



Eurostat's indicator and environmental accounts activities

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**Presentation at UNCEEA
25-27 June 2014, New York**

Overview of presentation

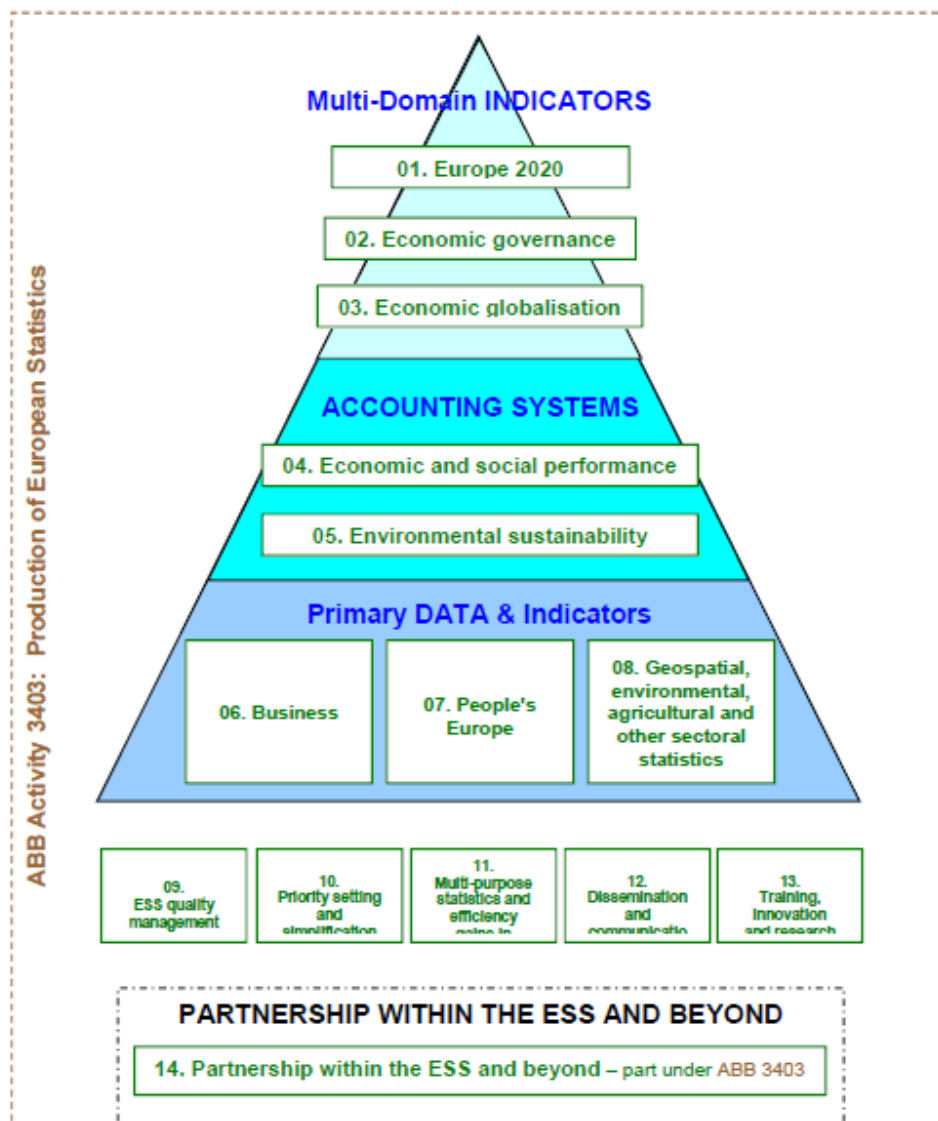
- *Indicator activities: resource efficiency scoreboard, Europe 2020 and SDI*
- *Environmental accounts as producers of indicators and latest developments*



European

Information pyramid layers:

*Data
Accounts
Indicators*





RESOURCE EFFICIENCY SCOREBOARD – policy background

Europe 2020 strategy

- Sustainable growth: promoting a resource efficient, greener and more competitive economy**
- A resource-efficient Europe: Flagship initiative under the Europe 2020 Strategy**
- Roadmap to a resource-efficient Europe**
- Scoreboard of indicators**



RESOURCE EFFICIENCY SCOREBOARD – structure

A three-tier system based on available statistics from Eurostat, the EEA, the JRC and other international recognised sources

- **Lead indicator** (Resource productivity, DMC) (from envt. accounts)

- **Dashboard indicators** (Land, Water, Carbon)

- **Sets of theme-specific indicators**
 - ✓ 'Transforming the economy' (Waste, Innovation, Getting prices right)
 - ✓ 'Natural capital and ecosystem services' (Biodiversity, Air, Land, Marine resources)
 - ✓ 'Key areas' (Food, Buildings, Mobility)

- **Press release 186/2013 of 6 Dec. 2013**



European Commission

RESOURCE EFFICIENCY SCOREBOARD on the Eurostat website

European Commission > Eurostat > Europe 2020 indicators > Flagship initiative: Resource efficient Europe

Home Statistics Publications About Eurostat User support

Europe 2020 indicators

- Headline indicators
 - Targets
 - Context
 - Main tables
 - Publications
 - Links
- Statistics illustrated
- Flagship initiative: Resource efficient Europe**
 - Context
 - Main tables
 - Methodological note
 - Links

Resource Efficiency Scoreboard

The Resource Efficiency Scoreboard presents indicators covering themes and subthemes of the Roadmap to a Resource Efficient Europe. The scoreboard aims to monitor the implementation of the roadmap, to communicate the link between resources and economy and to engage stakeholders. Indicators are arranged in three groups – lead, dashboard and theme-specific indicators.

