ENV/ACC/WG/06 (2012)
Point 6 of the agenda

Energy Accounts
Progress and work planned

Eurostat – Unit E.2

Working Group Environmental Accounts

Joint Eurostat/EFTA group

Meeting of 26 and 27 March 2012
BECH Building – Room Quetelet

Energy Accounts

Progress and work planned

This paper provides information about progress in developing Physical Energy Flow Accounts (PEFA).

An overview is given on what has been done so far and a plan of what Eurostat is intending to do, in particular the intention to initiate the first full-fledged data collection cycle on Physical Energy Flow Accounts (PEFA) by the middle of the year 2012.

The third meeting of the NAMEA Task Force on Energy Accounts will be held on 28 March 2012.

The Working Group is asked:

- to take note of the work done so far, and

- to endorse the planning for the future work, in particular:

    + the launch of an official data collection by the middle of 2012,

    + to use the NACE rev.2 classification (reference years starting with 2008).

1. OVERVIEW ON PAST DEVELOPMENTS

Task Force developed PEFA-Questionnaire:

A Questionnaire for Physical Energy Flow Accounts (PEFA-Questionnaire) has been developed by a NAMEA Task Force on Energy Accounts which met twice since 2010.
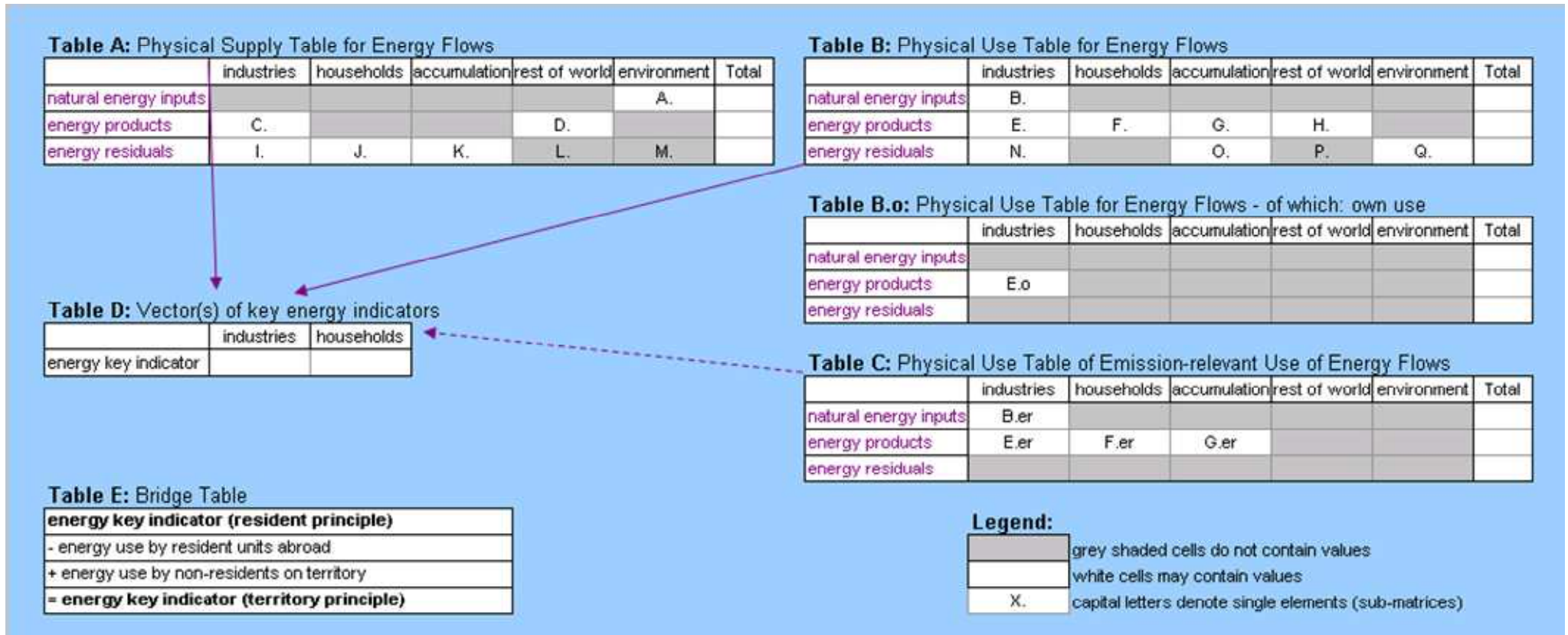
The general idea underpinning the set of 5 tables included in the PEFA-Questionnaire is to record in a consistent and comprehensive way, in physical units (Joules), and in line with the principles of National Accounts (SNA/ESA) and Integrated Environmental-Economic Accounts (SEEA) the flow of energy resources (natural inputs), products, and residuals

- from the natural environment into the economy,

- within the economy, and

- from the economy to the natural environment.

Following the general guidelines of the revised SEEA, the concept of Physical Supply and Use Tables is employed to guarantee a consistent and comprehensive recording of all relevant energy flows.

Figure 1 provides the scheme of the set of 5 tables included in the PEFA-Questionnaire.

Figure 1: Scheme providing an overview on the set of tables in the PEFA electronic questionnaire

Table A: Physical Supply Table for Energy Flows

	industries	households	accumulation	rest of world	environment	Total
natural energy inputs					A.	
energy products	C.			D.		
energy residuals	I.	J.	K.	L.	M.	

