How to improve national energy statistics

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Rome, Cluster Francophone – L'inventaire des émissions de GES,
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IEA

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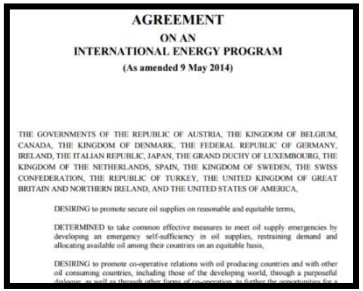
The International Energy Agency

- Intergovernmental organization founded in 1974, in response to oil disruptions
- Mission: to ensure reliable, affordable and clean energy for its members and beyond
- Autonomous Agency of the OECD
  29 Members; 2 Accession;
  6 Association countries
- Worldwide engagement



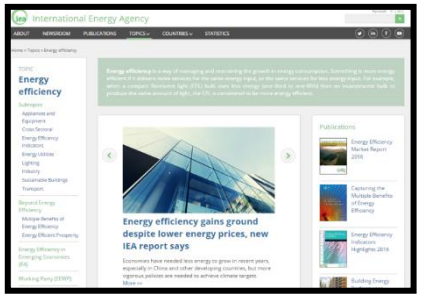
AGREEMENT
ON AN
INTERNATIONAL ENERGY PROGRAM
(As amended 9 May 2014)

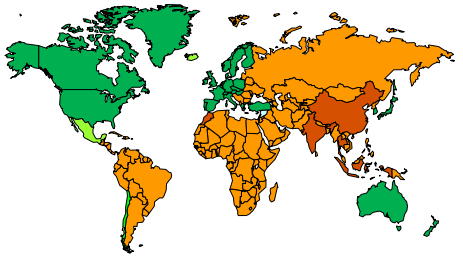
THE GOVERNMENTS OF THE REPUBLIC OF AUSTRIA, THE KINGDOM OF BELGIUM, CANADA, THE KINGDOM OF DENMARK, THE FEDERAL REPUBLIC OF GERMANY, IRELAND, THE ITALIAN REPUBLIC, JAPAN, THE GRAND DUCHY OF LUXEMBOURG, THE KINGDOM OF THE NETHERLANDS, SPAIN, THE KINGDOM OF SWEDEN, THE SWISS CONFEDERATION, THE REPUBLIC OF TURKEY, THE UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND, AND THE UNITED STATES OF AMERICA,

DESIRING to promote secure oil supplies on reasonable and equitable terms,

DETERMINED to take common effective measures to meet oil supply emergencies by developing an emergency self-sufficiency in oil supplies, restraining demand and allocating available oil among their countries on an equitable basis,

DESIRING to promote co-operative relations with oil producing countries and with other oil consuming countries, including those of the developing world, through a purposeful





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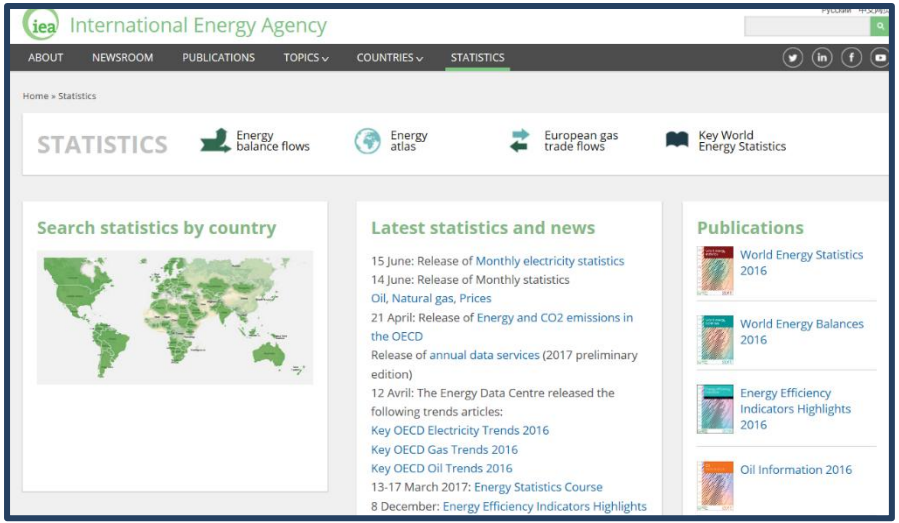
Global energy statistics: at the core of the IEA