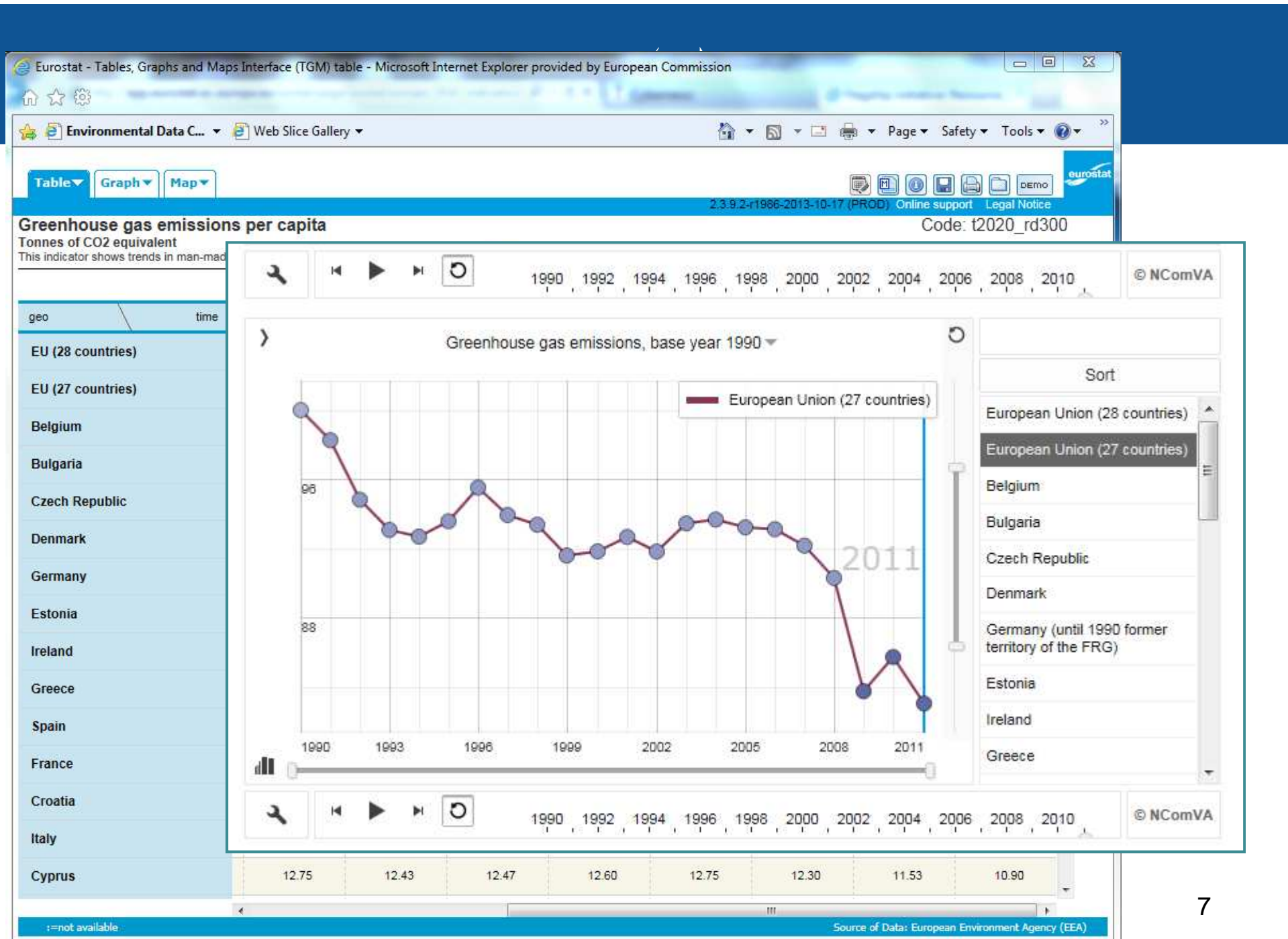
For several indicators it is more meaningful to view the data at country level rather than at EU-28 level. The scoreboard by default presents the data for Belgium, the first country in the Member States list (sorted in protocol order). Data for the EU and other Member States can be selected from the country list.

Open the scoreboard in full screen

Belgium

	UNIT	REFERENCE PERIOD								
		2000	2004	2006	2009	2010	2011	2012	2013	
LEAD INDICATOR										
Resources										
Resource productivity	EUR per kg	1.52	1.61	1.68	1.77	1.8	1.79	(:)	(:)	Eurostat
Additional data (Show)										
Domestic material consumption per capita	Tonnes	18.01	17.75	17.54	16.48	16.37	16.57	(:)	(:)	Eurostat
DASHBOARD INDICATORS										
Land										
Productivity of built-up areas ⁽¹⁾	Millions PPS per km ²	(:)	(:)	(:)	243.1	(:)	(:)	156.0	(:)	Eurostat
Additional data (Show)										
Built-up areas ⁽¹⁾	km ²	(:)	(:)	(:)	1227	(:)	(:)	2173	(:)	Eurostat
Additional data (Show)										

Eurostat



Smarter, greener, more inclusive?

Indicators to support the Europe 2020 strategy

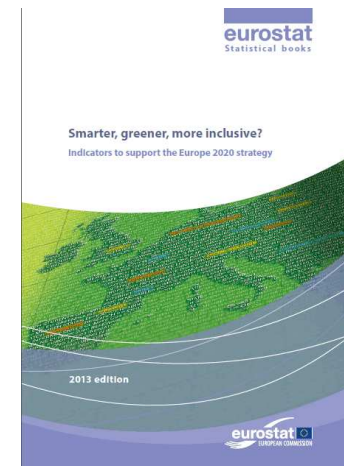
Structured along the five headline targets

