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ENERGY STATISTICS

Importance of Comparable Data: An International Perspective - InterEnerStat

Energy Efficiency Indicators Workshop
Paris, France, 6-7 June 2012

International Energy Agency

Quality of energy statistics was deteriorating

- **Completeness**
  - More and more data are estimated
  - More and more data are missing and/or confidential
  - Less and less details, more aggregation (CHP, main activity producers vs. autoproducers, …)
- **Quality**
  - Efficiency of power plants > 100%
  - Subtotals do not add up to totals
  - Large statistical difference (>20%)
  - Breaks in time series - no revisions in time series
  - “Other sectors” often used as a balancing item
- **Timeliness**
  - More and more time to collect, process, check and release data

The reasons for decreasing data quality

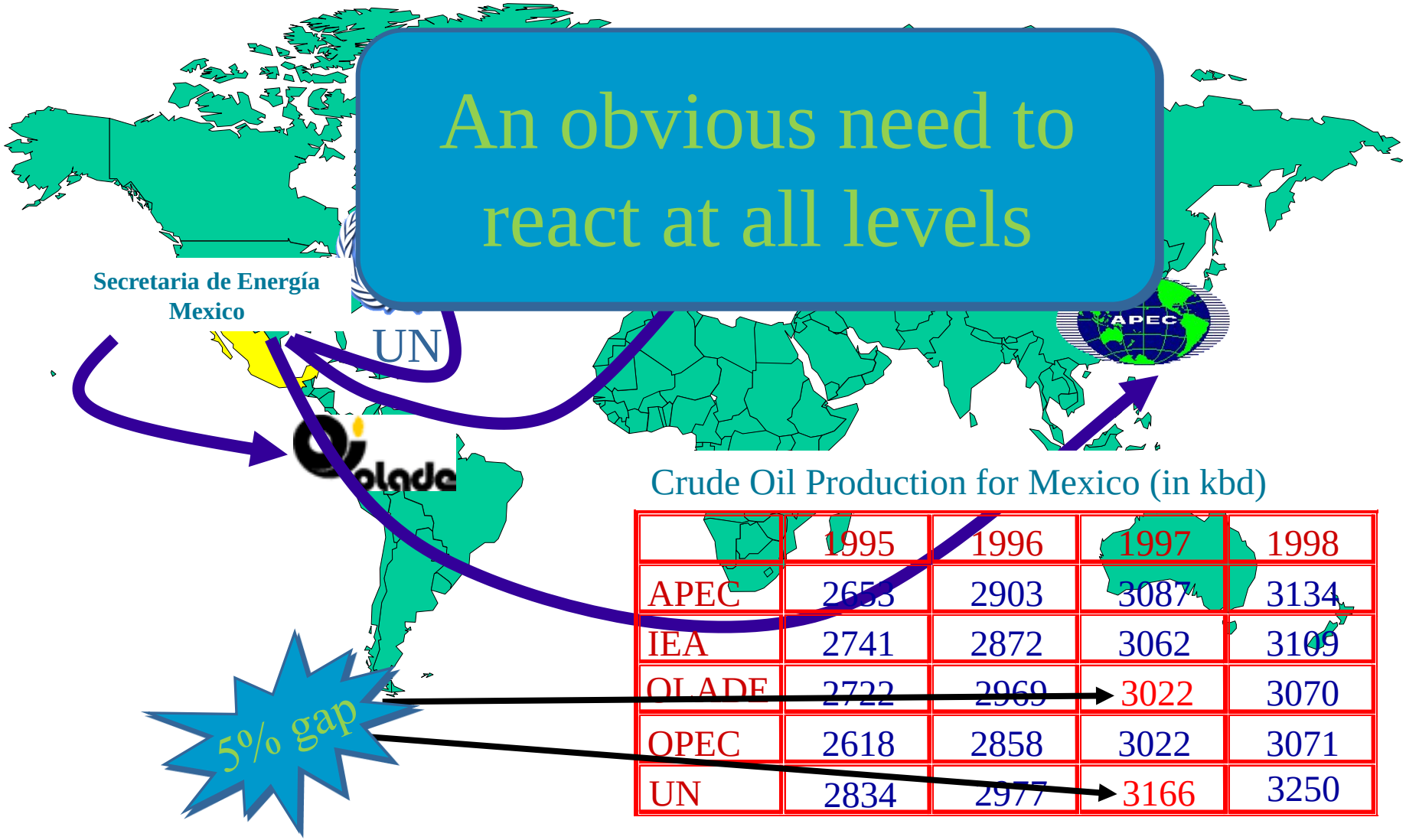
New developments make the tasks of statisticians much harder