- To develop comprehensive global energy statistics and enhance their dissemination to inform energy policy
- To improve countries ability to produce energy stats, through training and cooperation, with a particular emphasis on association countries
- To raise the profile of statistics and statisticians and highlight the relevance to policy making

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How does the IEA strengthen energy statistics quality globally?

Manuals

Cooperation across agencies INTERENERSTAT

Continuous improvement in data quality

Training Capacity Building

Open communication with country sources

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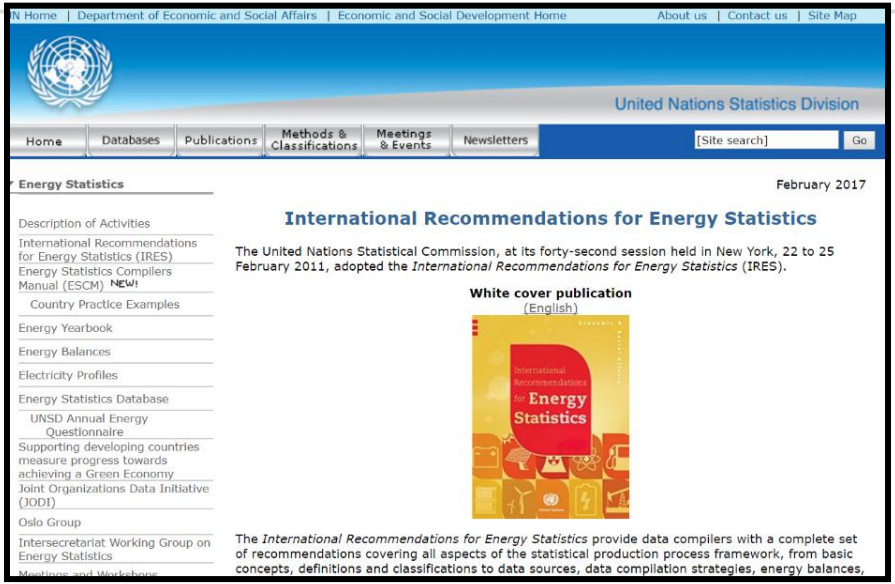
International cooperation is key: global harmonization work



International Recommendations on Energy Statistics (IRES)

- Elaborated through very wide consultation (Oslo City Group and InterEnerStat): IEA leading harmonisation effort across partners

- Adopted by the UN Statistical Commission in 2011

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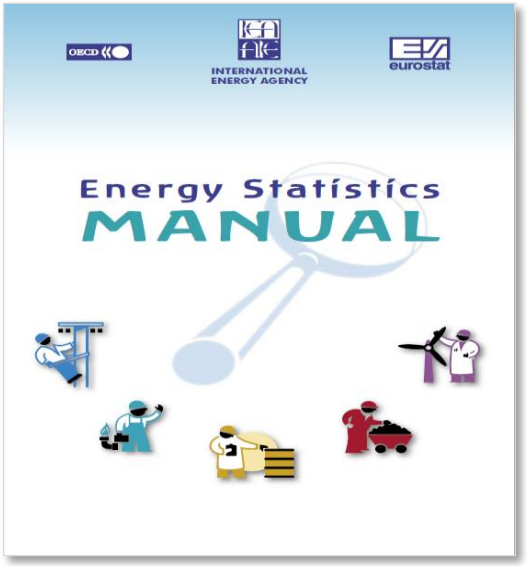
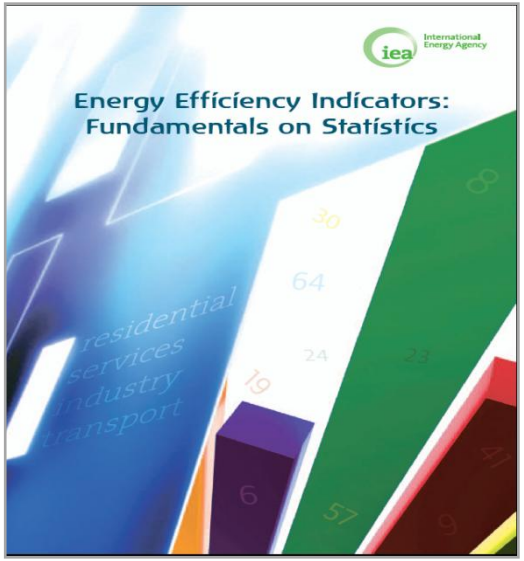
Examples of IEA energy statistics manuals and available guidance



