

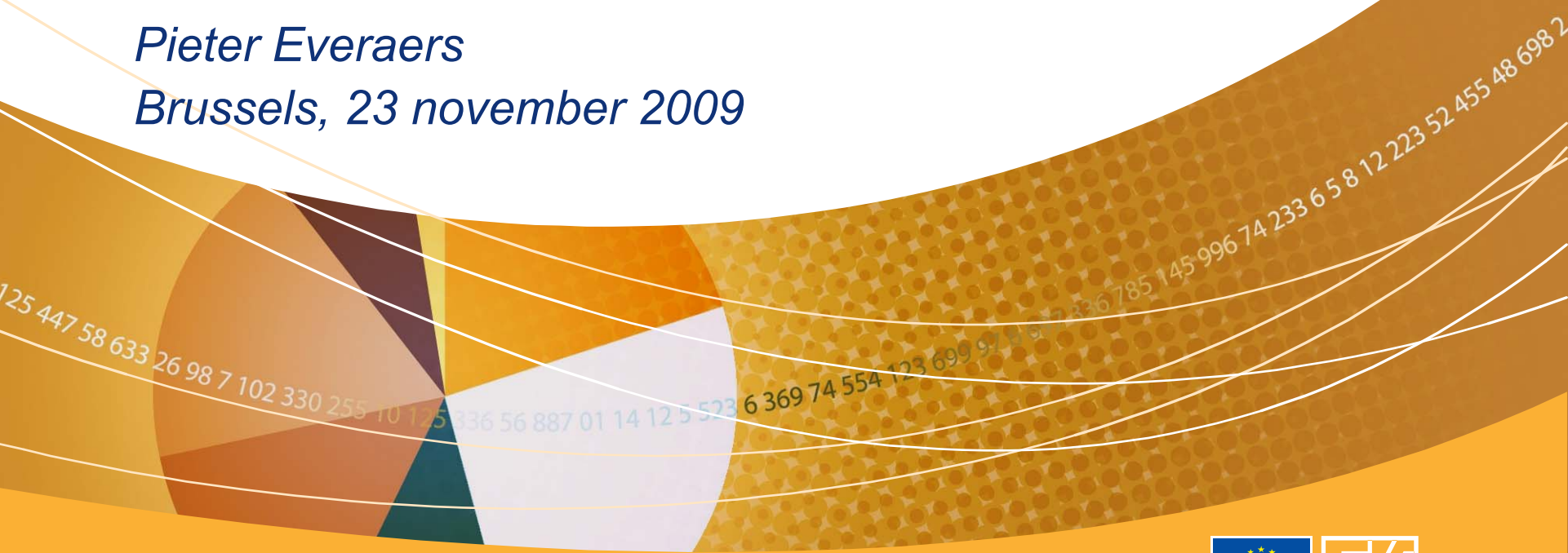
# ICT for global sustainable development

