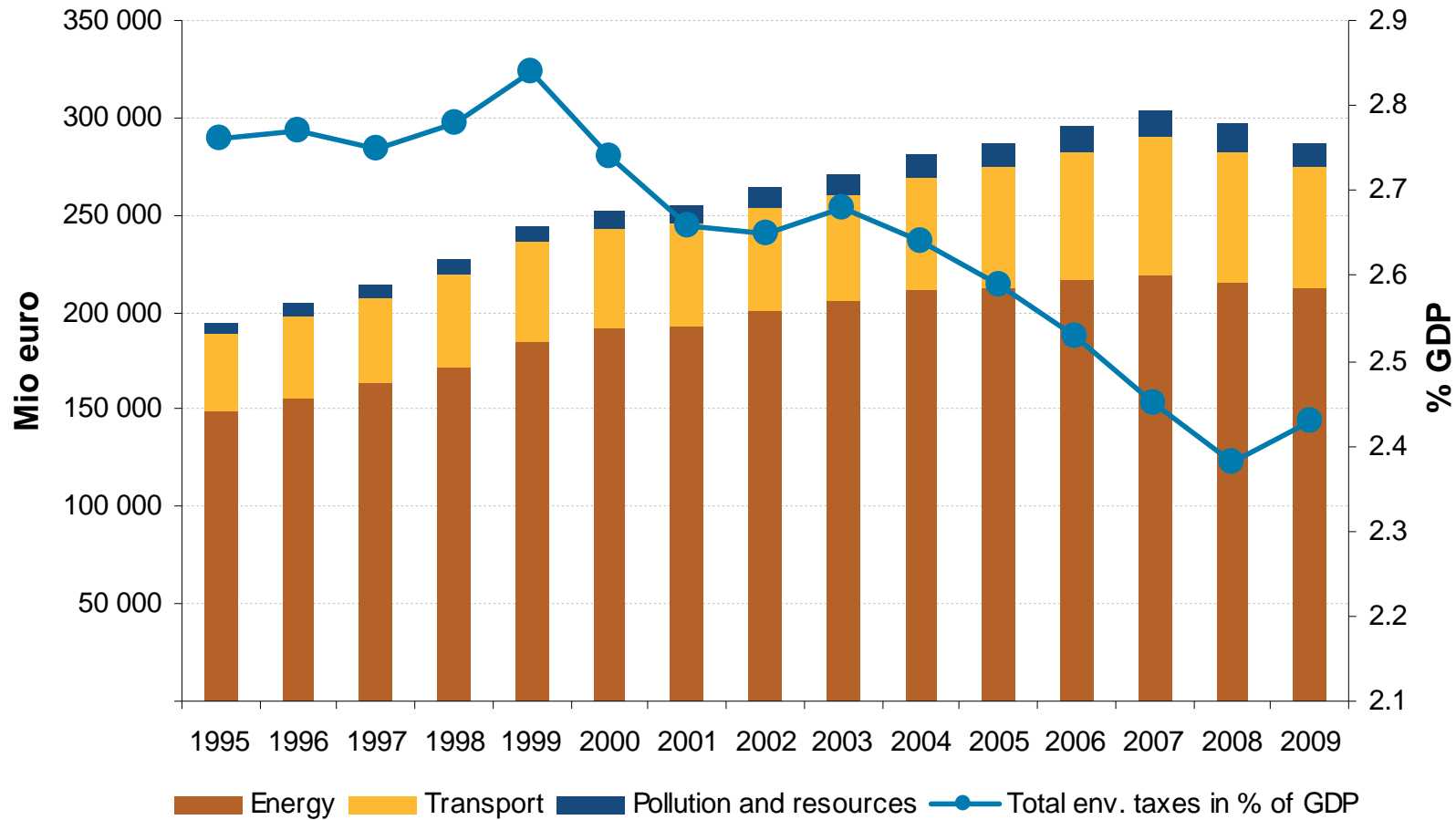
Figure 1: Domestic and global CO₂-emissions - production and consumption perspective, EU27 2006 (tonnes per capita)



Source: Eurostat (online data codes : [env_ac_ainacehh](#), [env_ac_io](#))

http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-11-022/EN/KS-SF-11-022-EN.PDF

Example: Environmental taxes revenue



http://epp.eurostat.ec.europa.eu/portal/page/portal/product_details/publication?p_product_code=KS-SF-11-067

Regulation = an EU law

- By 2011, 3 modules mature enough to adopt a Regulation which commits all (27) EU Member States to provide data from 2013 onwards on:
 - Air emissions accounts by industries (NACE and households)
 - Environmentally-related taxes
 - Material flow accounts (economy-wide, no industry breakdown)
- Second batch is now under preparation
 - Environmental protection expenditure
 - Environmental goods and services sector
 - Physical energy flow accounts (by industries)

Résumé

- Environmental Accounts = multipurpose toolbox
 - many analytical potentials
 - potential clients: raise awareness (good relation with Joint Research Centres, European Environment Agency, EU research projects)
 - Eurostat is data provider (rather than analyst)
- Integration with economic data (National Accounts) still can be improved
- Statisticians need exchange with and support from policy-makers, potential users.

Thank You !

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