Long time series

Data on EU and Member States

Country profiles

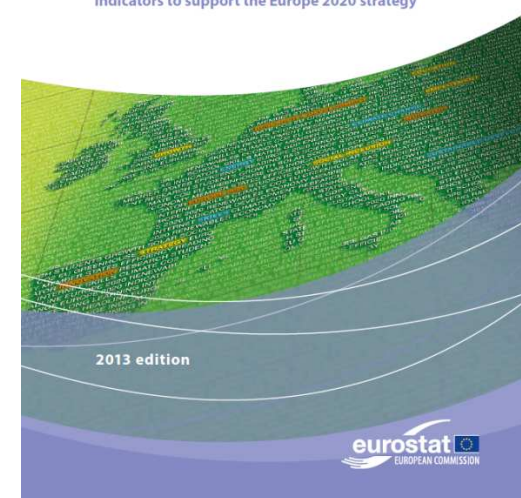
Complemented by interactive tools



EUROPE 2020 INDICATORS

Topic	Headline indicator	2005	2006	2007	2008	2009	2010	2011	2012	Target
Employment	Employment rate age group 20–64, total (% of population)	68.0	69.0	69.9	70.3	69.0	68.5	68.6	68.5	75.0
	Employment rate age group 20–64, females (% of population)	60.0	61.1	62.1	62.8	62.3	62.1	62.3	62.4	70.0
	Employment rate age group 20–64, males (% of population)	76.0	76.9	77.8	77.9	75.8	75.1	75.0	74.6	75.0
R&D	Gross domestic expenditure on R&D ⁽¹⁾ (% of GDP)	1.82	1.84	1.84	1.92	2.01	2.00	2.03	:	3.00
Climate change and energy	Greenhouse gas emissions ⁽²⁾ (Index 1990 = 100)	93.2	93.1	92.2	90.3	83.7	85.7	83.0	:	80.0
	Share of renewable energy in gross final energy consumption (%)	8.5	9.0	9.7	10.4	11.6	12.5	13.0	:	20.0
	Primary energy consumption (Million tonnes of oil equivalent)	1 703	1 706	1 684	1 682	1 592	1 645	1 583	:	1 474
Education	Early leavers from education and training, total ⁽³⁾ (% of population aged 18–24)	15.8	15.5	15.0	14.8	14.3	14.0	13.5	12.8	< 10.0
	Early leavers from education and training, females ⁽³⁾ (% of population aged 18–24)	13.8	13.4	12.9	12.8	12.4	12.1	11.6	11.0	< 10.0
	Early leavers from education and training, males ⁽³⁾ (% of population aged 18–24)	17.8	17.5	17.0	16.8	16.2	15.9	15.3	14.5	< 10.0
	Tertiary educational attainment, total (% of population aged 30–34)	28.0	28.9	30.0	31.0	32.2	33.5	34.6	35.8	≥ 40.0
	Tertiary educational attainment, females (% of population aged 30–34)	30.0	31.5	32.8	34.2	35.6	37.1	38.5	40.0	> 40.0
	Tertiary educational attainment, males (% of population aged 30–34)	26.0	26.3	27.2	27.9	28.8	29.9	30.8	31.6	> 40.0
Poverty and social exclusion	People at risk of poverty or social exclusion ⁽⁴⁾⁽⁵⁾ (million people)	123.9	122.7	119.3	115.7	113.8	116.2	119.8	:	95.7 ⁽⁶⁾
	People at risk of poverty or social exclusion ⁽⁴⁾⁽⁶⁾ (% of population)	25.6	25.2	24.4	23.6	23.1	23.5	24.2	:	< 20.0
	People living in households with very low work intensity ⁽⁷⁾ (% of population)	10.3	10.5	9.6	9.0	9.0	10.0	10.2	:	< 5.0
	People at risk of poverty after social transfers ⁽⁸⁾ (% of population)	16.4	16.5	16.5	16.4	16.3	16.4	16.9	:	< 15.0
	Severely materially deprived people ⁽⁹⁾ (% of population)	10.7	9.8	9.1	8.4	8.1	8.3	8.8	:	< 8.0

Smarter, greener, more inclusive?
Indicators to support the Europe 2020 strategy



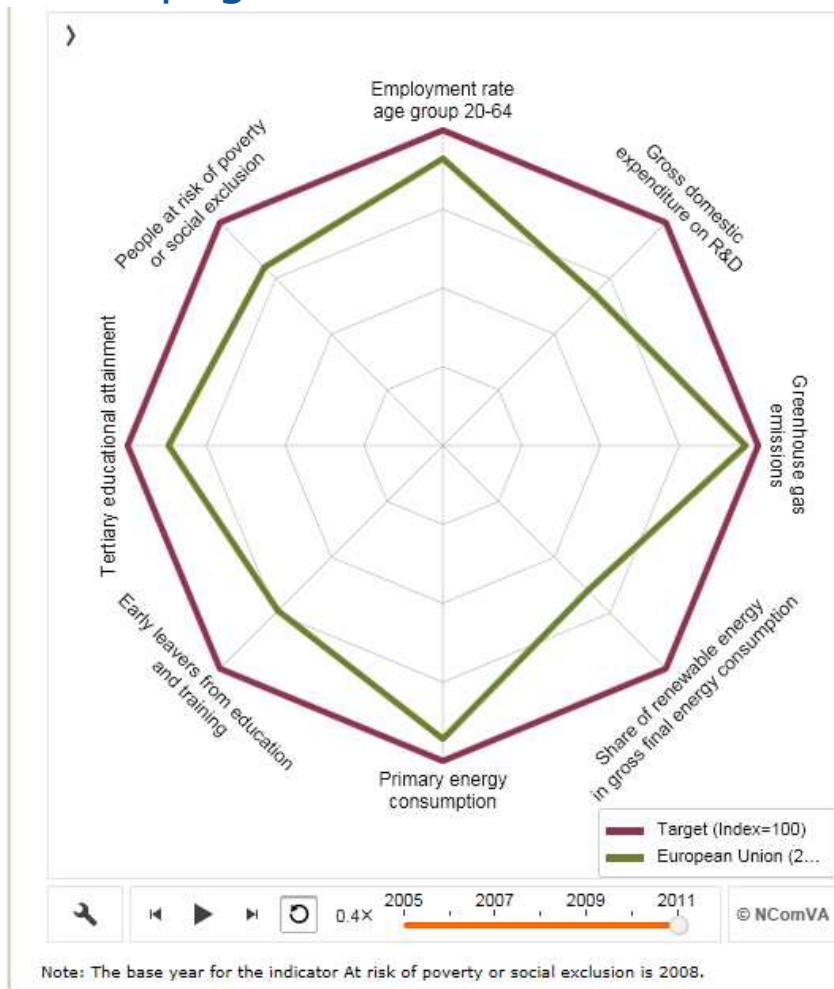
- 5 main themes
- 8 headline indicators
- 80+ descriptive indicators