Available in 10 languages



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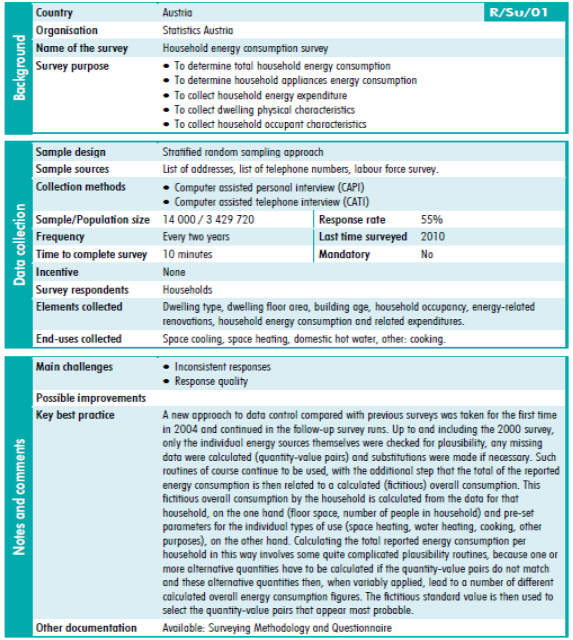

Background	Country	Austria		R/Su/01
	Organisation	Statistics Austria		
	Name of the survey	Household energy consumption survey		
	Survey purpose	• To determine total household energy consumption • To determine household appliances energy consumption • To collect household energy expenditure • To collect dwelling physical characteristics • To collect household occupant characteristics		
Data collection	Sample design	Stratified random sampling approach		
	Sample sources	List of addresses, list of telephone numbers, labour force survey.		
	Collection methods	• Computer assisted personal interview (CAPI) • Computer assisted telephone interview (CATI)		
	Sample/Population size	14 000 / 3 429 720	Response rate	55%
	Frequency	Every two years	Last time surveyed	2010
	Time to complete survey	10 minutes	Mandatory	No
	Incentive	None		
	Survey respondents	Households		
	Elements collected	Dwelling type, dwelling floor area, building age, household occupancy, energy-related renovations, household energy consumption and related expenditures.		
	End-uses collected	Space cooling, space heating, domestic hot water, other: cooking.		
Notes and comments	Main challenges	• Inconsistent responses • Response quality		
	Possible improvements			
	Key best practice	A new approach to data control compared with previous surveys was taken for the first time in 2004 and continued in the follow-up survey runs. Up to and including the 2000 survey, only the individual energy sources themselves were checked for plausibility, any missing data were calculated (quantity-value pairs) and substitutions were made if necessary. Such routines of course continue to be used, with the additional step that the total of the reported energy consumption is then related to a calculated (fictitious) overall consumption. This fictitious overall consumption by the household is calculated from the data for that household, on the one hand (floor space, number of people in household) and pre-set parameters for the individual types of use (space heating, water heating, cooking, other purposes), on the other hand. Calculating the total reported energy consumption per household in this way involves some quite complicated plausibility routines, because one or more alternative quantities have to be calculated if the quantity-value pairs do not match and these alternative quantities then, when variably applied, lead to a number of different calculated overall energy consumption figures. The fictitious standard value is then used to select the quantity-value pairs that appear most probable.		
	Other documentation	Available: Surveying Methodology and Questionnaire		

