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Unit E-2: Environmental statistics and accounts; sustainable development

Potentially Environmentally Damaging Subsidies

London Group on Environmental Accounting

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***Abstract:** Eurostat is preparing to launch in 2022 a voluntary data collection on Potentially Environmentally Damaging Subsidies (PEDS) for EU member states. The questionnaire and scope of the proposal was agreed by the Eurostat working group in May. The collection focuses on fossil fuel subsidies and pricing on CO₂ emissions associated to them. The data collection will reuse some SEEA data already available on environmental taxes and CO₂ emissions.*

Different stakeholders have shown their interest in measuring fossil fuel subsidies as a first step to phase them out. Correspondingly, this topic has been discussed in previous London Group meetings.

This paper summarises the latest developments of Eurostat PEDS project concerning scope, coverage and general methodology and presents the links with Sustainable Development Goal indicator 12.c.1.

The London Group will be invited to comment before Eurostat finalises the guidance material and preparatory work for the 2022 data collection.

1. PURPOSE OF THE DOCUMENT

Potentially Environmentally Damaging Subsidies (PEDS) is a project under development by Eurostat, focused on subsidies and other transfers, which are considered to be harmful for the environment. Recently, the Eurostat working group on Monetary Environmental Satellite Accounts (MESA WG) discussed the set of characteristics, the questionnaire and the timing for launching a voluntary data collection on this topic. Among the set of characteristics, subsidies on fossil fuels play a central role.

In this document, a summary of the latest developments concerning scope, coverage and general methodology is presented to the London Group as well as the links with the Sustainable Development Goal indicator 12.c.1 methodology, as developed by UN Environment Programme (UNEP).

The London Group is invited to:

- **Be informed about the main aspects for PEDS compilation and provide any additional comment**

2. PEDS DATA COLLECTION

2.1. Main features of the data collection

Eurostat proposed and the MESA WG agreed to a data collection with the following main features as regards PEDS definition, scope, methodology, estimation approach and data sources¹:

- Focus the data collection on fossil fuels subsidies, and allow countries to report other subsidies. This scope satisfies the statistical principles of relevance, cost effectiveness, non-excessive burden and flexibility.
- In addition to the subsidies, collect also the indicator Average Effective Carbon Rates (AECR), which measures the average price paid for CO₂ emissions (as the amount of actual taxes imposed on fossil fuels divided by CO₂ emissions associated to fossil fuel combustion). It will have a breakdown considering institutional sectors households and corporations, with a further split of producers by NACE Rev.2². Countries can compile those estimates based on data readily available, without additional burden. This may be a first step for possible, future, more refined calculations e.g. distinguishing different purpose of fossil fuel use: transport, heating or other industrial purposes.

¹ For details, see the MESA WG meeting documents: [Working group document about PEDS](#), [Background document](#), [Annex proposed Eurostat questionnaire](#), [Annex test Eurostat estimates](#)

² NACE is broken down into ten-section level. NACE levels are fully in line with the ISIC levels.

The average effective carbon rates are complemented by the percentage of CO₂ emissions to which they refer. The collection of this indicator satisfies the statistical principle of relevance, and it provides flexibility for the analysis of the results under different benchmarks.

- Transfer categories for reporting are:
 - 1) Subsidies and other transfers, as covered in ESA 2010 distributive transactions measuring direct financial contributions to fossil fuels (ESA codes D3, D6, D7, D9);
 - 2) Taxes, as covered in ESA and in Environmental Taxes by Economic Activities (ETEA), for the estimation of AEER. ETEA data are already calculated by EU Member States.

Tax abatements and any other implicit transfer or support measure are excluded. For the case of tax abatements, methods found in international and national level rely on the difference with a benchmark (either normal tax rate or optimal price for carbon). These methods, which might satisfy specific needs for international organisations and national users, are not robust and objective enough for comparison within countries, according to the European statistics standard. Other implicit transfers, such as preferential loans or assumption of responsibility for environmental damage, present similar issues concerning valuation and, additionally, less data sources availability. The collection of the indicator AEER partially compensates for not collecting implicit transfers. This technical choice ensures consistency with National Accounts and SEEA-CF; sound methodology; comparability within countries and accuracy.

- CO₂ emissions from fuel combustion are as covered by European Air Emissions Accounts (AEA), for the estimation of AEER and the percentage of emissions corresponding to each NACE industry plus Households. AEA data are already calculated by EU Member States. This choice satisfies the principle of relevance and compatibility with other projects, since projects on this matter are usually focused on CO₂ emissions.
- Data sources. The project is based on using SEEA-CF data already reported in European environmental accounts ETEA, AEA and/or physical energy flow accounts (PEFA). This is cost effective, it limits burden, ensures coherence and comparability, applies a sound methodology and provides value added with respect to other international projects (e.g. it will allow NACE breakdowns data, that are not available from other projects). In turn, this choice of using data from other environmental accounts determines the definition of the indicator AEER.