- **Liberalisation of the market**
  - From one company to hundreds
  - Claims of confidentiality
- **More work passed to statistics offices**
  - Many more companies to survey
  - Renewables (remote information)
  - Energy efficiency indicators (including socio-economic data)
  - Environment (estimation of GHG emissions, ….)
- **Resources do not follow work load**
  - Statistics still have a low profile, budget cuts
- **Fast turnover in staff: lack of experience, continuity**

Not only a lack of resources…

But also a lack of harmonization and co-operation

An obvious need to react at all levels



Crude Oil Production for Mexico (in kbd)

	1995	1996	1997	1998
APEC	2653	2903	3087	3134
IEA	2741	2872	3062	3109
OLADE	2722	2969	3022	3070
OPEC	2618	2858	3022	3071
UN	2834	2977	3166	3250

Organisations started to react

- **At the political level:**
  - Several presentations on the situation at the IEA Governing Board
  - Transparency and statistics were also high on the agenda of the Ministerial Meeting in May 2005

Recognition/Commitment/Resources

- **At the technical level:**
  - Release of an Energy Statistics Manual (together with Eurostat)
  - Training of statisticians from Member / Non-Member countries
  - A series of meetings with Member countries

Expertise/Recognition/Commitment

Creation of the UN/OCG and the InterEnerStat

The momentum was there…..

IEA in consultation with UNSD decided to hold the 1st InterEnerStat meeting (Nov. 2005)

- **Objectives:**
  - To hear from each organisation what they do, what are their problems and their expectation for more co-operation
  - To pave the way for more harmonization and for strengthening bilateral and international co-operation

- **Participants:**
  - 24 major regional and international organisations. Both data providers (IEA, UNSD, OPEC, Eurostat, APEC, FAO) and users (WB, IMF, UNFCCC,…)

Two Clear Requests

Harmonisation

- Methodologies
- Definitions
- Units
- Conversion factors
- Questionnaires
- Handbooks and manuals
- Training
- Quality framework