Over 170 country practices
for national data collection

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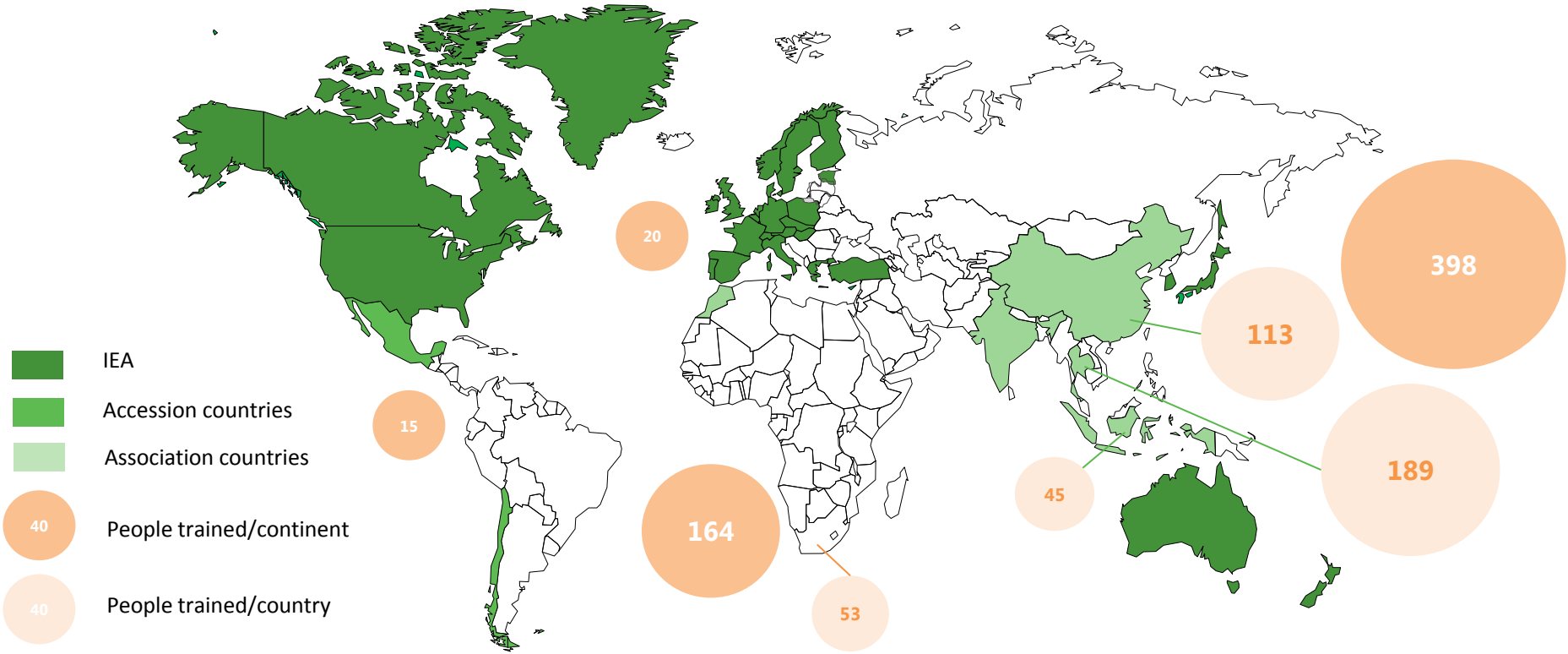
IEA training and capacity building overview in 2016