Complementing the main features for PEDS compilation, Eurostat has lately concluded on some further details concerning technical aspects related to the practical issues for PEDS compilation, such as the delimitation of the scope for fossil fuel subsidies and the set of taxes to consider for the AEER indicator. These conclusions will be stated out in the guidance material that Eurostat will release to support compilers.

2.2. Eurostat questionnaire

The questionnaire that Eurostat proposed to the MESA WG was agreed, although small adjustments are still possible.

The questionnaire will collect the data in three tabs or sheets.

- The first tab will be for reporting transfers (ESA transfers definition)
- The second tab will be for reporting CO₂ emissions from fossil fuel combustion (sourced AEA) and the value of the set of taxes included for AEER estimation (sourced ETEA)
- The third tab will compile automatically AEER results and emissions range based on values from the second tab.

In addition, Eurostat proposes a fourth tab ‘Catalogue of measures’, where countries are invited to list the transactions (i.e. national subsidies) covered in the estimations. Annex 1 shows each tab of the questionnaire.

Despite not incorporating tax abatements in PEDS data compilation, Eurostat invites countries to report these transfers, if available, submitting them in additional tab(s) with free format.

Experience from national projects and the use of ETEA, AEA and PEFA, implies that institutional sectors corporations and households (as final consumers) are the most relevant ones. There are rows in the questionnaire to report those two sectors, alongside the NACE codes.

It is planned to include in the questionnaire as reporting years, $t-3$, being t the reference period. Nonetheless, countries are invited to report data for previous periods to the extent they are comparable and preserve data series consistency.

In addition, Eurostat plans to introduce in the questionnaire a set of formulas and graphs to visualise the AEER and percentage of emissions by NACE categories. It will be useful to test different benchmark values and sensitivity of the estimates to this benchmark value.

3. LINKS TO UNEP METHODOLOGY FOR SDG INDICATOR 12.C.1.

The methodology for the measurement of the indicator 12.c.1 ‘Amount of fossil fuel subsidies per unit of GDP (production and consumption)’ as developed by UNEP has been analysed, being a crucial reference to delimitate the set of characteristics for PEDS compilation. Nonetheless, due to different objectives, user needs and countries interests some differences might exist.

In particular, the two main points in common are the treatment of tax abatement and the introduction of information about the specific measures that are part of the estimation.

On the other hand, there are clear differences as a result of the different objectives. In this sense, UNEP is fully focused on fossil fuels, while PEDS can contain also subsidies and other transfers damaging for other environmental domains. In addition, PEDS value added is to present data according to NACE, given that it is the classification used in the data sources in the SEEA-CF.

A special case is the induced transfers. Eurostat has expressed its concern about this concept, due to the possibility of double counting, as acknowledged in UNEP methodology (See for

more details: <https://www.unep.org/resources/report/measuring-fossil-fuel-subsidies-context-sustainable-development-goals>).

4. NEXT STEPS

As of writing this document, Eurostat has concluded on the last technical aspects for PEDS compilation. Hereinafter, communication to the relevant stakeholders (compilers, users and other expert colleagues and organisations working on similar projects) is foreseen, being still possible some adjustments as a result. In parallel, Eurostat is preparing the material for the data collection, whose content might vary depending on the feedback received.

Eurostat will start the internal preparation of the process. In principle, the data collection will be launched at the end of 2022 and data will be received during the first months of 2023 and, subsequently, the results of the data collection will be validated and analysed in terms of coverage and data quality.

ANNEX 1. Questionnaire

Figure 1. PEDS ESA transfers

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AE	A					
1	ESA TRANSFERS - Explicit transfers																																	
2	COUNTRY:	UNIT: MID_NAC																																
3	Fossil Fuel						Other PEDS						TOTAL PEDS ESA TRANSFERS																					
4	ESA TRANSFERS	2016 (and more?)	footnotes	2017	footnotes	2018	footnotes	2019	footnotes	2016 (and more?)	footnotes	2017	footnotes	2018	footnotes	2019	footnotes	2016 (and more?)	footnotes	2017	footnotes	2018	footnotes	2019	footnotes	2016 (and more?)	footnotes	2017	footnotes	2018	footnotes	2019	footnotes	
5	To HH (Institutional sector as ESA-2010)	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
6	Corporations (Sum of NACE)	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
7	Transfers paid to NACE A Agriculture, forestry and fishing	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
8	Transfers paid to NACE B Mining and quarrying;	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
9	Transfers paid to NACE C Manufacturing	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	
10	Transfers paid to NACE D Electricity, gas, steam and air conditioning supply	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
11	Transfers paid to NACE E Water supply, sewerage, waste management and remediation activities	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
12	Transfers paid to NACE F Construction	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
13	Transfers paid to NACE G Wholesale and retail trade; repair of motor vehicles and motorcycles	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
14	Transfers paid to NACE H Transportation and storage	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
15	Transfers paid to NACE I-U Services (except wholesale and retail trade, transportation and storage)	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
16	Transfers not elsewhere classified	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
17	PEDS_ESA Data for ECR-range ECR - range Catalogue of measures																																	