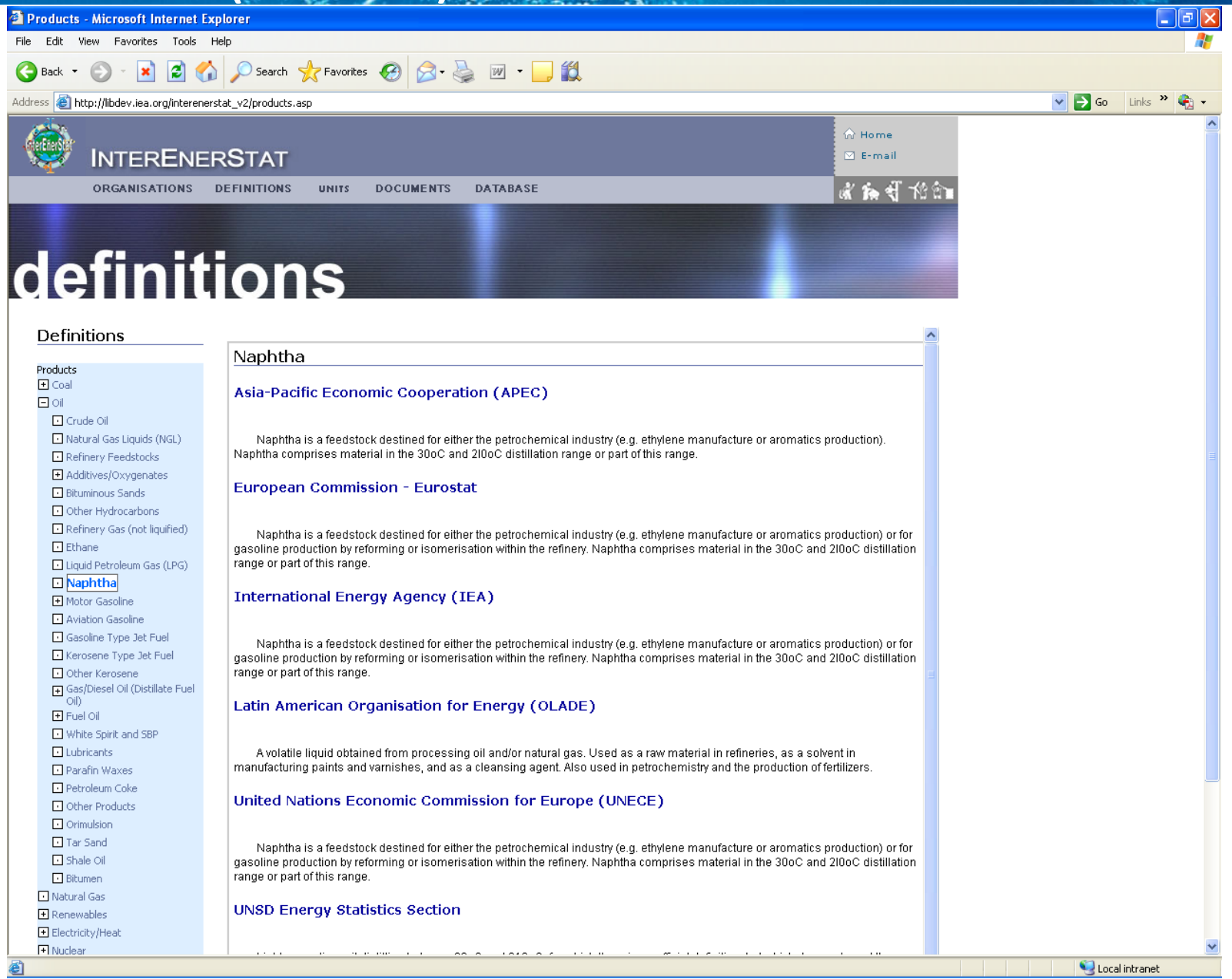
Co-operation

- Raising political awareness
- Harmonisation
- Joint Questionnaires
- Joint Training
- Common manuals
- Joint quality assessment
- Exchange of data

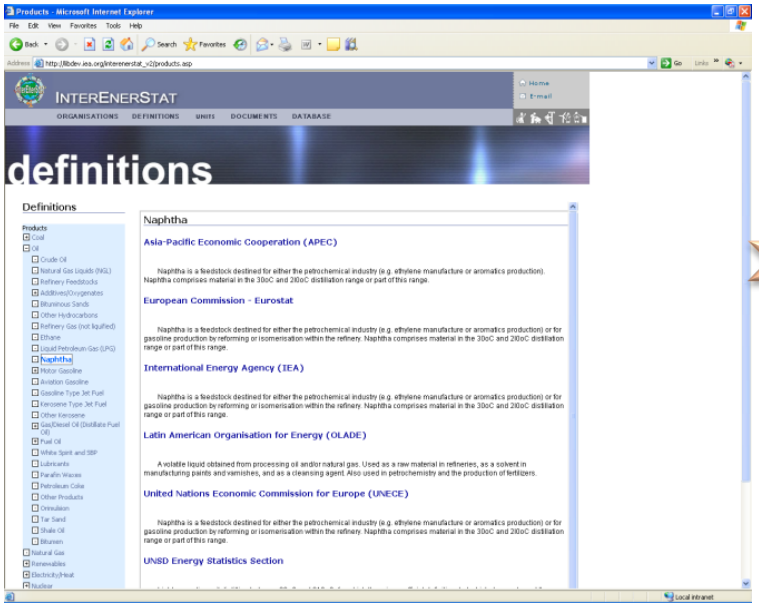
Harmonisation: first step was to collect from each organisation its own set of definitions

