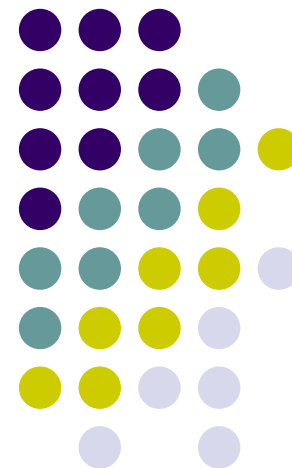


Energy Data Collection in the APEC Region

Workshop on Energy Efficiency Indicators
International Energy Agency (IEA)
Paris
26-28 April 2006

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EDMC/IEEJ, Japan





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About Member Economies

- Geographical Classification
 - North East Asia (5): China; Hong Kong, China; *Japan*; *Korea*; Chinese Taipei
 - South East Asia (7): Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore, Thailand, Vietnam
 - Oceania (3): *Australia*, *New Zealand*, PNG
 - Americas (4): *Canada*, *USA*, *Mexico*, Peru, Chile
 - Other: Russia
- Economic Classification
 - OECD: 7 members
 - Non-OECD: 14 members

History

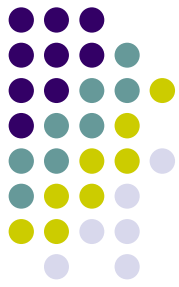


- The Energy Data and Modeling Center (EDMC); a unit of the Institute of Energy Economics, Japan (IEEJ); started data collection activities from APEC member economies in 1991. This mandate was given by the Expert Group on Energy Data and Analysis (EGEDA) of APEC's Energy Working Group (EWG) having appointed EDMC as the Coordinating Agency (CA) for EGEDA activities.
- EDMC has developed the APEC Energy Database and established an energy data collection network among member economies since then.
- It has published "APEC Energy Statistics" annually since 1993.
- EDMC has also developed an on-line data collection by e-mail and dissemination system through the APEC Energy Database.

Data Collected

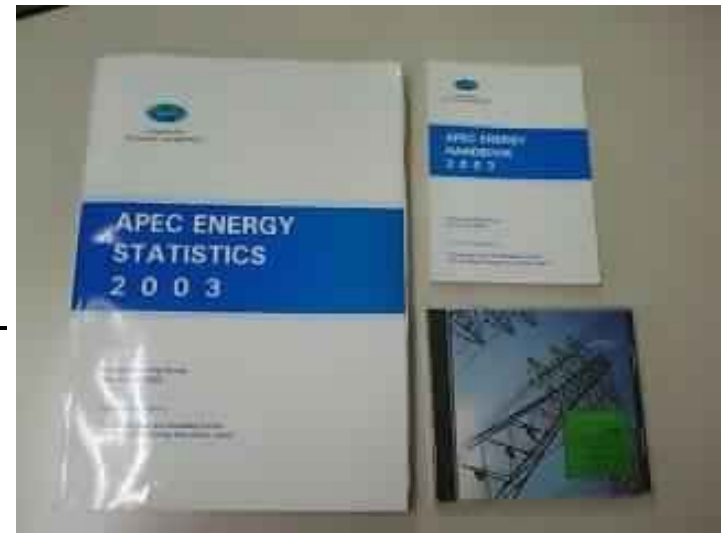


- APEC members voluntary submit;
 - Annual data for commercial and non-commercial energy covering supply, transformation and consumption (1980 to 2003)
 - Annual energy consumption by sub-sector in final energy consumption sector
 - Electricity generating capacity (annual)
 - Energy prices (annual)
 - Coal, Oil, Gas and Electricity by import, wholesale and retail
 - Quarterly energy supply data
 - Coal, Oil, Gas and Electricity
 - Production, Trade and Stock Changes
 - Monthly oil data (JODI)
 - CO₂ emissions (annual), if available
- CA collects itself:
 - Socio-economic data from WB World Development Indicators and national sources (annual)
 - Energy related statistics (annual)