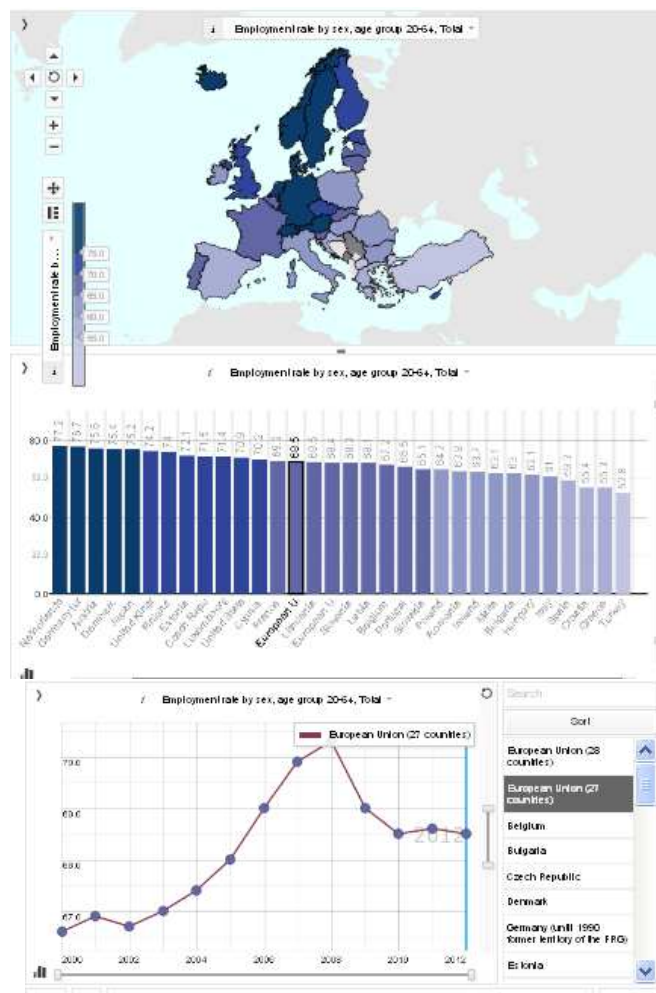
European Commission

MODERN DISSEMINATION OF INDICATORS - 2020 flexible dashboards

Main page















Subpages













SUSTAINABLE DEVELOPMENT INDICATORS

SDI theme	Headline indicator	Evaluation of change in the EU-27
Socioeconomic development	Real GDP per capita	
Sustainable consumption and production	Resource productivity	
Social inclusion	People at risk of poverty or social exclusion (*)	
Demographic changes	Employment rate of older workers (?)	
Public health	Life expectancy at birth (**)	
Climate change and energy	Greenhouse gas emissions	
	Share of renewable energy in gross final energy consumption (**)	
	Primary energy consumption	
Sustainable transport	Energy consumption of transport relative to GDP	
Natural resources	Common bird index	
	Fish catches from stocks outside safe biological limits	
Global partnership	Official development assistance (**)	
Good governance	[No headline indicator]	:

- 10 main themes
- 12 headline indicators
- 100+ total indicators

Methodology for indicator based assessment:

Evaluation category	Symbol (continuous trend)	Symbol (non-continuous trend)
Changes are clearly favourable in relation to SD objectives		
No or moderately favourable changes in relation to SD objectives		
Changes are moderately unfavourable in relation to SD objectives		
Changes are clearly unfavourable in relation to SD objectives		
Contextual indicator or not enough data available for an evaluation	:	

(*) From 2008 (**) From 2004

METHODOLOGICAL WORK ON INDICATORS AND QUALITY PROFILES

Eurostat is involved in work of FoC on broader measures of progress (advises SDG process)

Methodological papers under development:

1. General Introduction about characteristics and typologies of indicators ("*What is an indicator?*")
2. Communicating with indicators
3. Indicators and policy
4. Handbook on Indicator Based Assessment published ("*Getting messages across with indicators*" – see Eurostat website)

ESMS Indicator Profile:

- **ESMS-IP = Reference metadata file ESMS + 'old' Quality Profile**
- Quality box is added at the top of ESMS template
- New quality grading system (2012)
- ESMS-IPs will gradually replace QPs

Primary energy consumption (t2020_33)
Indicator Profile (ESMS)
Data tables: [t2020_33](#)
Compiling agency: Eurostat, the Statistical Office of the European Union

Eurostat metadata	
Reference metadata	
1. Contact	
2. Metadata update	
3. Statistical presentation	
4. Unit of measure	
5. Reference Period	
6. Institutional Mandate	
7. Confidentiality	
8. Release policy	
9. Frequency of dissemination	
10. Dissemination format	
11. Accessibility of documentation	
12. Quality management	
13. Relevance	
14. Accuracy	
15. Timeliness and punctuality	
16. Comparability	
17. Coherence	
18. Cost and Burden	
19. Data revision	
20. Statistical processing	
21. Comment	
Related Metadata	
Annexes (including footnotes)	

Eurostat Quality Profile	
14.1. Accuracy - overall	High
16.1. Comparability - geographical	High
16.2. Comparability - over time	High
20.1. Source data	ESS