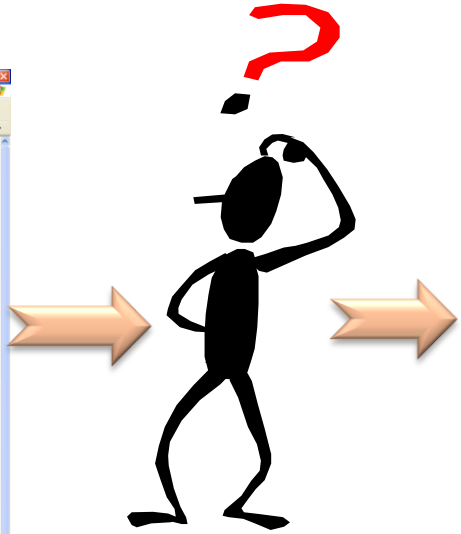
The 2nd step was to assemble them in a transparent way easy to access

Website presented at InterEnerStat 2 (Nov 2007)



From InterEnerStat 2 to InterEnerStat 3 (Nov 2007 and Oct 2008)





Naphthas

Light or medium oils distilling between 30 °C and 210 °C, for which there is no official definition, but which do not meet the standards laid down for motor spirit. The properties depend upon consumer specification.

Different naphthas are distinguished by their density and an analysis based on the content of paraffins, isoparaffins, olefins, naphthenes and aromatics.

The primary uses for naphthas are as feedstock for high octane gasolines and the manufacture of olefins in the petrochemical industry.

DECISIONS

- Singular will used.
- Accept IEA drafting suggestion on how to distinguish the different naphthas.

- **An expert was contracted to:**
  - **Look at flows and products**
  - **Highlight similarities and differences**
  - **Propose a "compromise" definition for each flow/product**

3rd and 4th InterEnerStat meetings (Oct 2008 and Nov 2009)

Hard Coal

European Commission - Eurostat

International Energy Agency (IEA)
Hard Coal refers to coal of gross calorific value greater than 23 865 kJ/kg (5 700 kcal/kg) on an ash-free but moist basis and with a mean random reflectance of vitrinite of at least 0.6. Hard coal comprises anthracite, coking coal and other bituminous coal (steam coal).

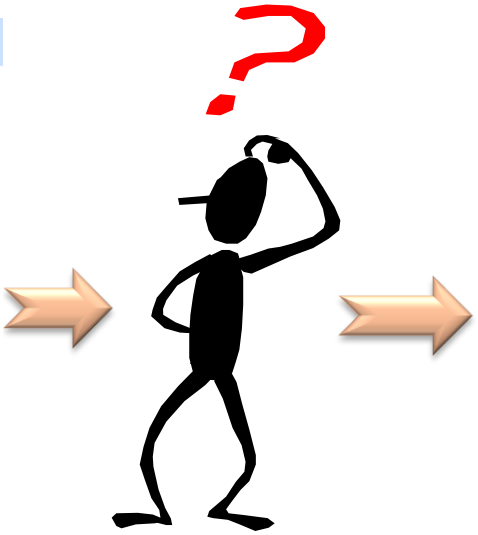
United Nations Economic Commission for Europe (UNECE)
Hard Coal refers to coal of gross calorific value greater than 23 865 kJ/kg (5 700 kcal/kg) on an ash-free but moist basis and with a mean random reflectance of vitrinite of at least 0.6. Hard coal comprises anthracite, coking coal and other bituminous coal (steam coal).

UNSD Energy Statistics Section
Coal that has a high degree of coalification with a gross calorific value above 23,865 KJ/kg (5,700 kcal/kg) on an ash-free but moist basis, and a mean random reflectance of vitrinite of at least 0.6. Slurries, middlings and other low-grade coal products, which cannot be classified according to the type of coal from which they are obtained, are included under hard coal.

There are two sub-categories of hard coal: (i) coking coal and (ii) other bituminous coal and anthracite (also known as steam coal).

(i) coking coal is a hard coal with a quality that allows the production of coke suiable to support a blast furnace charge.

(ii) steam coal is coal used for steam raising and space heating purposes and includes all anthracite coals and bituminous coals not classified as coking coal.



1.1.1 HARD COAL

SECOND REVISION

Definition:	Coals with a gross calorific value (moist, ash-free) basis which is not less than 24 MJ/kg or which is less than 24 MJ/kg provided that the coal has a Vitrinite mean Random Reflectance greater than, or equal to 0.6 per cent.
Remark:	Hard coal comprises Anthracite and Bituminous coals. Note that hard coal may include coals with a GCV greater than or equal to 24 MJ/kg and a mean Rr < 0.6 per cent.