## The example of IT use in Environmental Statistics

Eurostat : the statistical office of the EC

*Pieter Everaers*

*Brussels, 23 november 2009*

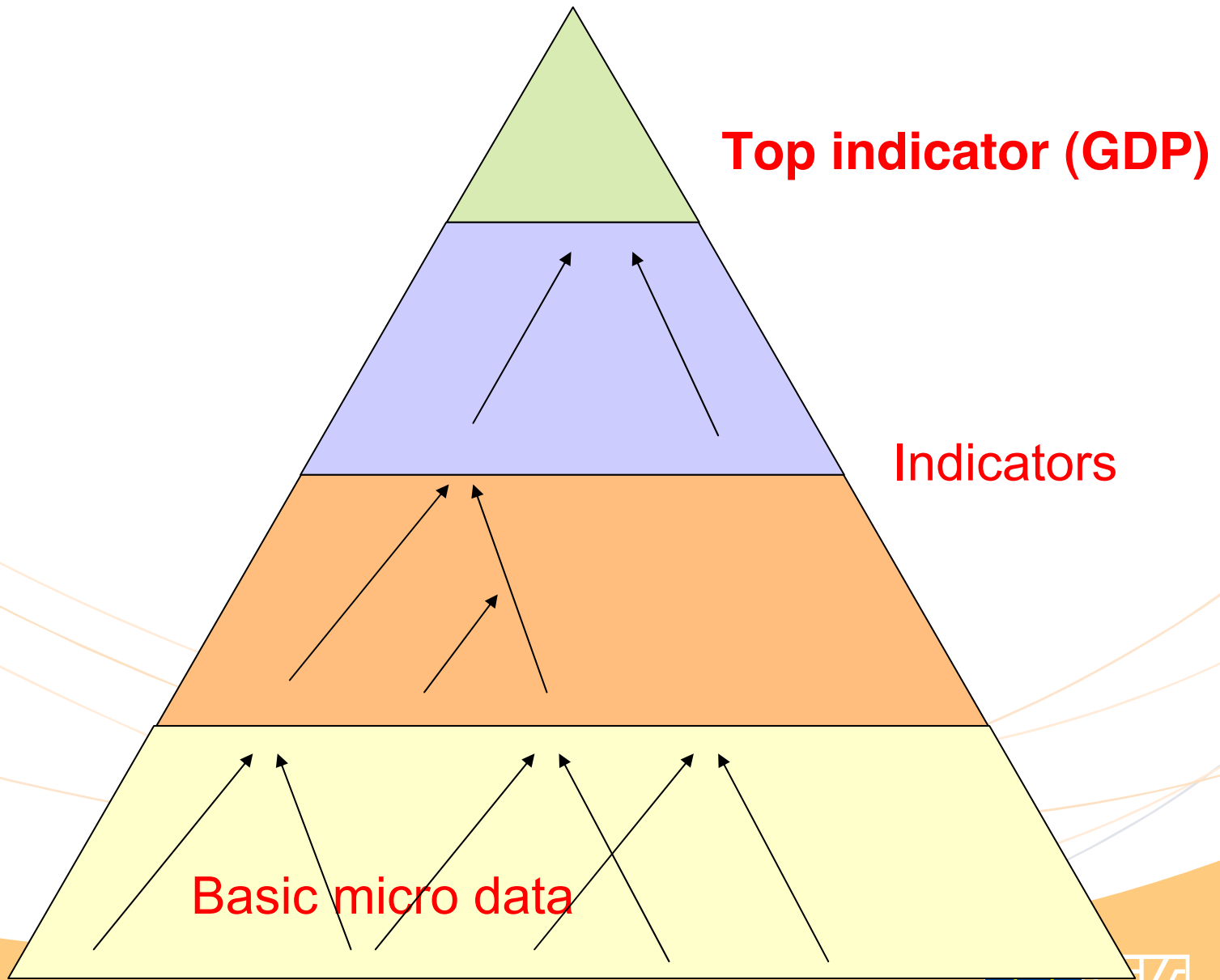


# ***ICT and environmental statistics: Eurostat***

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## ***Content of this presentation:***

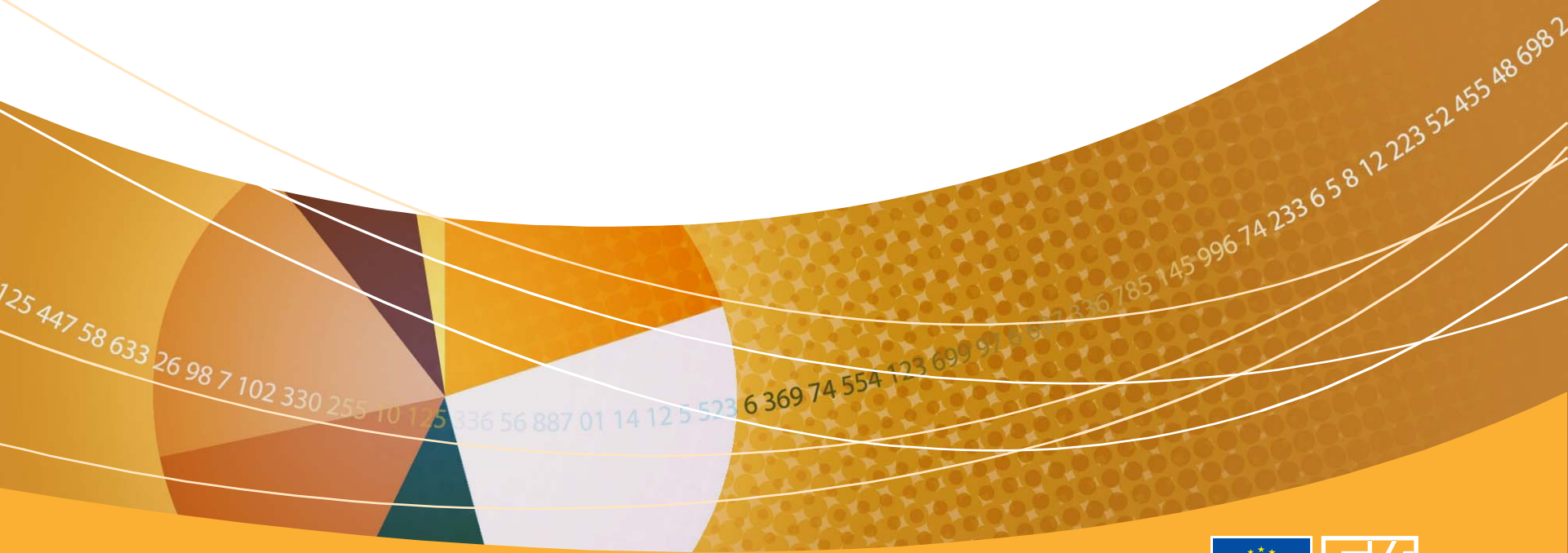
- **In general : IT use in statistics**
  - **Data collection / submission**
  - **Validation**
  - **Integration, accounting techniques**
  - **Dissemination of results**
- **More specific : three examples of recent applications**
  - **Data Centres**
  - **LUCAS (Land Use / Crop Area frame sample Survey)**
  - **Environmental Accounts**



# ICT for global sustainable development

## The example of IT use in Environmental Statistics

### *Example : Environmental Data Centres*



# Go4 – Technical Arrangement:

## EUROSTAT:



*... is establishing environmental Data Centres (DCs) on:*

**Natural Resources**



**Products (IPP)**



**Waste**

*... and is responsible for:*

- + Streamlining of Environmental Indicators
- + Coordination of data quality issues

# *Data centres and SEIS*

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- The Communication “Towards a Shared Environmental Information System” was published on 1<sup>st</sup> February 2008
- Among the **SEIS principles**, three are of particular importance:
  - Information should be managed as close as possible to its source
  - Information should be collected once, and shared with others for many purposes
  - Information should be readily accessible to end-users

# Data centre on waste

## Objectives

- be the central entry point for waste data
- provide (*statistical*) information/data on waste and the associated environmental impacts
- perform quality assurance and coordinate data managed by Go4 partners
- develop and coordinate methodologies and indicators for policy assessment



# Data centre on waste

Current state (cont.)



