

Energy Data

Presented by

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history

- **release 4: Try to apply energy targets.**
- **release 5: Apply energy targets.**
- **release 6: Move energy volume data preparation in house.**
- **release 7: Move energy price and tax data preparation in house.**

energy prices

- **release 4: first implementation: source data 1990-95**
- **release 5:**
 - **one (major) data source updated to 1997**
 - **otherwise, use price update factors (PUF)**
 - **PUF from IEA domestic currency price indices, exchange rates**
- **release 6: no change**

problems

- **many data sources**
- **manual data entry**
- **rigid coding**
- **incomprehensible program**
- **compensate for data gaps by proliferating:**
 - **data sources**
 - **data types (import price, basic price, end-use price)**

data sources

- IEA, *Energy Prices and Taxes*
- OLADE, *Sistema de Información Económica-Energetica*
- EIA, *Petroleum Marketing Monthly*
- EIA, *Energy Information Annual*
- ADB, *Energy Indicators of Developing Member Countries of ADB*
- IBRD, *Survey of Asia's Energy Prices*
- LBNL, *China Energy Databook*
- TERI, *TERI Energy Data Directory and Yearbook*

IEA *EPT* data

- **4 (2) price index arrays**
- **4 (3) import price arrays**
- **16 (1) end-use price arrays**
- **5 (3) export price arrays**
- **16 (1) tax rate arrays**

supplementary data

- **conversion factors**
- **energy volumes**
- **exchange rates**
- **price indices**
- **import duty rates**
- **margins**

energy volume data for GTAP 7

- **source: IEA, *Detailed Energy Balances***
- **minor changes in categories and concepts**
- **improved extraction from electronic data set**

price data tasks

- **Revise programs for comprehensibility.**
- **Identify precise sources for original implementation.**
- **Revise programs for better data tracking.**
- **Revise programs for correctness.**
- **Procure updated data.**
- **Preprocess to match old data structure.**
- **Update data structure.**
- **Revise treatment of industry tax rates.**

source mortality

- **one-off:**
 - ADB, *Energy Indicators of Developing Member Countries of ADB*
 - IBRD, *Survey of Asia's Energy Prices*
- **discontinued:**
 - EIA, *Energy Information Annual*
 - IEA, *Energy Prices and Taxes* → natural gas export prices
- **in flux:**
 - LBNL, *China Energy Databook*
 - TERI, *TERI Energy Data Directory and Yearbook*

discard data 1990-93

- **IBRD, ABD sources disappear**

region	comm.	before	after	discard	evaluation
arg	gas	140	77	SIEE import price, 1992	better
phl	ely	1240	742	IBRD end-use price, 1992	better
pak	ely	439	744	IBRD end-use price, 1992	better
mys	ely	776	484	IBRD end-use price, 1992	worse
bgd	ely	670	1050	IBRD end-use price, 1992	worse

end-use price observations selected

	PMM	EPT	SIEE	IEA	CED	TEDDY
1994	0	11	1	0	0	0
1995	0	5	3	23	0	0
1996	0	3	1	31	0	0
1997	0	11	1	42	0	0
1998	0	18	3	1	0	0
1999	0	15	4	2	0	0
2000	0	15	1	0	0	0
2001	0	13	14	50	0	0
2002	0	10	7	47	0	0
2003	0	16	3	0	0	0
2004	1	414	116	0	2	1

revise treatment of industry tax rates

- **Zero out most energy-energy tax rates.**
- **Previously, adjusted non-energy users' rates to compensate.**
- **No longer.**

region	comm.	before	after
nld	p_c	402	128
deu	p_c	209	143
bel	p_c	200	86
gbr	p_c	264	208
ita	p_c	186	139

update in 2001

region	comm.	use	actual		adjusted	
*	oil	*	437890	556344	437910	556323
*	p_c	*	751407	888251	751426	888231
usa	gas	*	59712	95871	59719	95864
zaf	ely	*	14473	4107	14471	4110
jpn	ely	teq	5158	359	5157	361
gbr	gas	*	9476	22743	9479	22740
chn	coa	*	9991	21429	9993	21426
xnf	*	ser	1776	44	1883	44

overall changes

region	comm.	use	actual		adjusted	
*	*	*	2676247	4311939	2676247	4311939
*	ely	*	1142569	1399357	1840787	1399465
chn	coa	*	9991	49398	18982	49390
jpn	*	*	284919	324735	424574	324768

remaining problems: price

- **price data inherently problematic**
- **not updated: supplementary volume data set, margins**
- **gas distribution margins ignored**
- **petroleum products treated as homogeneous**
- **non-market pricing overlooked**
- **price update factors problematic**
- **filling in procedure unconvincing:**
 - **strange interactions**
 - **discontinuities**
 - **heavy leveraging of few observations**

to be done: non-price

- **transfers**
- **combined heat and power**
- **marine bunkers**
- *et cetera*