DECISION

Move parenthesis after "basis"

REVISED DEFINITION

Definition:	Coals with a gross calorific value (moist, ash-free basis) which is not less than 24 MJ/kg or which is less than 24 MJ/kg provided that the coal has a Vitrinite mean Random Reflectance greater than, or equal to 0.6 per cent.
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- Expert provided first draft report for harmonised definitions
- Discussions with international organisations
- A series of decisions adopted
- Decisions translated into revised definitions

InterEnerStat Product Hierarchy

- Coal
  - Hard coal
    - Anthracite
    - Bituminous coal
      - Coking coal
      - Other bituminous coal
  - Brown coal
    - Sub-bituminous coal
    - Lignite
  - Coal products
    - Coal coke
      - Coke oven coke
      - Gas coke
      - Coke breeze
      - Semi cokes
        - Brown coal coke
        - Other semi cokes
    - Patent fuel
    - Brown coal briquettes (BKB)
    - Coal tar
    - Coke oven gas
    - Gas works gas (and other manufactured gases for distribution)
    - Recovered gases
      - Blast furnace gas
      - Basic oxygen steel furnace gas
      - Other recovered gases

InterEnerStat Flow Hierarchy

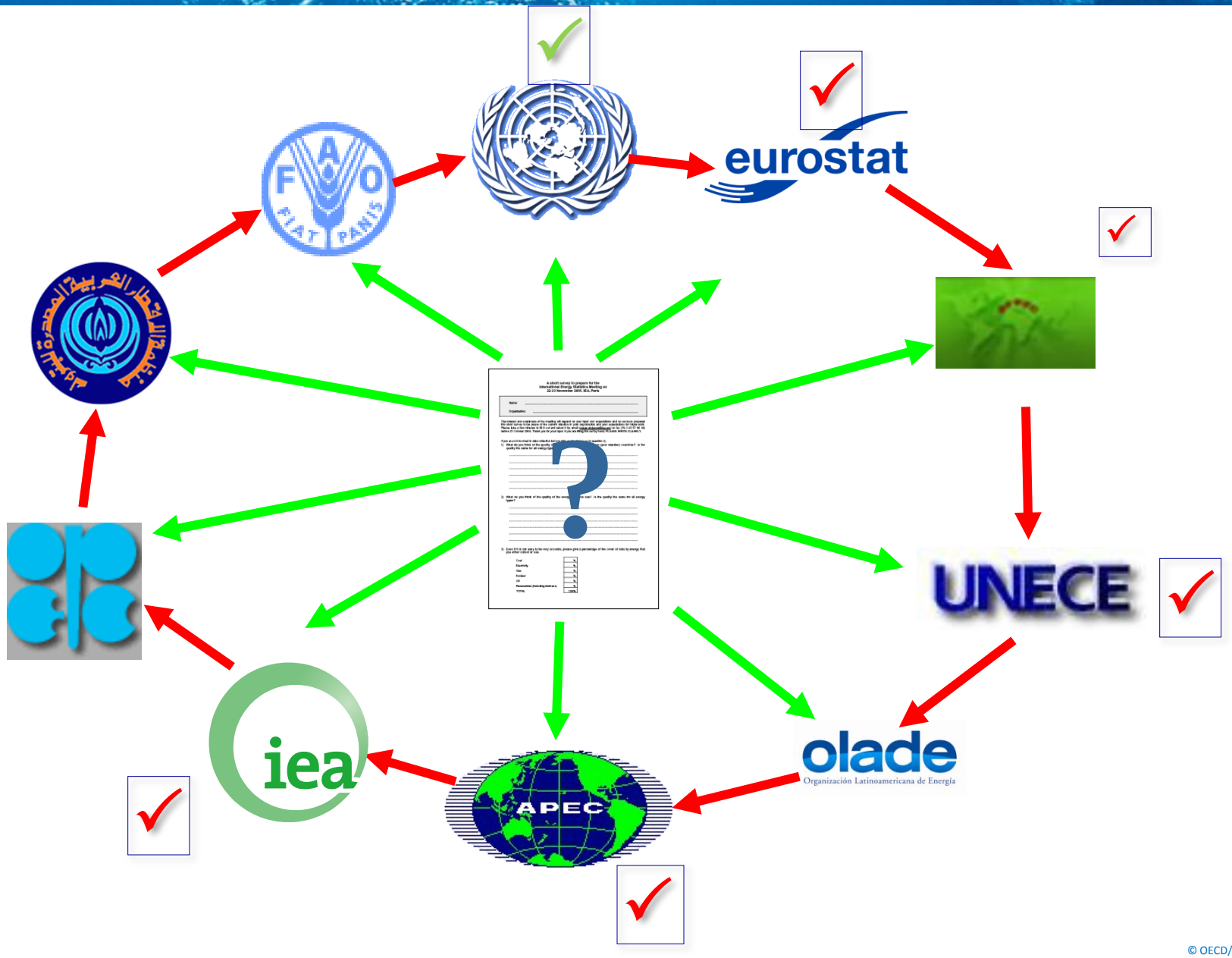
- Supply
  - Production
  - Receipts from other sources
  - Imports
  - Exports
  - International marine bunkers
  - International aviation bunkers
  - Stock changes
- Transfers
  - Products transferred
  - Interproduct transfers
- Product recycling
- Statistical difference
- Transformation processes
  - Electricity plants
  - Combined heat and power plants
  - Heat plants
  - Coke ovens
  - Patent fuel plants
  - Brown coal briquette plants
  - Coal liquefaction plants
  - Gas works (and other conversion to gases)
  - Blast furnaces
  - Peat briquette plants
  - Natural gas blending plants
  - Gas to liquid (GTL) plants
  - Oil refineries
  - Petrochemical plants
  - Charcoal plants
  - Other transformation processes