## Central entry point

- single entry tool for all reporting obligations on waste
- stepwise implementation, first reporting successfully completed (June 2008)
- not yet for Waste Statistics Regulation
  - ▶ Edawaste 2.0 + eDAMIS file transfer

# Data centre on waste

Current state (cont.)

## Data dissemination and publication

- Waste statistics available on Eurostat's website
- A new dedicated website has been launched:

[Eurostat home page](#) > [Environmental Data Centre on Waste](#)

[www.ec.europa.eu/eurostat/waste](http://www.ec.europa.eu/eurostat/waste)

*... to be integrated into overall data centre portal ...*

- Special topics
- Structural indicators
- Euro-Indicators/PEEIs
- Eurostat yearbook
- Sustainable Development
- Government Finance
- HICP

# Environmental Data Centre on Waste

- Sign in / Personal settings
- Activities
- Services



- Introduction
- News
- Data
- Reporting
- Methodology
- Legislation
- Publications
- Links

## Main goal of the Data Centre on Waste

- provide robust data, indicators and other relevant information for assessing policy effectiveness,
- manage data, perform quality assurance, and coordinate data and information managed by other bodies (DG Environment, Eurostat, Joint Research Centre, European Environment Agency, other EU institutions, international organisations such as OECD and UN, etc.),
- be the central entry point for reporting data under EU laws on waste,
- be the reference point for answering specific policy questions related to (statistical) information on waste and associated environmental impacts,,
- develop and coordinate methodologies for producing statistical data, information and indicators on the environmental impacts of waste generation and management, taking a life-cycle perspective, in cooperation with the Go4 partners.

## Information on progress in setting up the Waste Data Centre

- **users** can consult the [tables and indicators available at Eurostat](#) and its partner organisations.
- **data providers** such as national statistical offices and environment agencies responsible for reporting can find [Eurostat's data reporting tools](#) and the relevant background information.

## Policy behind the Centre

In 2005 there was an agreement to set up ten Environmental Data Centres by the 4 EU bodies (the group of 4, "Go4") : DG Environment ,(Eurostat), the Joint Research Centre (JRC) and the European Environment Agency (EEA) .

The technical arrangement signed outlines the agreed short and medium-term division of responsibilities in environmental reporting and disseminating information. Eurostat will be lead organisation for three environmental data centres: on natural resources, on products (supporting the integrated product policy) and on **waste**.

The EEA acts as data centre on air, climate change, water, biodiversity and land use; the JRC as data centre on soil and forestry.

For any suggestions how we can improve our services please contact the Eurostat [Waste data centre team](#).

- Themes
- General and regional statistics
- Economy and finance
- Population and social conditions
- Industry, trade and services
- Agriculture and fisheries
- External trade
- Transport
- Environment and energy
- Science and technology
- Eurostat publications
- View all titles
- Database
- Browse

EUROPA - Eurostat - Introduction - Microsoft Internet Explorer provided by European Commission

http://epp.eurostat.ec.europa.eu/portal/page?\_pageid=3155,70491033,3155\_70521316&\_dad=portal&\_schema=PORTAL

File Edit View Favorites Tools Help

Site3-TGM graph

EUROPA - Eurostat - Intr...

Important legal notice

English (en)

European Commission > Eurostat home page > Environmental Data Centre on Waste

Contact | Search on Eurostat

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Activities

Services

**Environmental Data Centre on Waste**

Introduction News Data Reporting Methodology Legislation Publications Links

**Special topics**

- Structural indicators
- Euro-Indicators/PEEIs
- Eurostat yearbook
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**Themes**

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- Science and technology

**Eurostat publications**

View all titles

**Database**

Browse

**Structural Indicators**

The structural indicator on municipal waste consists of the amount of municipal waste generated, which includes waste from similar sources such as commercial, agriculture and from industries are not included.

Data on municipal waste are collected via the Eurostat Statistics Regulation.

**Municipal waste generated (in kg/person)**

(in 1000 tonnes)

**Municipal waste landfilled (in kg/person)**

(in 1000 tonnes)

**Municipal waste incinerated (in kg/person)**

(in 1000 tonnes)

Municipal waste is only a part of total waste generated (waste from services, restaurants, schools, hospitals) is included.