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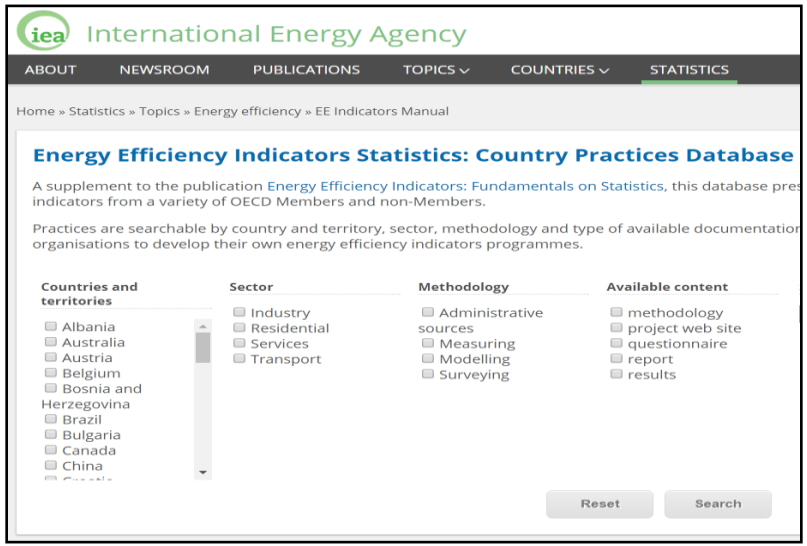
Expanding the country practice database

- Database on **how countries collect end-use data** – proving **very useful** concept, especially in our work with emerging and developing countries
- Requests to **expand** into methodological/design issues
- We still appreciated any **new examples** – eg. when new approaches are implemented



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Examples of IEA cooperation activities around carbon data

- Review of UNFCCC inventories
  - Qualitative and quantitative analyses of the discrepancies between CRF and data submitted to the IEA are provided by the IEA to the UNFCCC, for use in the official process of review of GHG inventories
- Contribution to IPCC Guidelines and broader cooperation with IPCC
  - IEA contributing author to 1996, 2006 Guidelines and 2019 Refinements for Energy
  - A joint IEA/IPCC workshop on energy data planned for 2017
- Collaboration with PBL/JRC (EDGAR database)
  - IEA provides energy and CO_2 emissions from fuel combustion historical data
  - PBL/JRC provides estimates of emissions from other GHGs and from other sectors

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Publishing the Data – Another way to improve the quality of statistics

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Why publishing the data

- Fundamental Principles of Official Statistics
  - Principle 1. ….. official statistics that meet the test of practical utility are to be compiled and made available on an impartial basis by official statistical agencies to honour citizens' entitlement to public information. (73rd plenary meeting 29 January 2014)
- Communique of this G20 Ministers Meeting
  - We also acknowledge the importance of public disclosure of market related information on all energy resources.
- Raise visibility of statistics and message from stats (advertising)
- Inform Government, business, public, investors

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Drivers - Selected Recommendations from IRES

- The dissemination policy should be user oriented, reaching and serving all user groups, including format, and provide quality information
- While recognizing the importance of statistical confidentiality, countries should implement those rules in a way to promote access to data while ensuring confidentiality
- Countries make their energy data available on a calendar period basis
- Countries announce in advance the precise dates when energy statistics will be released
- Release dates:
  - monthly data, within 2 calendar months
  - quarterly data within 3 calendar months after the end of the reference quarter;
  - annual data within 15 calendar months after the end of the reference year
- Countries are encouraged to harmonize their data with international standards
- It is recommended that countries disseminate their energy statistics internationally as soon as they become available to national users and without any additional restrictions.
- A glossary of terms should always accompany the disseminated tabulations of energy statistics.

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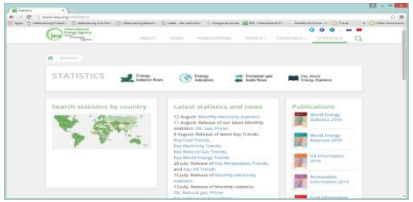
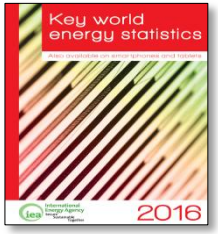
Publication- IEA energy data and statistics

- Books

- Databases (online and CDs)
- Internet  (most visited page of the IEA website)
- Booklet 

(10 000 copies and over 100 000 downloads/year
- Mobile App (available on all smartphones)