Where is InterEnerStat now?

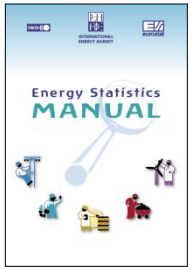
- By the end of 2010 all the outstanding points were agreed between groups working on InterEnerStat, OCG and IRES.
- These definitions will be guidelines to help organisations to arrive at a common understanding of what is covered by a particular flow or a particular product.
- Definitions have been used in the International Recommendations for Energy Statistics manual of the UNSD, which has been approved by the UN Statistical Commission in February 2011.

So, what next ?

1. One questionnaire: dream or reality ?



2. Provide better manuals



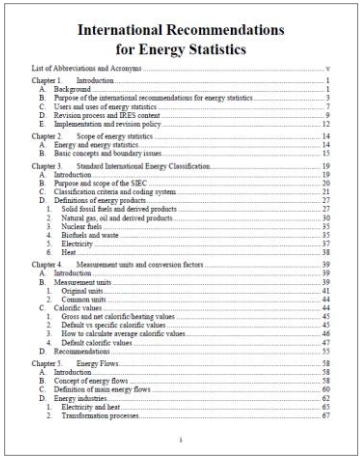
The Joint IEA/Eurostat Energy Statistics Manual

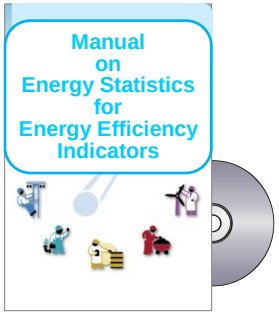
(now available in 10 languages)

Arabic
+
Farsi

The IRES Manual (UNSD and Oslo City Group)

(in cooperation with many organisations and countries)





The Manual on Statistics for Energy Efficiency Indicators **(IEA, ODYSSEE, others)**

3. Joint trainings for energy statisticians

- IEA Training centre
- IEA Training Week
- Chile (in Santiago)
- South Africa (in Johannesburg)
- Energy Community (in Paris)
- Three Chinese secondees for 3 months
- Russia
- San Salvador

The MEDSTAT programme

Regular training for APEC economies

Several training sessions including on-line training

Multiple training sessions with AFREC

A few words to conclude

- **Harmonisation will not happen overnight. It needs time, effort, resources and commitment.**
- **The first several steps have been taken to establish the basis for moving harmonisation forward.**
- **Underlying principle: evolution not revolution. The main objective is to support energy policy and energy analysis.**
- **You can find the product and flow definitions and hierarchy at: http://www.iea.org/interenerstat_v2/meetings.asp and http://unstats.un.org/unsd/energy/ires/default.htm**

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Thank you