**Waste Statistics Regulation**

On the basis of the Regulation on waste statistics (several business activities according to the NACE treatment has a breakdown in five treatment types regions (NUTS1). All values are measured in 1000

Site3-TGM graph - Microsoft Internet Explorer provided by European Commission

http://epp.eurostat.ec.europa.eu/tgm/refreshGraphSeries.do?tab=graph&toolbox=series&plugin=1&language=en&pcode=en051

File Edit View Favorites Tools Help

Site3-TGM graph

Table Graph Map

**Municipal waste generated - Kg per person per year**

This indicator presents the amount of municipal waste generated. It consists of waste collection ... [more](#)

Year	EU (27 countries)	EU (25 countries)	EU (15 countries)
2006	~515	~525	~535
2005	~510	~520	~530
2004	~505	~515	~525
2003	~500	~510	~520
2002	~495	~505	~515
2001	~490	~500	~510
2000	~485	~495	~505
1999	~480	~490	~500
1998	~475	~485	~495
1997	~470	~480	~490
1996	~465	~475	~485
1995	~460	~470	~480

Legend Types Data Label&Sort

**time**

- 2006
- 2005
- 2004
- 2003
- 2002
- 2001
- 2000
- 1999
- 1998
- 1997
- 1996
- 1995

Last Data

**geo**

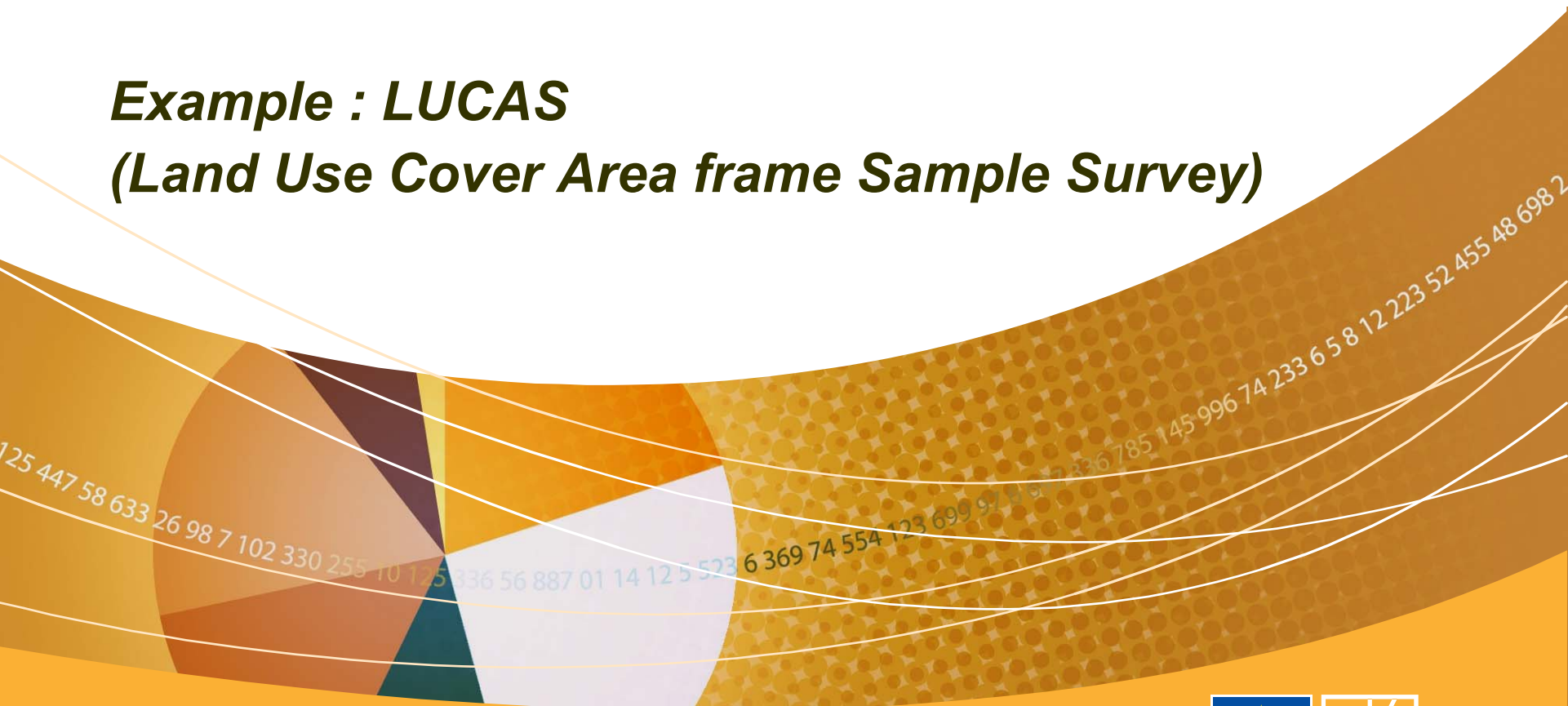
- EU (27 countries)
- EU (25 countries)
- EU (15 countries)
- Euro area (15 count)
- Euro area (13 count)
- Belgium
- Bulgaria
- Czech Republic
- Denmark
- Germany
- Estonia
- Ireland

