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IEA's Approach to Energy Statistics Training

InterEnerStat Meeting, Dec. 2012



Energy statistics training

- Overall philosophy
- Substance
- Participants
- Trainers
- Financing
- Other

ENERGY BALANCES OF OECD COUNTRIES (2010 Edition) E.13

OECD Total : 2008

Million tonnes of oil equivalent

SUPPLY AND CONSUMPTION	USE	CRUDE OIL	OF PRODUCTS	USE	INDUSTRY	HOUSEHOLDS	TRANSPORT	COMMERCIAL	Electricity	Other	LOSS
Production	1034.96	896.40	-	148.52	592.32	112.87	51.75	226.12	-	0.91	285.91
Imports	301.75	1035.18	533.41	403.36	-	-	-	8.16	34.49	0.00	3166.90
Exports	-270.41	-388.68	-471.49	-282.11	-	-	-	-4.30	-33.53	-0.01	-1430.51
Pre. marine barriers	-	-	58.57	-	-	-	-	-	-	-	62.87
Pre. aviation barriers	-	-	-49.13	-	-	-	-	-	-	-	-49.13
Stock changes	-17.85	-6.79	-2.95	1.16	-	-	-	-0.49	-	-	-26.77
TOTAL	1128.08	2157.22	121.62	1210.98	592.32	112.87	51.75	229.45	0.95	0.51	5422.43
Transfers	-	-30.35	-32.58	-	-	-	-	-	-	-	12.87
Statistical differences	-13.12	-21.94	-17.54	3.74	-	-	-	-0.01	0.01	-0.01	-45.50
Electricity plants	-916.21	-6.91	-41.10	-322.88	-984.79	-112.87	-12.88	-38.58	829.23	-0.23	-1189.53
CRP plants	-63.70	-	-13.82	-102.79	-3.64	-	-1.08	-29.21	99.93	89.40	-48.60
Heat plants	-4.35	-	-1.98	-7.15	-	-	-0.13	-4.18	-0.33	13.71	-3.49
Heat turbines	-484.47	-	-1.19	-0.11	-	-	-	-	-	-	-62.77
Gas works	-2.41	-	-1.99	-2.89	-	-	-	0.01	-	-	-1.72
Coal/gas/heat/turb plants	-4.58	-	-1.16	-0.54	-	-	-	-	-	-	-8.79
Oil refineries	-	-2118.53	2114.72	-0.87	-	-	-	-	-	-	-4.38
Non-ferrous plants	-	14.70	107.29	-	-	-	-	-	-	-	-0.34
Other refineries	-	0.87	-	-1.71	-	-	-	-	-	-	-1.34
Liquefaction plants	-	0.01	0.19	-0.43	-	-	-	0.13	-	-	-0.71
Other transformation	-	-14.27	-0.27	-118.50	-48.73	-	-	-0.00	-0.17	-0.12	-305.29
Energy lost own use	-	0.00	0.01	0.01	-	-	-	0.14	0.04	-68.70	-4.54
LOSS	138.08	2.79	1791.99	237.98	-	-	-	7.94	169.37	59.96	3099.08
INDUSTRY	169.74	6.76	1323.74	253.19	-	-	-	6.42	70.53	246.81	849.41
Iron and steel	42.56	-	0.71	20.35	-	-	-	0.19	31.26	0.00	154.91
Chemical and petroleum	11.63	0.76	27.38	61.78	-	-	-	0.00	1.88	49.74	11.30