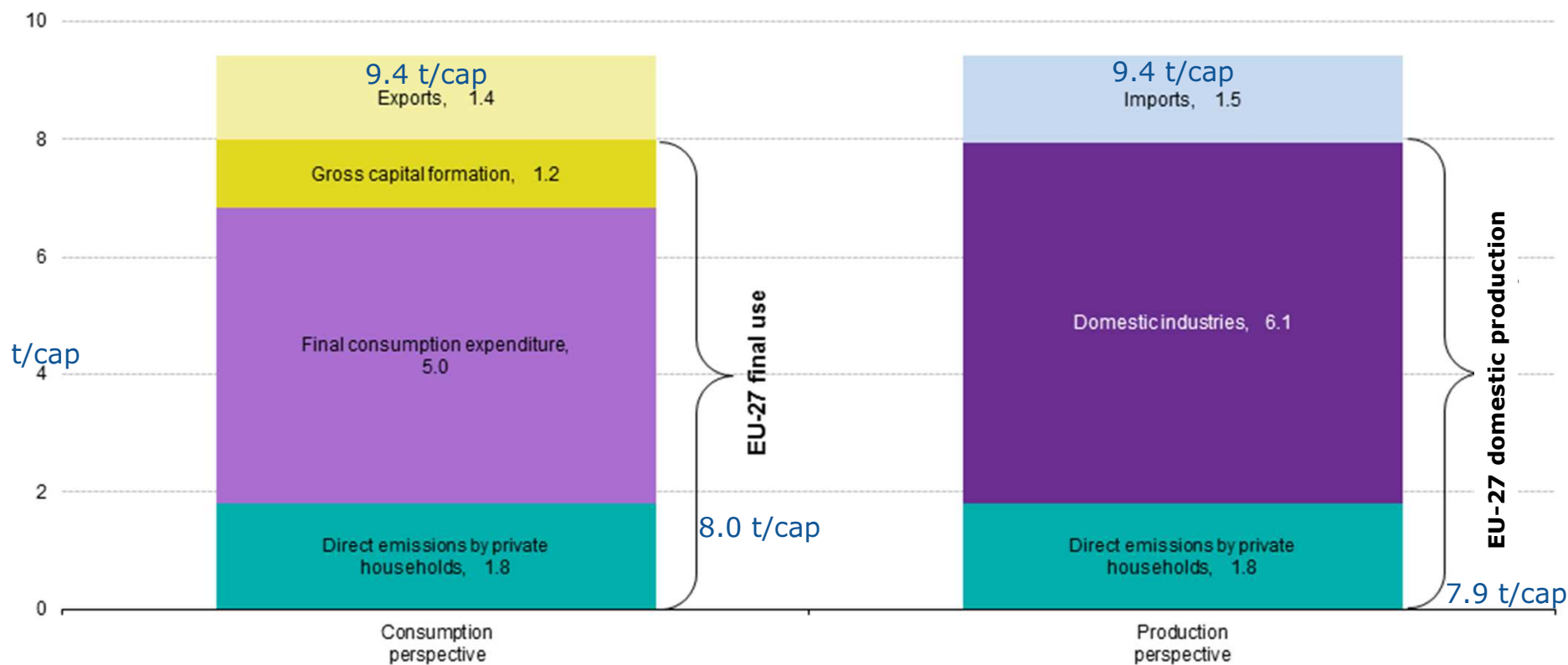
Description of Eurostat quality grading system under the following link:

Commission I

Europe's progress in environmental accounting

- Pilot work with Member States since 1990s
- Handbooks and voluntary data collections – updates 2014-5
- European Strategy for Environmental Accounts – new 2014
- Legal acts:
 - **Regulation (EU) No 691/2011 on European environmental economic accounts** - 3 modules with data transmission obligatory since 2013:
 - Air emissions (14 pollutants x NACE A*64 + households)
 - Environmental taxes (4 types x NACE A*64 + households)
 - Material flow accounts (some 50 categories -> Direct Material Consumption indicator to measure resource productivity)
 - **Regulation No 534/2014 amending 691/2011 in force since 16 June 2014** adds 3 new modules with data transmission obligatory from 2017:
 - Environmental protection expenditure account
 - Environmental goods and services account
 - Physical energy flow accounts

Example: IO modelling with air emission accounts: carbon footprints 2009



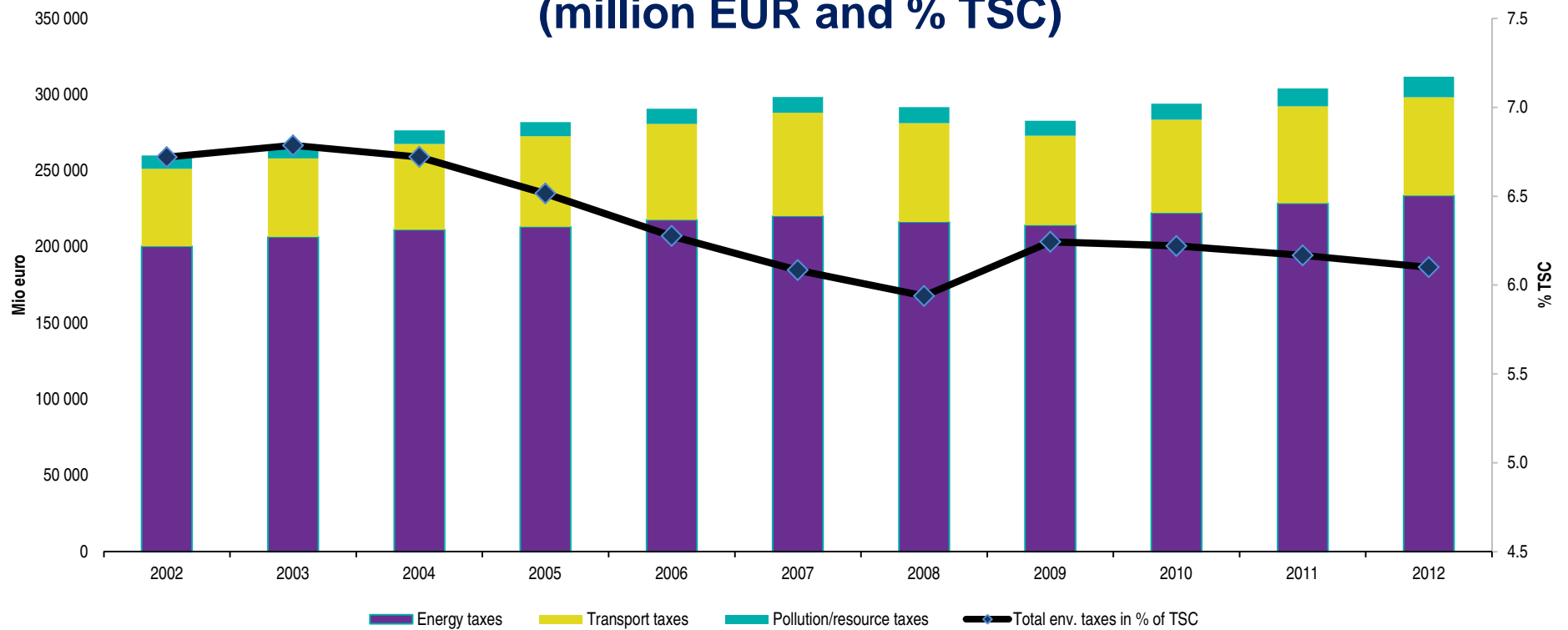
(¹) Estimates.