Refresh

# ICT for global sustainable development

## The example of IT use in Environmental Statistics

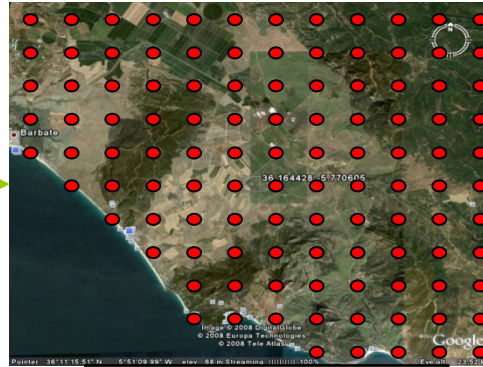
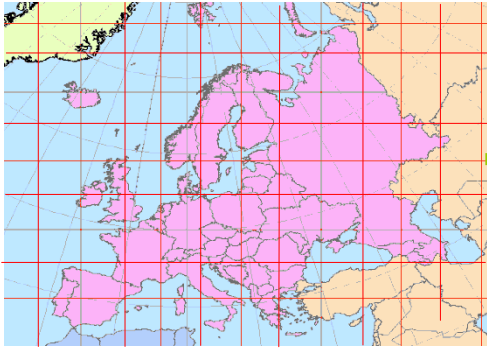
***Example : LUCAS  
(Land Use Cover Area frame Sample Survey)***



# What is LUCAS?

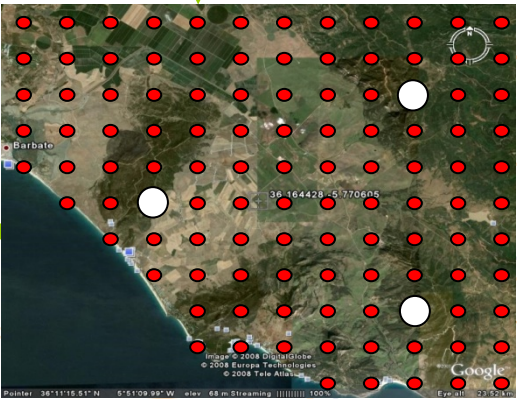
- LUCAS is a field sample survey for collecting data on land cover/use and agro-environmental indicators
- Organised by Eurostat every 3 years
- LUCAS data is used for producing harmonised land cover/use data for EU countries
- Main data users are DG ENV, DG JRC, DG ENTR, DG ARGI, DG REGIO and European Environment Agency

# LUCAS data collection process

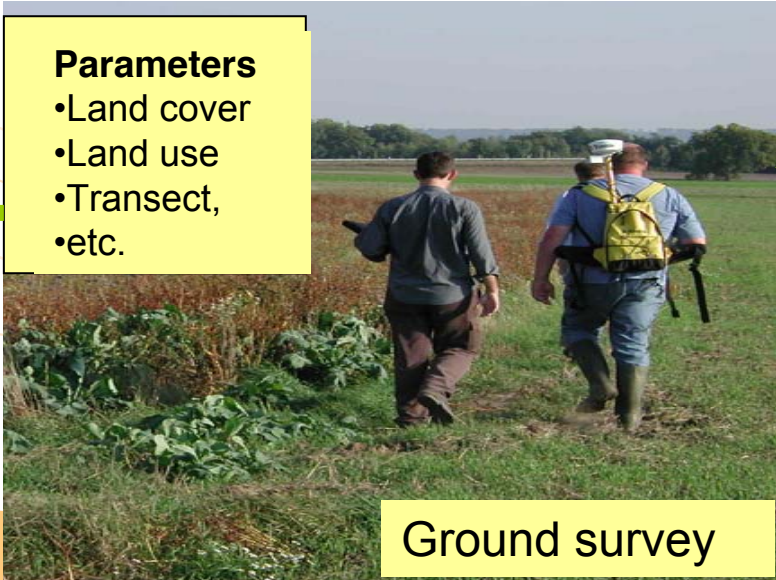


1 100 000 points

Photointerpretation:  
Classification in  
7 strata



Sample of 260,000 pts



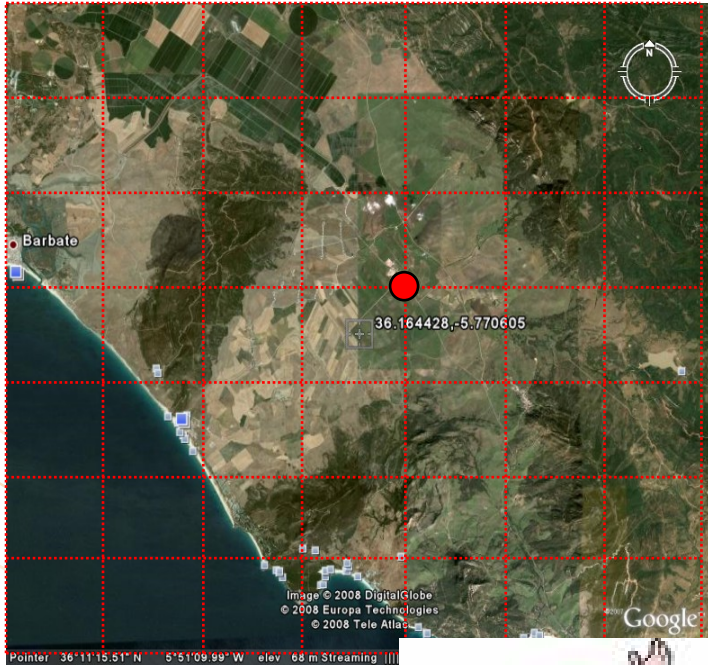
Ground survey

**Parameters**  
• Land cover  
• Land use  
• Transect, etc.

**Dissemination**

■ FOREST AREA
■ ORCHARD
■ PASTURE
■ PERMANENT NON-ARABLE LAND
■ PERMANENT CROPS
■ OTHER PERMANENT INDUSTRIAL CROPS
■ OTHER WOODED AREA
■ ALL UP AREAS
■ BARE
■ PERMANENT CROPS
■ FOOD CROPS
■ OTHER CROPS
■ CITY PULVER, VERDEGRAS AND TERRAZZO