Non-ferrous metals	9.76	-	9.11	11.71	-	-	-	0.00	0.16	28.58	6.43
Non-metallic minerals	31.31	-	21.10	31.03	-	-	-	0.00	4.54	15.67	53.35
Transport equipment	1.24	-	1.82	9.07	-	-	-	0.00	0.11	10.38	22.38
Machinery	0.40	-	4.00	19.89	-	-	-	0.00	0.01	36.94	0.10
Mining and quarrying	0.60	-	0.02	9.91	-	-	-	0.00	0.13	0.00	34.88
Food and tobacco	0.79	-	10.31	30.98	-	-	-	0.00	4.98	20.40	1.70
Textile, pulp and printing	7.70	-	9.89	23.17	-	-	-	0.14	44.52	31.96	8.08
Wood and wood products	0.15	-	3.89	2.77	-	-	-	0.10	5.14	0.78	22.88
Combustion	2.87	-	10.29	2.23	-	-	-	0.00	0.00	1.14	0.08
Metals and leather	0.53	-	1.51	0.03	-	-	-	0.00	0.07	0.60	15.50
Non-specified	10.28	-	19.79	19.00	-	-	-	0.28	4.23	25.75	3.27
TRANSPORT	6.11	1038.19	38.29	-	-	-	-	38.75	1.88	-	1166.07
Domestic aviation	-	-	73.86	-	-	-	-	-	-	-	73.86
Road	-	-	1007.15	2.00	-	-	-	30.75	0.00	-	1000.14
Rail	0.01	-	16.78	-	-	-	-	7.54	-	-	24.31
Maritime transport	-	-	0.02	19.86	-	-	-	0.42	-	-	20.28
Domestic navigation	0.10	-	18.89	-	-	-	-	-	-	-	18.89
Non-specified	-	-	1.45	0.14	-	-	-	-	1.72	-	0.30
OTHER	21.95	-	218.52	431.95	-	-	-	7.14	98.89	518.79	34.46
Household	18.16	-	99.41	271.00	-	-	-	8.82	92.28	247.68	18.37
Comm. and public services	1.85	-	69.50	148.36	-	-	-	1.27	4.80	246.58	11.09
Agriculture/forestry	1.18	-	40.78	3.74	-	-	-	0.15	1.91	7.66	56.32
Non-specified	0.78	-	4.00	0.00	-	-	-	0.03	0.00	0.00	4.30
Non-specified	0.78	-	1.74	6.88	-	-	-	0.27	0.01	16.71	4.67
NON-ENERGY USE	2.27	2.94	327.94	30.59	-	-	-	-	-	-	342.81
Industry transformation	0.01	-	2.94	219.43	30.08	-	-	-	-	-	268.43
Of which: Residual	1.05	-	7.84	235.97	38.80	-	-	-	-	-	255.47
In transport	-	-	-	-	-	-	-	-	-	-	-
Other	0.00	-	-	-	-	-	-	-	-	-	-
Electricity and Heat Output	2852.49	35.14	343.62	2364.74	2372.42	1312.44	244.48	220.52	-	0.85	19476.11
Electricity plants	2857.07	-	264.04	1555.07	2220.27	1312.44	244.10	220.52	-	0.40	19358.64
CRP plants	354.12	0.00	59.90	536.17	13.15	-	-	0.37	90.44	-	0.43
Heat generated - PJ	832.07	0.01	272.83	1362.24	4.82	-	-	24.28	452.91	6.84	34.84
CRP plants	759.85	0.01	246.16	1147.57	4.42	-	-	12.11	227.59	2.19	12.82
Heat plants	145.18	-	26.67	214.67	-	-	-	12.17	134.10	4.65	27.12