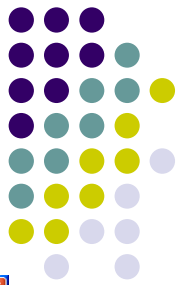


Dissemination

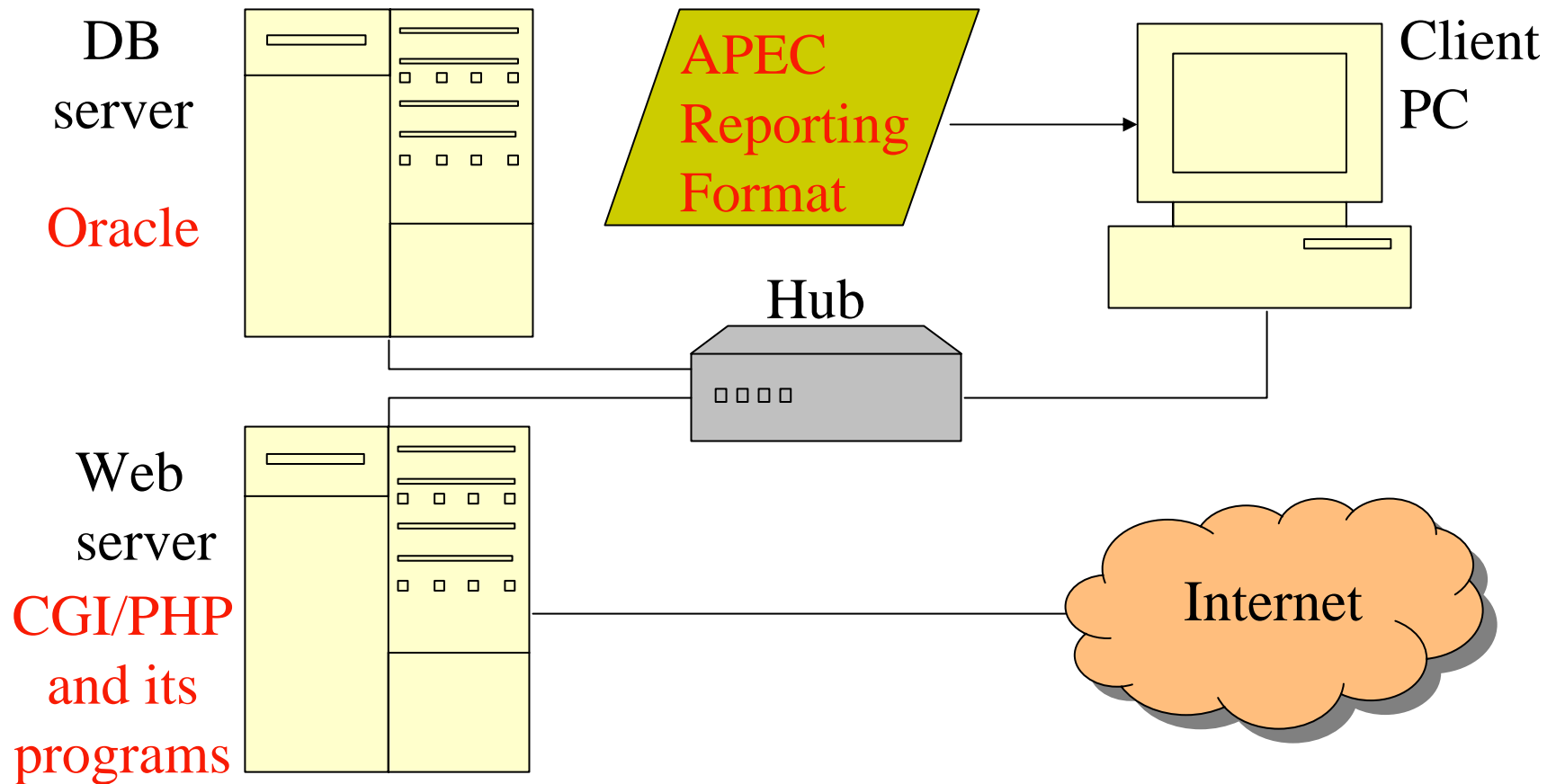
- Data are posted in the APEC Energy Database and available on-line at <http://www.ieej.or.jp/egeda/>
- Publications
 - APEC Energy Statistics – published annually; contains 2 years energy balance tables, summary tables as well as the original data submitted by member economies
 - APEC Energy Handbook – pocket-sized publication of summary of annual APEC energy statistics
 - APEC Energy Statistical Analysis Tool CD-ROM