# Data collection process: Ground survey



Land Cover  
“sunflower”

Land Use “agriculture”



## 2. LUCAS informative content



Indicators of landscape diversity and heterogeneity

C01	B43	C01	B75	02	62	02	B43	15	B16
Broadleaved forest	Other vegetables	Broadleaved forest	Other fruit trees	Herb fringes	Road	Herb fringes	Other vegetables	Woodland margins	Maize

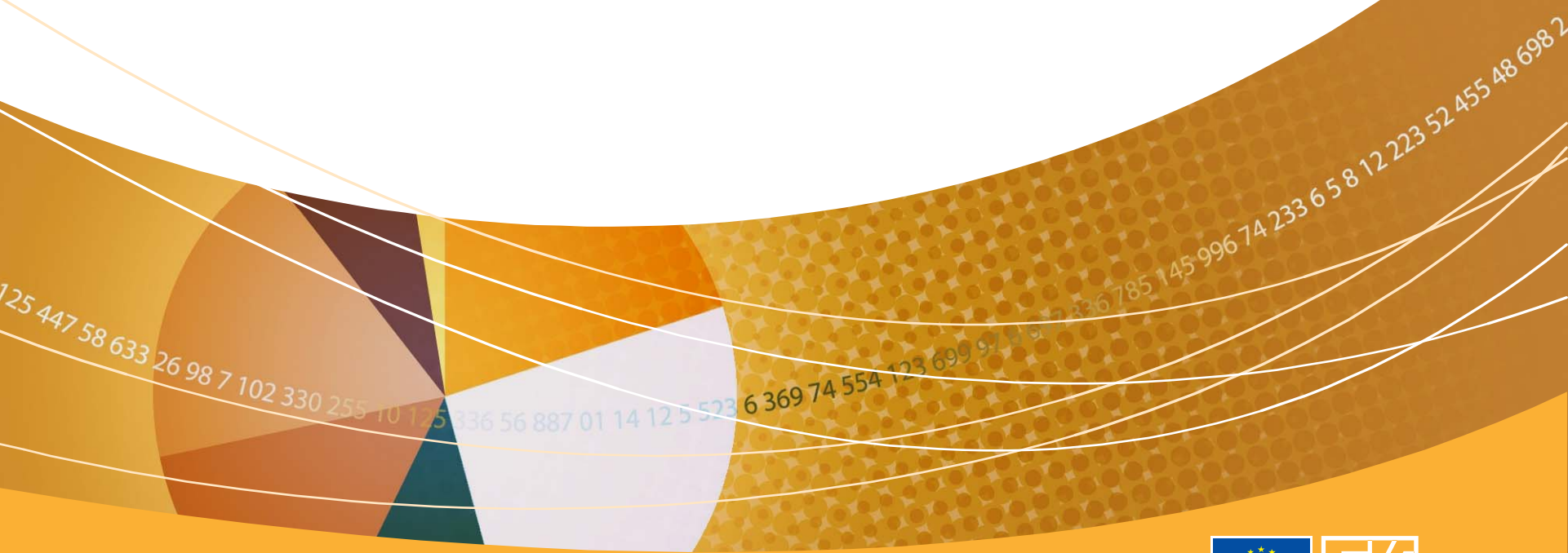
Transect



# ICT for global sustainable development

## The example of IT use in Environmental Statistics

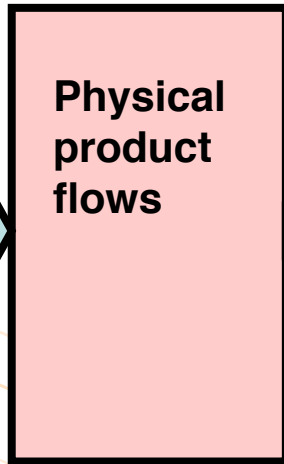
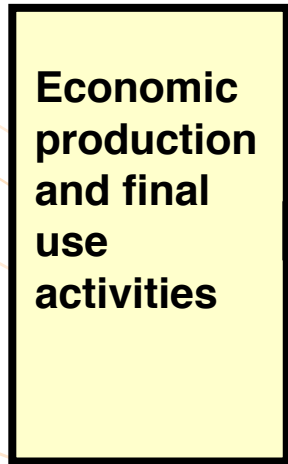
### *Example : Environmental Accounting*