Source: Eurostat (online data codes: env_ac_ainah_r2, env_ac_io2 and demo_gind)

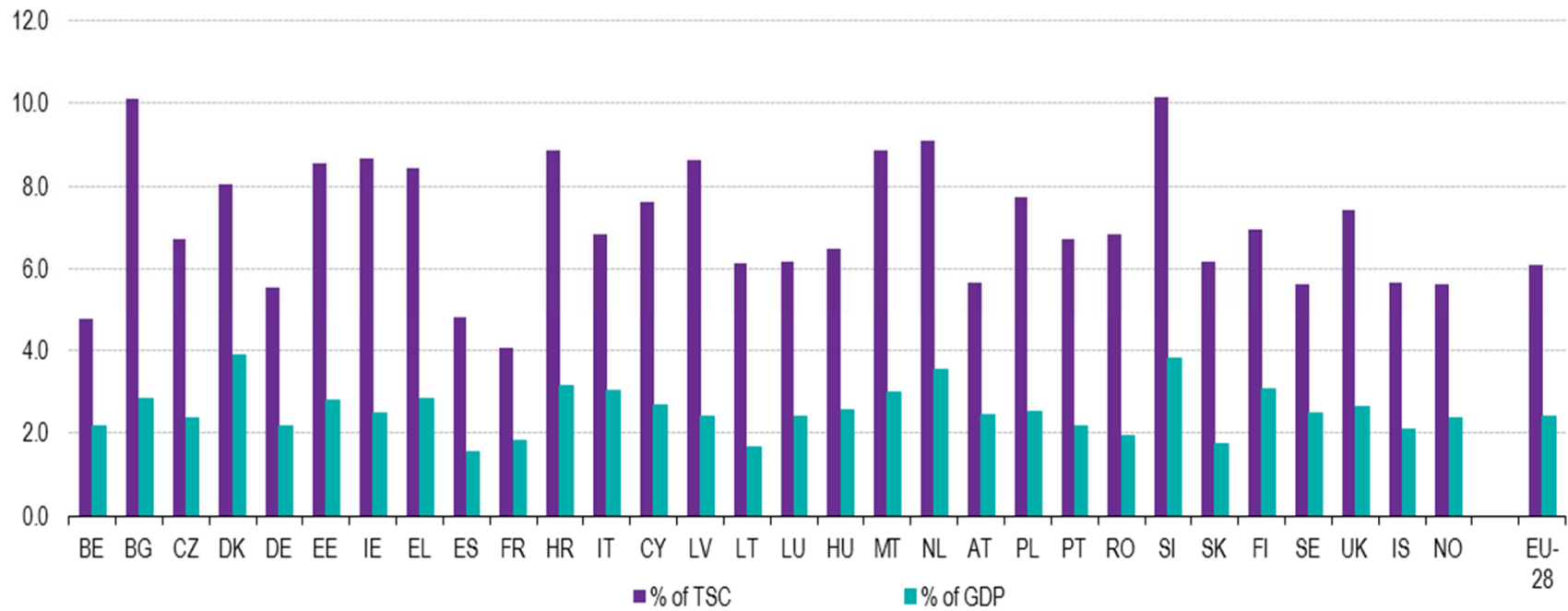
Residence principle (used in the national accounts) versus territory principle (differences can be big for some countries)

Air pollutant: Carbon Dioxide (CO ₂) Unit: 1000 tonnes (Gg)	DENMARK	
Bridging items	2010	2011
Total Air emissions accounts (industry + households)	86,649.48	84,226.03
less National residents abroad	38,442.32	40,939.31
National fishing vessels operating abroad	-	-
Land transport	1,798.18	1,323.68
Water transport	34,465.39	37,445.88
Air transport	2,178.76	2,169.76
plus Non-residents on the territory	603.61	603.61
Land transport	603.61	603.61
Water transport	-	-
Air transport	-	-
Other adjustments and statistical discrepancy	-	-
'Total CO₂ emissions without LULUCF' as reported to UNFCCC	48,810.76	43,890.32
Year of submission to UNFCCC	2013	2013

Example: Environmental tax revenue by type, EU-28, 2002 – 2012 (million EUR and % TSC)