INTERNATIONAL ENERGY AGENCY



Improve the quality of energy statistics worldwide for better data transparency, through a training course that is:

Highly interactive

- Information sharing from IEA and course participants;
- Moderated discussions among participants;
- IEA staff assisting participants with exercises;
- Side meetings, social events (in Paris or regionally)

Using multiple learning methods

- Instructor led learning (Power Point);
- Question and answer;
- Exercises;
- Peer to peer learning;
- Manuals when possible

Understanding of
international standards
for energy data collection
and processing



Coal



Oil



Gas

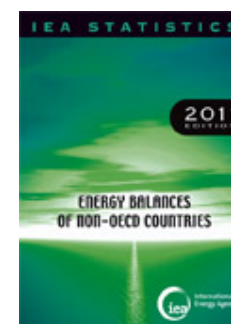


Renewables
+ Waste



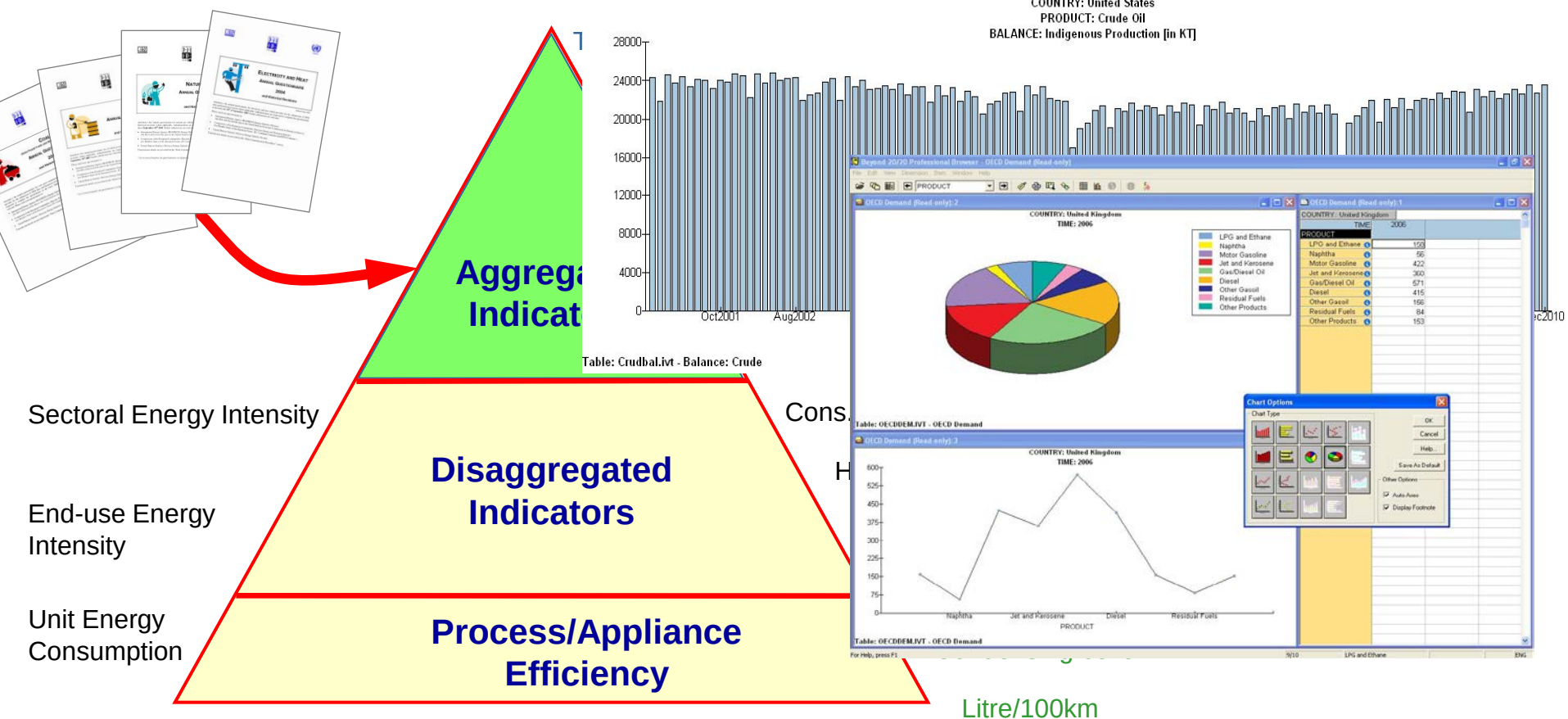
Electricity
+ Heat

Understand how the IEA
has implemented these
standards (IEA
methodology)



Understanding how data can be used for planning and implementation of energy policy