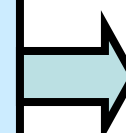
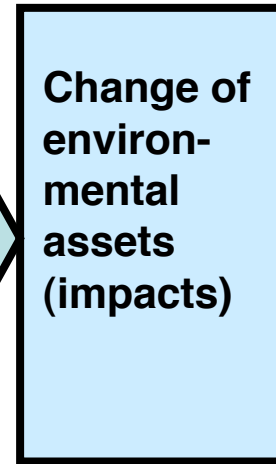
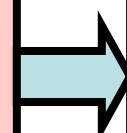
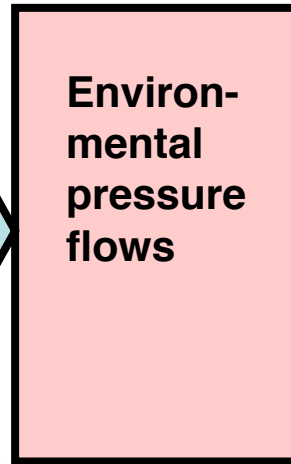
# D-P-S- cause-effect chain

(*‘Statistisches Bundesamt’*)

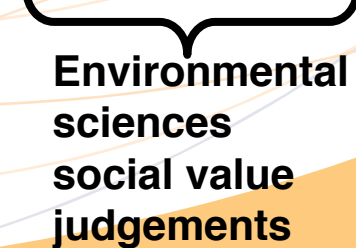
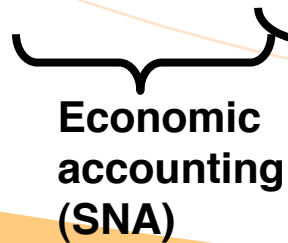
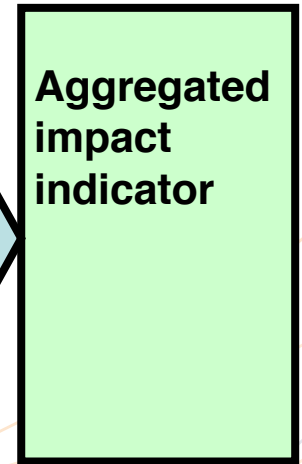
## Driving forces