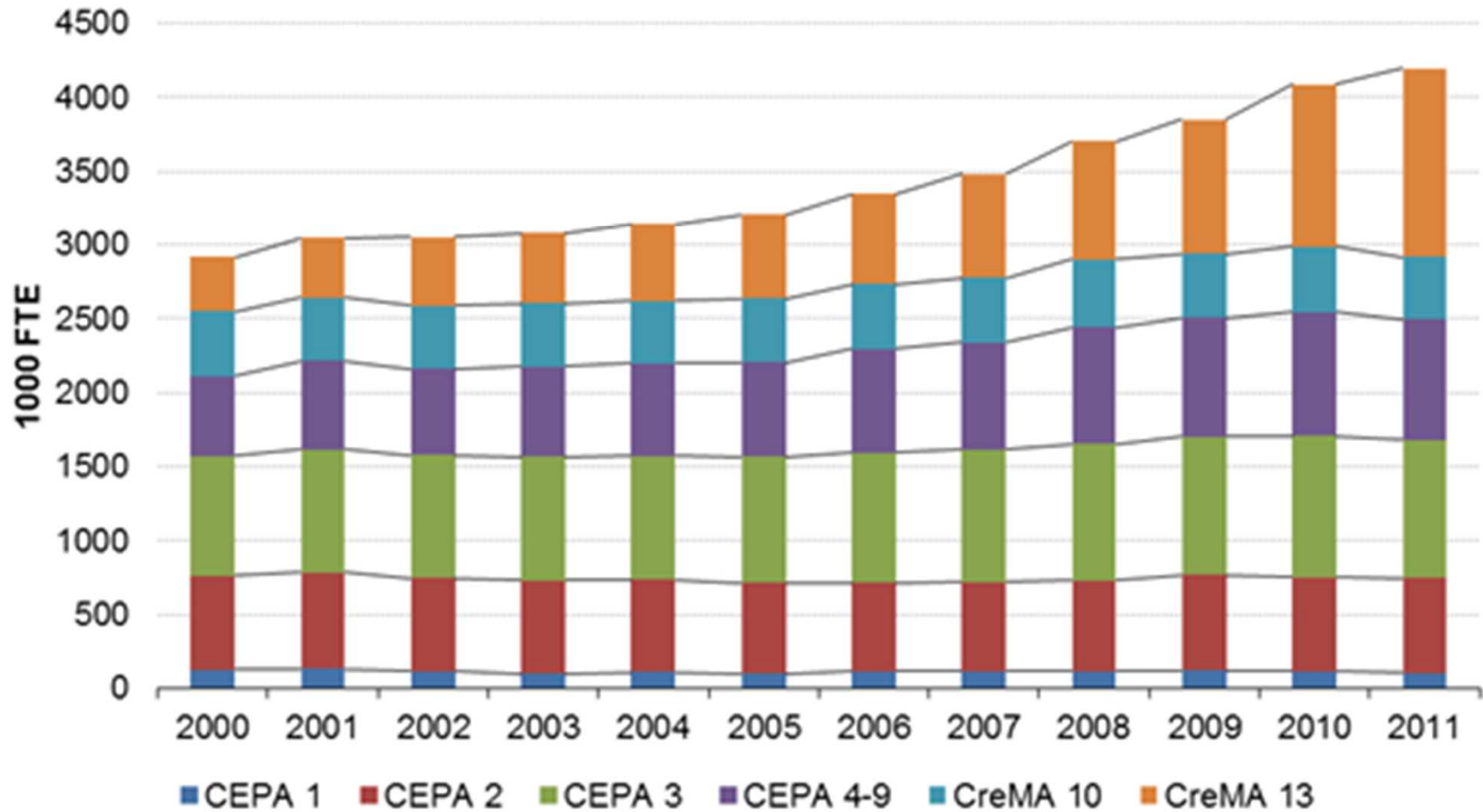


Example: Environmental taxes in % of TSC and GDP, 2012



**Data for Hungary are preliminary*

EGSS employment by groups of EP and RM activities, EU28



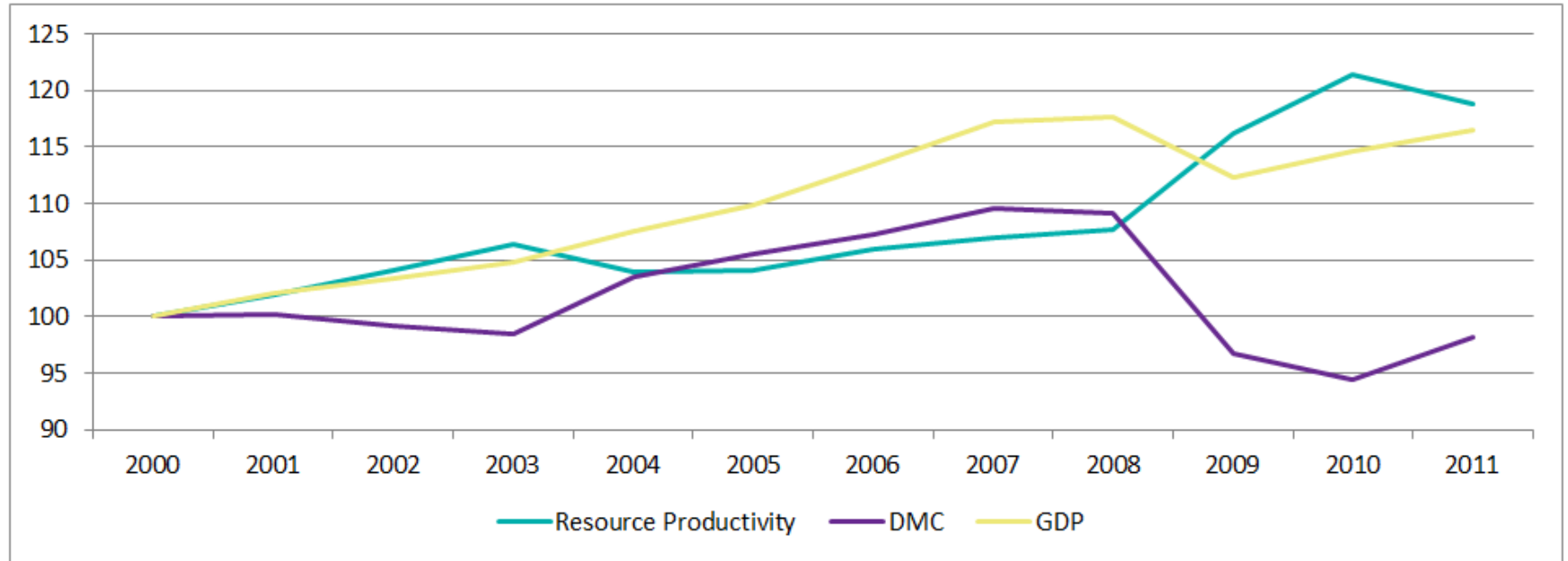
Cepa 1: air and climate protection
 Cepa 2: wastewater management
 Cepa 3: waste management
 Cepa 4-9: other environmental protection

CreMA 10: water (incl. water supply)
 CreMA 13: energy from renew. sources + heat/energy savings

Example: Resource productivity

Figure: Resource Productivity in comparison to GDP and DMC, EU-27, 2000-2011

(Index: 2000=100)