Understand how to use IEA's information for analysis purposes

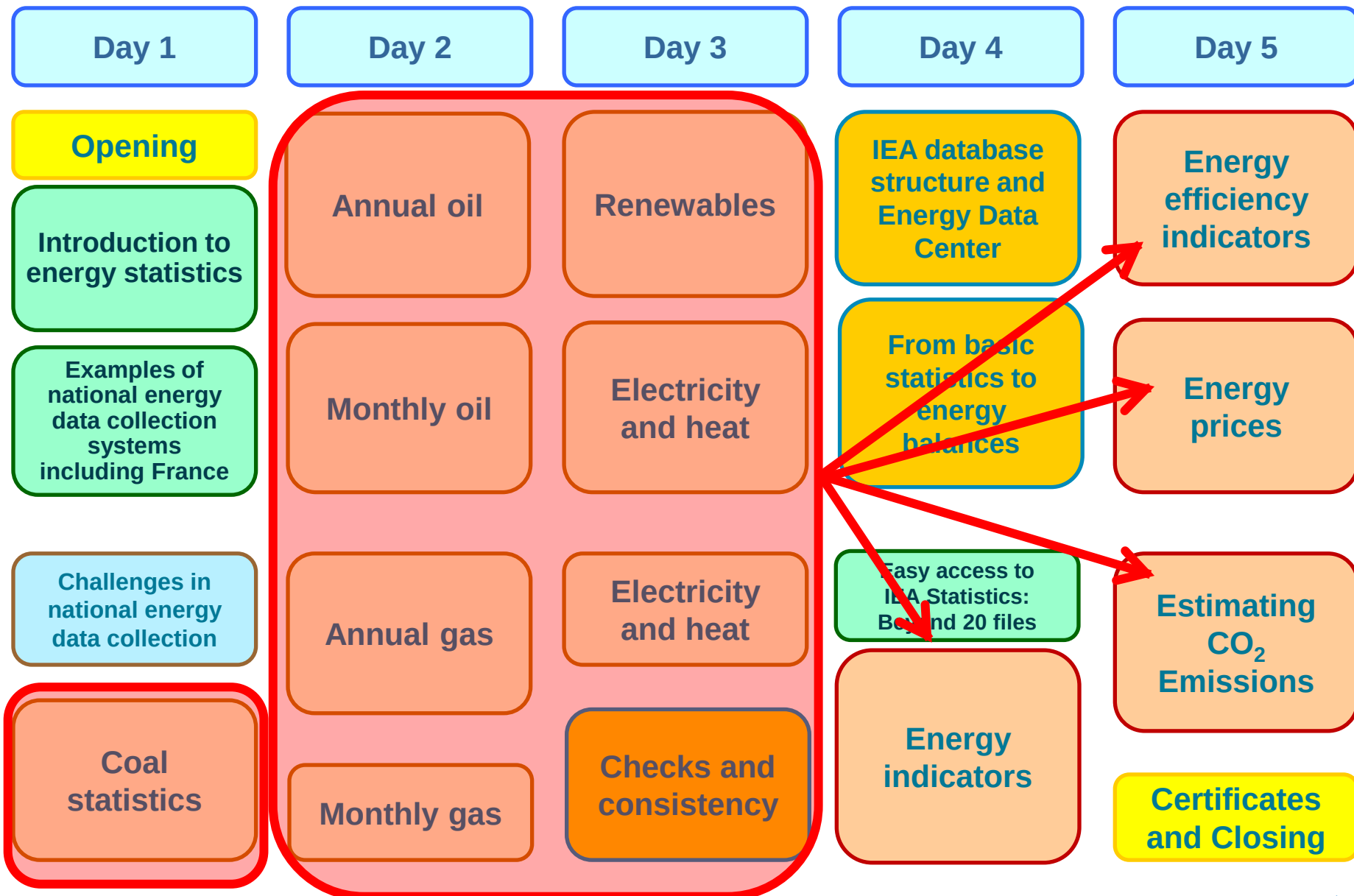


Test some basic data collection and processing skills

- Data entry, data quality testing, understanding of definitions
- Unit conversions, basic math
- Calculation of transformation efficiencies
 - Fuels to electricity
 - Coal to coke
 - Wood to charcoal