Table B: Physical Use Table for Energy Flows

	industries	households	accumulation	rest of world	environment	Total
natural energy inputs	B.					
energy products	E.	F.	G.	H.		
energy residuals	N.		O.	P.	Q.	

Table B.o: Physical Use Table for Energy Flows - of which: own use

	industries	households	accumulation	rest of world	environment	Total
natural energy inputs						
energy products	E.o					
energy residuals						

Table D: Vector(s) of key energy indicators

	industries	households
energy key indicator		

Table C: Physical Use Table of Emission-relevant Use of Energy Flows

	industries	households	accumulation	rest of world	environment	Total
natural energy inputs	B.er					
energy products	E.er	F.er	G.er			
energy residuals						

Table E: Bridge Table

energy key indicator (resident principle)
- energy use by resident units abroad
+ energy use by non-residents on territory
= energy key indicator (territory principle)

Legend:

(grey)	grey shaded cells do not contain values
(white)	white cells may contain values
X.	capital letters denote single elements (sub-matrices)

3

The Value Added of PEFA:

Physical Energy Flow Accounts (PEFA) enable a consistent and comprehensive recording of all energy flows related to economic activities, in line with the principles of National Accounts and Environmental-Economic Accounts. Their main value added in comparison to energy statistics and balances include among others the following:

- PEFA present the supply and use of energy resources (natural inputs), products, and residuals as well as derived key indicators according to the **resident principle** and by a **detailed industry breakdown**[1].

- PEFA can be used for integrated economic-environmental analyses, e.g.:

  o **energy intensities of industries** as delineated in National Accounts;

  o the direct and indirect energy requirements to produce goods and services for final consumption (through **environmentally extended Input-Output modelling**).

- PEFA serve as a **basis for compiling** further modules of Environmental Accounts such as Air Emissions Accounts and partly also for Economy-wide Material Flow Accounts (as far as the adjustments for the resident principle are concerned).

Draft Manual for PEFA:

Eurostat developed a **first draft** for a *Manual for Energy Flow Accounts* based on the discussions and conclusions of the Task Force.

This draft Manual is supposed to provide the underpinning theoretical concepts and practical guidance on how to compile the PEFA-questionnaire.

Testing of PEFA-Questionnaire:

In early January 2012 Eurostat launched a testing of the PEFA-Questionnaire. A deadline for reporting was set to early March 2012.

Eurostat will report orally in the Working Group meeting on the preliminary "lessons learnt".

2. OVERVIEW FUTURE WORKS

Finalising PEFA-Questionnaire & Manual:

The testing of the PEFA-Questionnaire will be evaluated in March/April 2012. The Task Force will meet and discuss the experiences gained through the testing. Most likely, the

---

[1] at minimum: NACE rev.2 A*64

PEFA-Questionnaire and the draft Manual will have to be revised to be ready for a full-fledged data collection.

Most notably, the NACE classification for the industry breakdown is at stake.

> **The Working Group is asked for their view on whether the revised PEFA-Questionnaire should employ already NACE rev.2?**
>
> Choosing NACE rev.2 would imply reference years to start with 2008.

Launching 2012 Data Collection:

Eurostat proposes to launch a first full-fledged data collection in 2012. A possible schedule is suggested as follows:

> 1 July 2012: launching the revised PEFA-Questionnaire (incl. Manual)
>
> 30 September 2012: deadline for reporting back

> **The Working Group is asked:**
>
> - to agree with a first full-fledged data collection in 2012.
>
> - to agree with the proposed schedule.

Developing and Implementing Gap-Filling:

Primary focus of Eurostat's work (and its contractors) will be the development of compilation tools and gap-filling procedures (spring 2012).

The objective is to develop routines that create "artificially filled" questionnaires based on energy statistics and other socio-economic data. These "artificial questionnaire" serve various purposes within the production cycle:

- o assist plausibility checks;
- o support gap-filling; and
- o hence the "bottom-up" estimation of EU aggregates.

Documentation of Production Cycle:

A second focus of Eurostat's work in 2012 will be a proper process description and technical documentation of the entire production cycle.

Further Methodological Developments: Terminology, Key Indicators:

Although the methodological development of Physical Energy Flow Accounts has advanced a lot during the past two years, there are still some open issues. To be mentioned are:

- o terminological clarifications (there is still some confusion between the "languages" of energy statistics on the one hand, and National Accounts on the other);
- o definition of key indicators derivable from PEFA.

3. SUMMARY:

Strategic Objectives for 2012:

- Finalise PEFA-Questionnaire and Manual based on pilot testing
- Conduct first full-fledged data collection cycle incl. gap-filling
- Documentation of production cycle for PEFA incl. gap-filling

Important Dates:

Date	Subject
13-14 Feb 2012	ESTP training Vienna
1 Mar 2012	Deadline for sending back PEFA testing questionnaire
1-2 March 2012	NAMEA Task Force on Transport
26-27 March	Working Group on Environmental Accounts
28 Mar 2012	NAMEA Task Force meeting on Energy Accounts
July 2012	Launch of PEFA questionnaire
30 Sep 2012	Deadline for PEFA questionnaire
31 Dec 2012	Process description ready (incl. technical documentation)
31 Dec 2012	Complete gap-filled data set