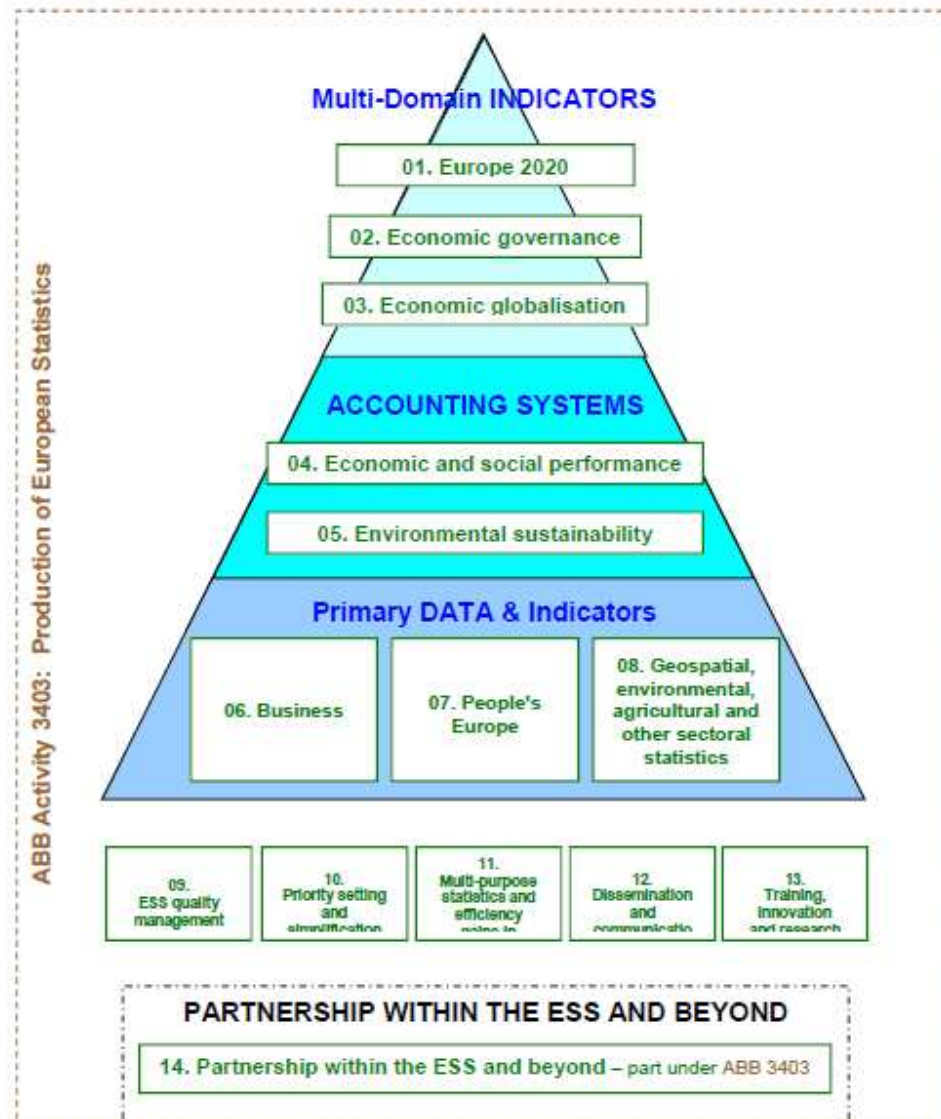
(¹) GDP (= Gross Domestic Product) in chain-linked volumes, reference year 2005

(²) DMC = Domestic Material Consumption

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

Information pyramid layers:

*Data
Accounts
Indicators*



Overview of RE indicators from official statistics

STATISTICS and ACCOUNTS

- *Land cover and land use statistics (and accounts)*
- *Energy statistics (and accounts)*
- *Waste statistics and other waste legislation (Waste Data centre)*
- *Chemicals*
- *Water statistics (and accounts)*
- *Forestry statistics (and accounts)*
- *Environmental accounts*
- *EE SUIOT*

Some INDICATORS

- Land use indicators*
- Protected areas*
- Energy efficiency*
- CO2 early estimates*
- Renewable energy*
- Waste generation (activity/waste category)*
- Waste Treatment (Recycling, incineration...)*
- Municipal Waste generation and treatment*
- Hazardous waste*
- ...*
- Production harmful / toxic chemicals*
- Exploitation of water resources*
- Wastewater treatment*
- Forest surface*
- Resource productivity*
- Domestic material consumption (DMC)*
- Environmental taxes / protection expenditure indicators*
- GHG emissions and air pollution*
- Carbon footprint / RMC*

Next steps – the new European Strategy for Environmental Accounts 2014-2018

The 3rd 5-year strategy after ESEA 2003 and 2008 – adopted by ESSC on 15 May 2014. Main elements:

- Further improve quality of 1st set of modules (air emissions, environmental taxes, material flows)
- Promote uses of available data (e.g. footprints)
- Faster publication & early estimates for EU aggregates
- Implement 2nd set of modules (EPE, EGSS, PEFA)
- Invest in statistical infrastructure (classifications, cooperation with other statistical areas...)
- Develop methods/test new modules (water, forests, environmental subsidies, resource management)
- (Assist EEA on ecosystem accounting)
- (Implement climate-change related statistics)

Tools in the EU

Regulation: an obligation

Monitoring compliance (blame and fame)

Supplementary voluntary data collections

Task forces and Working groups

Handbooks and compilation guides

Training material and training courses

Financing implementation in EU (grants)



Example: Handbooks and compilation guides

European Commission > Eurostat > Environmental accounts > Methodology > Manuals

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Statistics

Publications

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User support



Environmental accounts

Introduction

Historical background
Political context

Data

Main tables
Database

Methodology

Manuals

Data collection (questionnaires)

Publications

Environmental protection expenditure

Environmental goods and services sector

Environmental taxes

Economy wide material flow accounts

Air emission accounts

Energy accounts

Environmental asset accounts

Links

Manuals

In the following manuals you can find descriptions of data sources and procedures which are used for data collection by the Member States.

-  [Practical guide towards compiling Environmental Goods and Services Sector \(EGSS\) statistics \(April 2014 version\)](#)
-  [Physical Energy Flow Accounts \(PEFA\) Manual 2014](#)
-  [Environmental taxes - A statistical guide, 2013 edition](#)
-  [Economy-wide Material Flow Accounts \(EW-MFA\) Compilation Guide 2013](#)
-  [Note on EW-MFA early estimates for 2011 \(July 2013\)](#)
-  [Compilation Guide \(2013\) for Eurostat's Air Emissions Accounts \(AEA\)- revision of part B of the Manual for Air Emissions Accounts \(AEA\), 2009 edition](#)
-  [Manual for Air Emissions Accounts - Annex 1, 2012 edition \(Correspondence between SNAP97 - CRF/NFR - NACE rev.2\)](#)
-  [Environmental transfers 2012 pilot data collection guidelines](#)
-  [Resource management expenditure accounts - pilot data collection 2012](#)
-  [Manual for Air Emissions Accounts 2009](#)
-  [Handbook on Environmental Goods and Service Sector, 2009](#)
-  [Environmental protection expenditure -General government and specialised producers data collection handbook, 2007](#)
-  [OECD/Eurostat Environment Protection Expenditure and Revenue Joint Questionnaire /](#)

See also

[Environment](#)

Legislation

[Regulation \(EU\) No 538/2014 amending Regulation No 691/2011 on European environmental economic accounts](#)

[Regulation No 691/2011 on European Environmental Economic Accounts](#)