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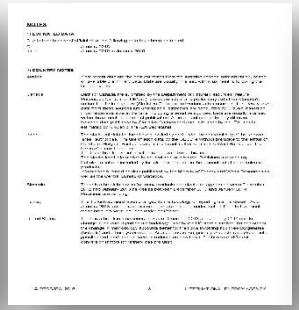
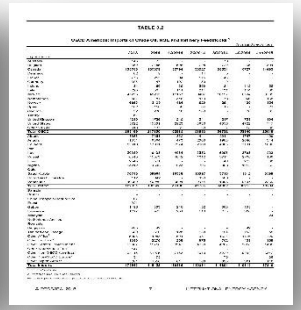
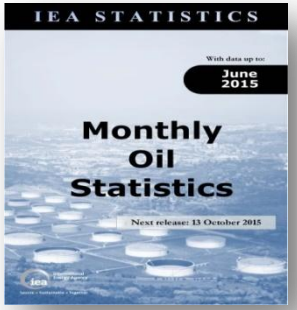
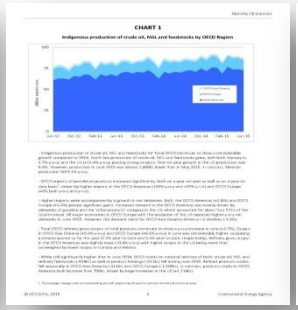
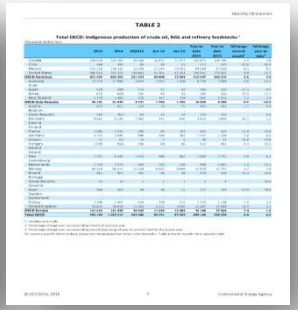
New format for Monthly Statistics