- **Classroom, instructor-led, 25-30 participants**
- **Usually two participants per computer, so they can work in teams.**
- **For smaller trainings, one participant per computer.**
- **One presentation on one topic followed by several exercises.**

Course specifics (2)



Modules	Exercises	Subject Matter Tested
Introduction		Importance of energy statistics
Country presentations	Moderated discussion of country issues and challenges	Extent to which country follows international standards and has appropriate data collection and processing infrastructure and resources.
Annual oil	Data entry, running checks	Definitions, correcting errors
Monthly oil	Data entry, running checks	Definitions, correcting errors
Annual gas	Data entry, calorific values, normal vs. standard, imports/export	Definitions, weighted averages, conversions, country of origin/destination
Monthly gas	Data entry, running checks	Definitions, correcting errors
Coal	Data entry, calorific values, transformation	Definitions, calculating efficiencies, identifying errors
Renewables	Data entry, renewable/non-renewable, biofuels, capacity factor	Definitions, allocations, direct use vs. blending, availability of resource

Modules	Exercises	Subject Matter Tested
Electricity	Data entry, capacity factor, type of output, efficiency, imports/exports	Definitions, autoproducers vs. main activity, output efficiency, transit trade.
Checks and consistency	Data entry, data consistency, units, missing data	Definitions, data comparison, unit conversions, identifying errors
Beyond 2020 and EDMC	Data presentation and graphs, data entry and corrections	Data manipulation, data presentation, online data submission, performing data checks and corrections
Energy Balances	Balance builder, questions on balance format and content	Definitions, running macros, data manipulation.
Energy indicators	Calculating indicators	Definitions, data identification, climate correction
Indicators manual	Data collection issues, designing biomass data collection	Definitions, solving data collection challenges, learning from others
Prices and taxes	Electricity prices, households vs. industry, gasoline and diesel prices, natural gas	Definitions, unit conversions, ex-tax prices, taxes and charges, Excel functionality.

- **Working level people**
- **Try to minimize the number of participants who do not work directly with data**
- **Statistical offices or energy ministry personnel who collect and process energy data**
- **Application process requests CVs and other specifics**
- **Selection process based on CVs, geographic balance, previous participation, etc.**
- **Participants can work on their own data or default data**

- **IEA statisticians who specialize in each energy form**
- **IEA statisticians who work on Non-OECD statistics help participants with exercises**
- **Helps create link between in-country and IEA statisticians**
- **Additional experts can be tapped from other Divisions: energy efficiency, for example**
- **When meetings take place at the IEA, usually France presents how they collect their statistics.**

- **For Paris-based training, most participants are self-funded but training is free;**
- **Some match funding (typically 5-6 participants)**
- **One scholarship offered by EDC**
- **For regional trainings country typically pays all venue and participant-related costs. IEA covers the costs of its trainers**
- **If IEA collaborates with other organisation in regional training, this organisation could fund participants and venue.**

- **Two annual regular sessions at the IEA**
 - March, October
 - Open to OECD and non-OECD countries
 - Difficult selection process: over 100 applicants for 25 spots
- **Country-specific regional training at IEA**
 - Indonesia (2011), Vietnam (2012)
 - Participants selected from governments and companies
- **Country-specific regional trainings abroad**
 - South Africa, Chile (2010) Central America (2011), Russia (2012)

- **Joint IEA/Other organisation training**
 - AFREC (4 sessions in different African regions, 2012),
INOATE (Caspian and Black Sea countries, 2012)
- **Training organised by another organisation where IEA participates**
 - IEF for JODI
 - UN
 - APEC

A few lessons and good practices

- **Keep participants active and not passive – importance of exercises**
- **Make sure there is enough support staff for the exercises**
- **Incentives to complete exercises help**
- **Starting with country presentations, highlighting strong and weak points, helps to set the stage and break the ice**
- **Social and side events also help**
- **Selection process of the participants is very important**
- **Participants appreciate receiving certificates**

Thank you

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