The APEC Energy Database Website



On-line Database System Configuration



Main Problems in the Annual Data Collection



- Submission
 - One member economy cannot submit annual questionnaire (EDMC fills-in the supply data with submitted raw data and estimates final energy consumption)
 - Another member economy fills-in energy supply data only (EDMC estimates final energy consumption)
- Timeliness
 - For 2004 annual data, economies that meet the deadline in December 2005: 3 (out of 21)
 - By end of February 2006: 9
 - By end 21 April 2006: 14 (1 economy one questionnaire short)
- Quality
 - Large statistical deference
 - Irregular historical change
 - Inconsistent transformation indicators:
 - Thermal efficiency, Input/output balance etc



Harmonization

- EDMC has embarked on harmonization of data definitions with IEA since the collection of 2004 annual data.
- EDMC has prepared a new reporting format for APEC member economies which is very similar to the IEA's questionnaire.
- Definitions of energy products and flows are also harmonized with IEA's definitions.
- Products and flows collected are almost similar with IEA.

Situation of Sub-Sector Data

Industry



- Energy consumption of industrial sub-sectors by type of energy: submitted by member economies

	1995	1996	1997	1998	1999	2000	2001	2002	2003
15 Industry Sector	150362	151661	155230	150117	155543	160749	152231	154883	158409
15.1 Iron and Steel	38281	38686	40300	39239	38628	41016	36586	38867	38970
15.2 Chemical and Petrochemical	44393	43892	46375	44491	48497	49980	49041	48493	49927
15.3 Non-Ferrous metals	3698	3504	3499	3305	3370	3409	3227	3184	3184
15.4 Non-Metallic mineral products	12131	12011	11873	11565	11088	10889	10474	10466	11131
15.5 Paper, Pulp and Printing	9940	10147	10071	9556	9597	10298	9847	9696	9542
15.6 Other Industries	41920	43422	43146	41504	44280	45158	44054	43668	44850

- Only 12 member economies have sub-sector data but only 4 have complete time-series data
- Activity data are collected by EDMC from other sources
 - Production of crude steel; ethylene; cement; paper, paperboard & pulp and aluminum
 - Industrial index of production (IIP) of iron & steel, chemicals, non-metallic mineral products, pulp and paper

Preparation of Sub-Sector Data

Transportation



- Energy consumption by sub-sector and fuel type: submitted by member economies

	1995	1996	1997	1998	1999	2000	2001	2002	2003
16 Transport Sector	81288	84314	85927	86474	93957	86933	86596	86417	86329
16.1 Air	4029	3980	4005	4073	3719	3811	4144	3910	3771
16.2 Road	70692	73344	74699	74509	75856	74690	74127	74081	73706
16.3 Rail	3103	3190	3193	3230	3112	3151	3021	2853	2795
16.4 Internal Navigation	3464	3800	4031	4662	4882	5281	5304	5528	6057

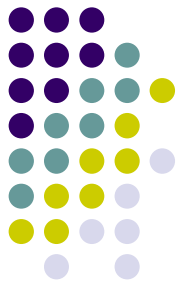
- 12 of the 21 economies have sub-sector data but only 5 have complete time-series data
- Transportation activity data collected by EDMC:
 - Production of motor vehicles
 - Number of carhold
 - Transportation demand in ton-kilometers and passenger-kilometers
 - Fuel efficiency data of both stock base and new vehicle models are also collected

Preparation of Sub-Sector Data

Residential & Commercial



- Energy consumption by fuel type: submitted by member economies
 - Residential
 - Commercial
- 13 of the 21 economies have separate data for residential and commercial but only 4 have complete time-series data
- Activity data collected by EDMC:
 - Number of Households
 - Disposable Income
 - Average Monthly Temperature (3PM)
 - Cooling Degree-days
 - Heating Degree-days
 - Number of household electric appliances such as: televisions, refrigerators, air-conditioners, washing machines and microwave cookers



Conclusion

- CA of EGEDA has been facing a lot of problems on energy data collection in APEC region, especially on sub-sector data.
- Basic energy efficiency indicators should be prepared in APEC region for measuring energy conservation and efficiency use accurately by member economies.
- The EGEDA network can be still utilized for this purpose.
- For the preparation of basic indicators, EGEDA needs to establish a new data collection scheme to enhance sub-sector data.
- EGEDA would challenge this work with the support of IEA and APEC Expert Group on Energy Efficiency and Conservation (EGEEC).