

Homework 2 notes

Unit Conversions

Primary Consumption (include transformation and transmission losses)

convert from toe/year/country to kWh/person/day

243311000	toe/year/country
48747000	people/country
365	days/year
0.0136748	toe/person/day
1.00E+07	kcal/toe
4.184	kJ/kcal
1	W*s/J
3600	s/hr
158.93	kWh/person/day

Final Consumption

convert from toe/year/country to kWh/person/day

182066000	toe/year/country
48747000	people/country
365	days/year
0.010232649	toe/person/day
1.00E+07	kcal/toe
4.184	kJ/kcal
1	W*s/J
3600	s/hr
118.93	kWh/person/day

<http://www.iea.org/stats/unit.asp>

The screenshot shows a Windows Internet Explorer browser window displaying the IEA Unit Converter page. The browser's address bar shows the URL <http://www.iea.org/stats/unit.asp>. The page header features the IEA logo and the text "International Energy Agency" with three bullet points: "Energy security", "Environmental protection", and "Economic growth". Below the header is a navigation menu with links for HOME, ABOUT IEA, By TOPIC, By COUNTRY, PUBLICATIONS, EVENTS, PRESS, and MULTIMEDIA. A search bar labeled "Search IEA" is also present.

The main content area is titled "Unit Converter" and includes a "STATISTICS MENU" on the left with links to Key Statistics, Oil Data Transparency, Dynamic Maps, Online Data Services, Monthly Oil Data, Monthly Gas Data, Publications, R&D Statistics, Questionnaire Centre, and Unit Converter. Below the menu are links for "European Gas Trade Flows Map" and "Key World Energy STATISTICS 2010".

The central part of the page contains instructions: "1. Choose units", "2. Type number into one of the input boxes", and "3. Click on the convert button". Below these instructions are unit abbreviations: "kilo (k) 10³", "mega (M) 10⁶", "giga (G) 10⁹", "tera (T) 10¹²", and "peta (P) 10¹⁵".

The "General Converter for Energy" section features a table with unit selection dropdowns and input fields:

MJ	kcal	toe	MBtu	GWh	Mtce	Reset
0.004186800	1	1e-7	0.0000039683	change units	change units	Convert

Below this is the "General Converter for Mass" section, which is currently empty.

The Windows taskbar at the bottom shows the Start button and several open applications, including "20. Unknow...", "sustainable...", "Strategies f...", "Unit Convert...", "00_coursein...", "Book2", "G:\Sustains...", "F:\laptop_b...", and "Homework2...". The system clock shows the time as 1:04 AM.

11. Energy Balance

* Based on the revised Calorific Value

<2000>

석 탄	석 유	천연가스	도시가스	수 력	원자력	전 력	열에너지	신재생 에너지	합 계	
Coal	Oil	L N G	Town Gas	Hydro	Nuclear	Electricity	Heat	Renewable Energy	Total	
1,000 tce										
1,171	-	498	-	1,213	31,771	-	-	5,480	40,133	Domestic Production
63,431	160,144	33,568	-	-	-	-	-	-	257,143	Imports
-	126,850	-	-	-	-	-	-	-	126,850	(Petroleum Products)
-	33,294	-	-	-	-	-	-	-	33,294	(Petroleum Imports)
-	-46,758	-	-	-	-	-	-	-	-46,758	Exports
-	6,985	-	-	-	-	-	-	-	-6,985	Int'l Bunkers
261	345	1,144	-	-	-	-	-	-	1,749	Stock Change(+/-)
1,323	5,593	3,390	-	-	-	-	-	-	10,306	Former Stock
-1,063	-5,248	-2,246	-	-	-	-	-	-	-8,557	Ending Stock
3,741	-4,410	-1,303	-	-	-	-	-	-	-1,972	Statistical Difference
68,604	102,336	33,908	-	1,213	31,771	-	-	5,480	243,311	Primary Consumption
-44,709	-3,967	-33,908	19,459	-1,213	-31,771	33,925	1,551	-613	-61,245	Transformation
-44,709	-3,417	-12,617	-159	-1,213	-31,771	37,290	953	-613	-56,256	Electric Generation
-	-311	-681	-855	-	-	-	683	-	-1,164	District Heating
-	-239	-20,324	20,298	-	-	-	-	-	-265	Gas Manufacturing
-	-	-286	176	-	-	-3,365	-85	-	-3,561	Own Use & Loss
23,895	98,369	-	19,459	-	-	33,925	1,551	4,867	182,066	Final Consumption
22,955	56,391	-	5,891	-	-	17,006	-	3,876	106,119	Industry
-	2,244	-	4	-	-	786	-	-	3,035	Agri. Fishery
-	80	-	-	-	-	116	-	-	196	Mining
18,715	51,294	-	5,886	-	-	16,103	-	-	91,999	Manufacturing
30	369	-	515	-	-	687	-	-	1,601	Food Tobacco
88	441	-	447	-	-	993	-	-	1,967	Textile & Apparel
-	32	-	63	-	-	137	-	-	231	Wood & Wood Pro.
-	498	-	235	-	-	827	-	-	1,559	Pulp & Publications
116	46,266	-	1,077	-	-	3,445	-	-	50,905	Petro. Chemical
2,767	833	-	442	-	-	966	-	-	5,008	Non-Metallic
14,514	269	-	1,239	-	-	3,023	-	-	19,045	Iron & Steel
-	85	-	220	-	-	-	-	-	305	Non-ferrous
-	527	-	1,154	-	-	5,839	-	-	7,520	Fabricated Metal
1,200	1,070	-	496	-	-	187	-	-	2,953	Other Manufacturing
-	903	-	-	-	-	-	-	-	903	Other Energy
-	2,772	-	0	-	-	-	-	-	2,772	Construction
-	34,529	-	960	-	-	187	-	254	35,930	Transportation
-	201	-	-	-	-	187	-	-	388	Rail
-	27,816	-	960	-	-	-	-	254	29,030	Land
-	3,321	-	-	-	-	-	-	-	3,321	Water
-	3,191	-	-	-	-	-	-	-	3,191	Air
940	3,860	-	9,267	-	-	4,953	1,388	129	20,537	Residential
-	2,327	-	3,065	-	-	9,640	120	33	15,185	Commercial
-	1,263	-	277	-	-	2,138	42	575	4,295	Public

Note : Domestic anthracite consumption for the commercial sector is included in the residential sector

<http://www.keei.re.kr/keei/download/YES2010.pdf>