## Pressures



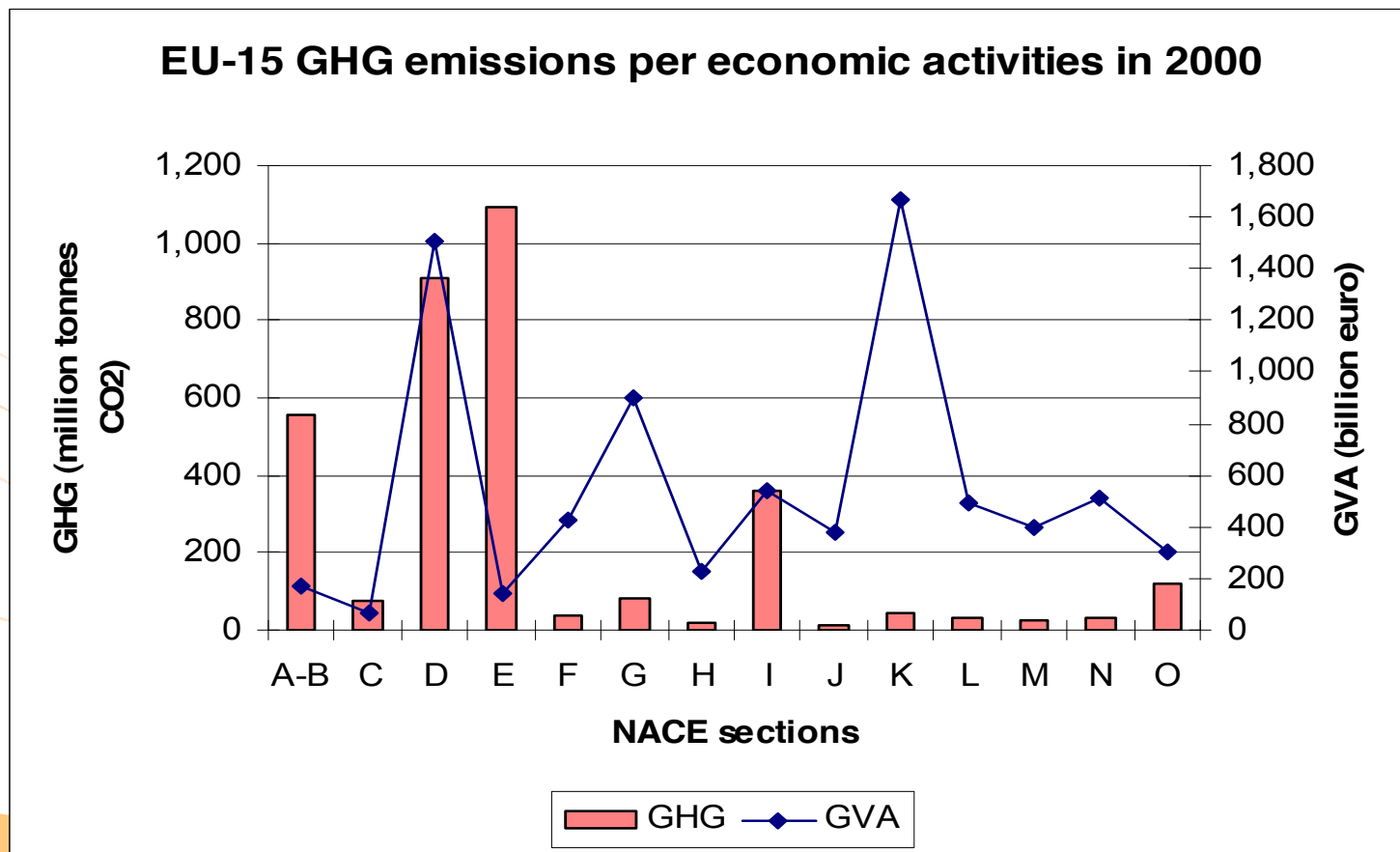
## State



# Advantages

- Link between environment and economy
  - Good complement to environment statistics
  - Disaggregating data by economic activities, **including agriculture**
  - National or regional level
  - Consistency with economic data
- Tool for policy making and monitoring
  - Decoupling indicator
  - Sustainable production and consumption
  - Degradation of natural resources
  - Effects of economic policy measures (env. Expenditure)

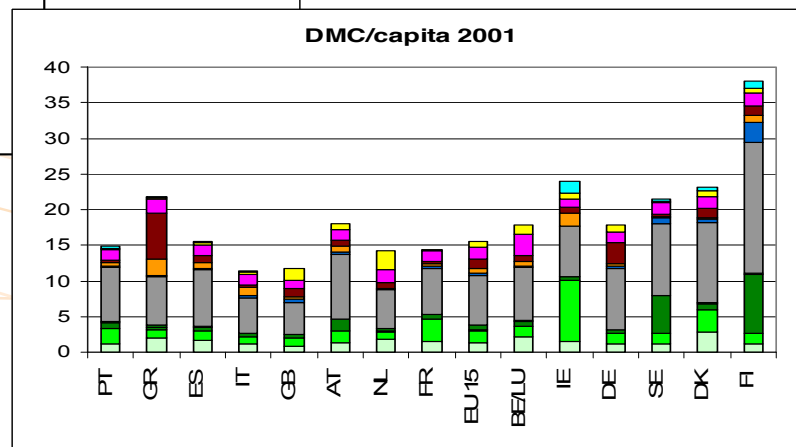
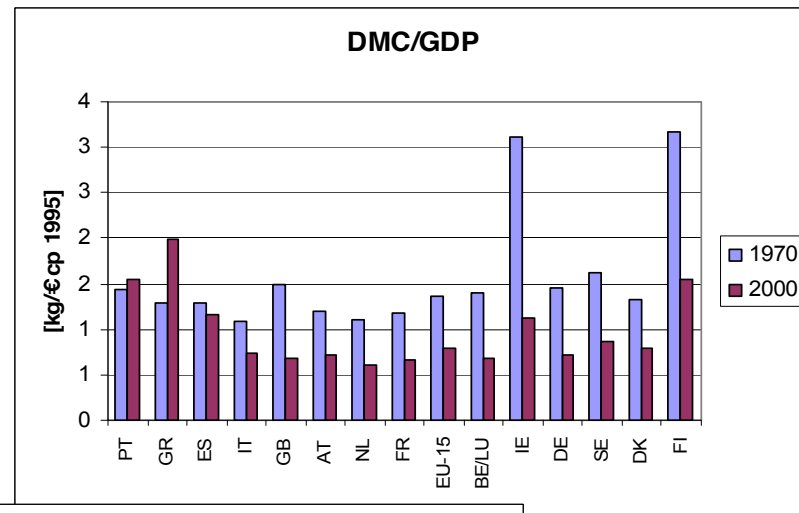
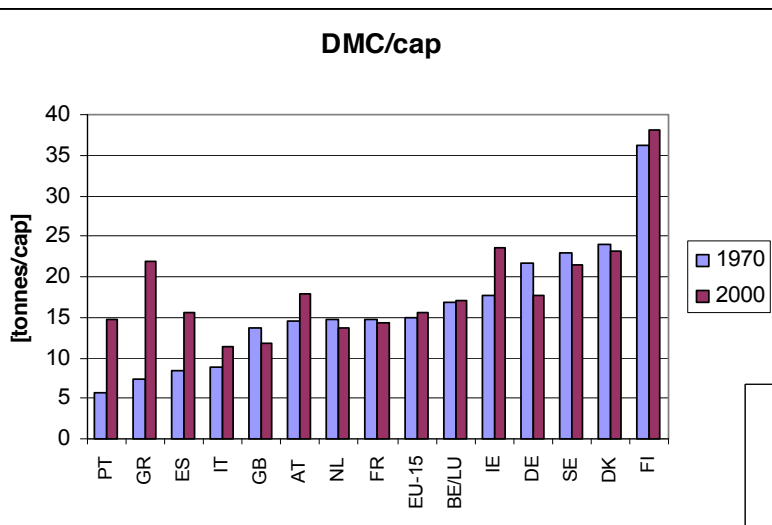
## Modules of the Environmental Accounts: Air Emissions



# Material Flow Accounts (MFA):

## DMC composition per MS for 2001

### DMC/capita and DMC/GDP for MS 1970:2000



Thank you