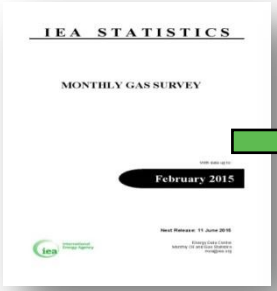


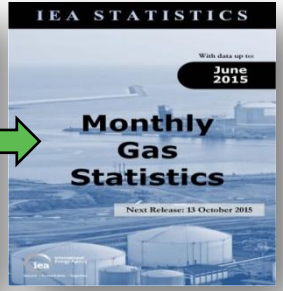


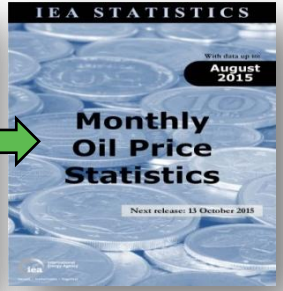


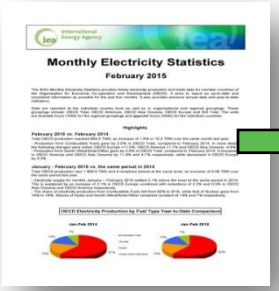


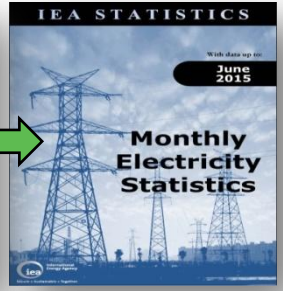












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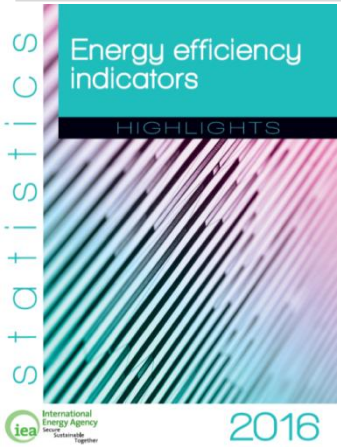
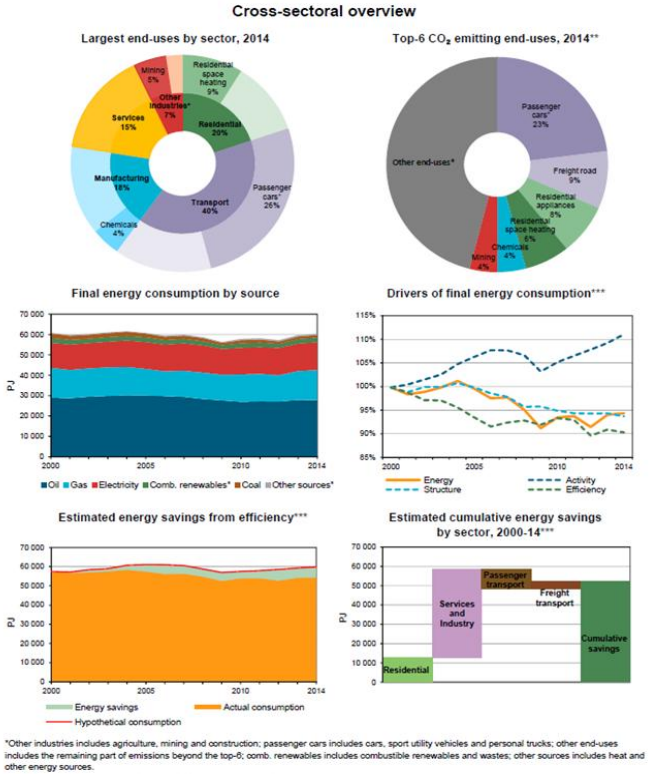
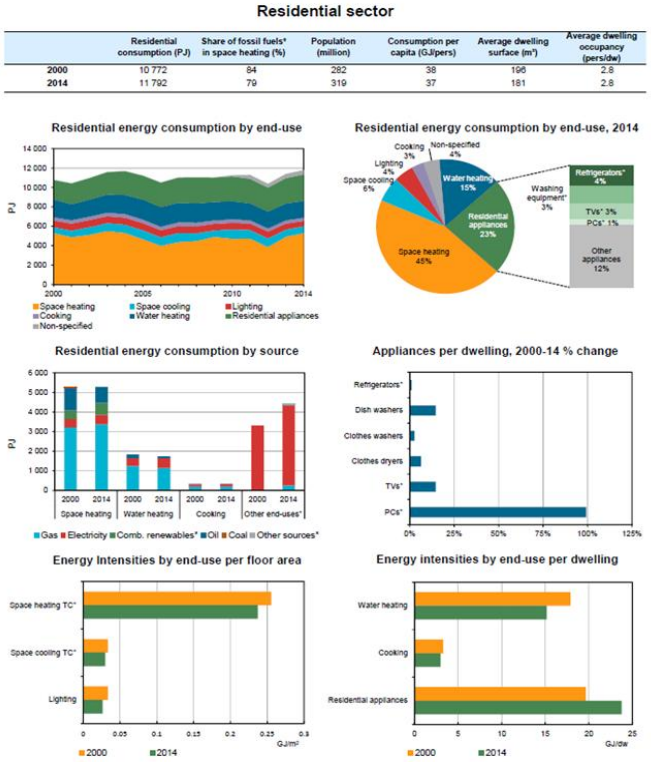
First IEA energy efficiency statistics release (Dec 2016)



http://www.iea.org/publications/freepublications/publication/energy-efficiency-indicators-highlights-2016.html





	Residential consumption (PJ)	Share of fossil fuels* in space heating (%)	Population (million)	Consumption per capita (GJ/pers)	Average dwelling surface (m²)	Average dwelling occupancy (pers/dw)
2000	10 772	84	282	38	196	2.8
2014	11 792	79	319	37	181	2.8

End-use indicators by sector for individual IEA countries – extensive consultation with data providers ahead of release

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Time for discussion

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Case studies

- Maroc
- République Centrafricaine
- Cameroun

Presentations

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Discussion

- What institutions are responsible for which data collection at your national level?
- What energy data are available and where are the gaps for your country?
- Are there agreements in place to share energy data?
- What barriers you find (technical, institutional, etc.) when collecting data?
- Do you have any good practice to share with others?
- Do you have requests to international organizations?

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