Figure 2. Data for AECR and range of emissions

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	
1	Taxes for Average Effective Carbon Rates												CO ₂ emissions												
2	COUNTRY: UNIT: MIO_NAC												COUNTRY 0 UNIT: tonne CO2												
3	Taxes for Average Effective Carbon Rates												AEA CO ₂ data												
4	Sector				2016 (and more?)	footnotes	2017	footnotes	2018	footnotes	2019	footnotes	Sector				2016 (and more?)	footnotes	2017	footnotes	2018	footnotes	2019	footnotes	
5	HH (as final consumers)												HH (as final consumers)												
6	Corporations												Corporations (Sum of NACE)												
7	NACE A Agriculture, forestry and fishing												NACE A Agriculture, forestry and fishing												
8	NACE B Mining and quarrying;												NACE B Mining and quarrying;												
9	NACE C Manufacturing												NACE C Manufacturing												
10	NACE D Electricity, gas, steam and air conditioning supply												NACE D Electricity, gas, steam and air conditioning supply												
11	NACE E Water supply, sewerage, waste management and remediation activities												NACE E Water supply, sewerage, waste management and remediation activities												
12	NACE F Construction												NACE F Construction												
13	NACE G Wholesale and retail trade; repair of motor vehicles and motorcycles												NACE G Wholesale and retail trade; repair of motor vehicles and motorcycles												
14	NACE H Transportation and storage												NACE H Transportation and storage												
15	NACE I-U Services (except wholesale and retail trade, transportation and storage)												NACE I-U Services (except wholesale and retail trade, transportation and storage)												
16	not elsewhere classified												not elsewhere classified												
17	TOTAL taxes paid (Corporations + HH)												TOTAL emissions = (Corporations + HH)												
18																									
19																									
20																									
21																									

Figure 3.AECR and emissions range

Average EFFECTIVE CARBON RATES (Automatically calculated)										Emissions Range (automatically calculated)									
COUNTRY:		UNIT: MIO_NAC/tonne CO ₂								COUNTRY:		UNIT: % of CO ₂ emissions							
Average Effective Carbon Rates										AEA CO ₂ data (%)									
Sector	2016 (and more?)	footnotes	2017	footnotes	2018	footnotes	2019	footnotes	Sector	2016 (and more?)	footnotes	2017	footnotes	2018	footnotes	2019	footnotes		
HH (as final consumers)									HH (as final consumers)										
Corporations									Corporations										
NACE A Agriculture, forestry and fishing									NACE A Agriculture, forestry and fishing										
NACE B Mining and quarrying;									NACE B Mining and quarrying;										
NACE C Manufacturing									NACE C Manufacturing										
NACE D Electricity, gas, steam and air conditioning supply									NACE D Electricity, gas, steam and air conditioning supply										
NACE E Water supply, sewerage, waste management and remediation activities									NACE E Water supply, sewerage, waste management and remediation activities										
NACE F Construction									NACE F Construction										
NACE G Wholesale and retail trade; repair of motor vehicles and motorcycles									NACE G Wholesale and retail trade; repair of motor vehicles and motorcycles										
NACE H Transportation and storage									NACE H Transportation and storage										
NACE I-U Services (except wholesale and retail trade, transportation and storage)									NACE I-U Services (except wholesale and retail trade, transportation and storage)										
not elsewhere classified									not elsewhere classified										
Average ECR whole economy									TOTAL emissions = (Corporations + HH)										

Figure 4. Catalogue of measures

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
1	Transfer number	ESA Transfers - Explicit transfers (D3, D7, D9) description										Tax number	Description of the tax included for Average ECR estimation								Implicit measure	Description of the measure			Method/Data sources			
2	1										1	CO2 specific carbon taxes (on the content of carbon of fossil fuels)															
3										2	Excise tax on fossil fuel															
4												3	Other taxes apart from the previous ones, such as excise tax on electricity, ETS or taxes in production must not be included. However, explain which taxes, as covered in ESA 2010, you would be in a position to report in the AECR. Only country specific taxes similar to the first two might be considered for inclusion.															
5																												
6																												
7																												
8																												
9																												
10																												