How to start working with CRF tables?

Tinus Pulles

@ Regional Training Seminar on assessment of GHG Inventories in Energy and Industrial Processes sectors

Zagreb, Croatia, 19 – 21 November 2014

outline

Concentrate on Energy sector

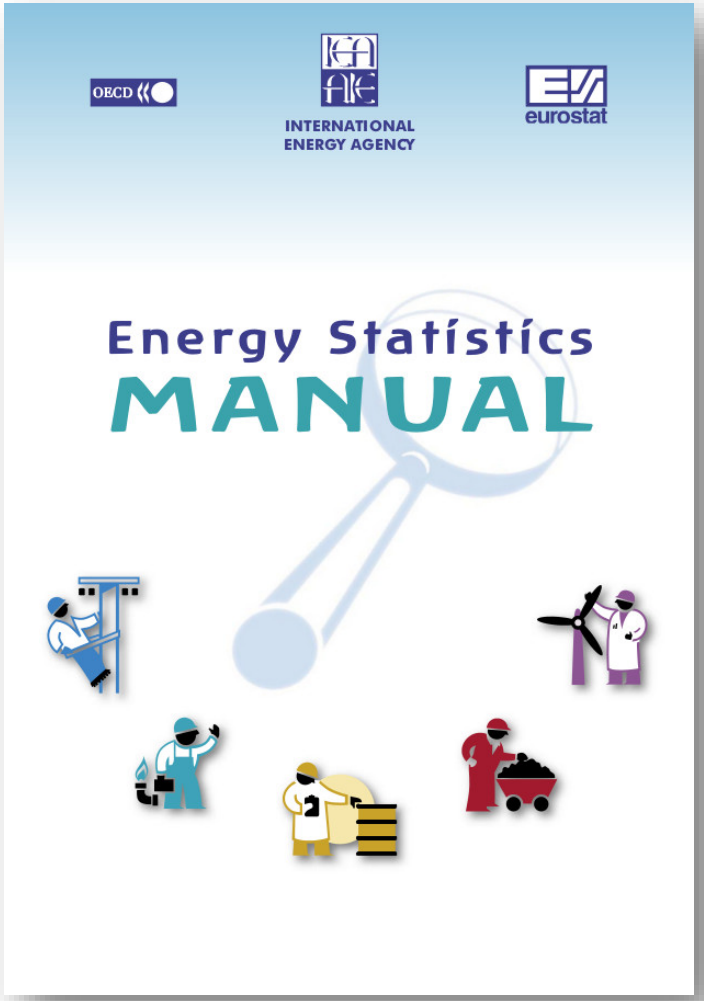
- What is needed?
- Understanding energy Statistics
- Activity data
- Emissions

TABLE 1.A(a) SECTORAL BACKGROUND DATA FOR ENER
Fuel combustion activities - sectoral approach
(Sheet 1 of 4)

GREENHOUSE GAS SOURCE AND SINK CATEGORIES	AGGREGATE ACTIVITY DATA		IMPLIED EMISSION FACTORS			EMISSIONS			
	Consumption		CO_2 [1]	CH_4	N_2O	CO_2 [2]	CH_4	N_2O	Amou
	(TJ)	NCV/GCV [3]	(t/TJ)	(kg/TJ)		(kt)			
1.A. Fuel combustion									
Liquid fuels									
Solid fuels									
Gaseous fuels									
Other fossil fuels [4]									
Peat [5]									
Biomass [6]									
1.A.1. Energy industries									
Liquid fuels									
Solid fuels									
Gaseous fuels									
Other fossil fuels [4]									
Peat [5]									
Biomass [6]									
a. Public electricity and heat production [7]									
Liquid fuels									
Solid fuels									
Gaseous fuels									
Other fossil fuels [4]									
Peat [5]									
Biomass [6]									
Drop-down list									
i. Electricity generation									
Liquid fuels									
Solid fuels									
Gaseous fuels									
Other fossil fuels [4]									
Peat [5]									
Biomass [6]									
ii. Combined heat and power generation									
Liquid fuels									

Energy sector: activity data

- IPCC 2006 guidelines:
  - Inventory must be consistent with national energy statistics
- So
  - Why not start with energy statistics?
  - In fact this is both Tier 1 and Tier 2 approach
- We need to understand Energy Statistics

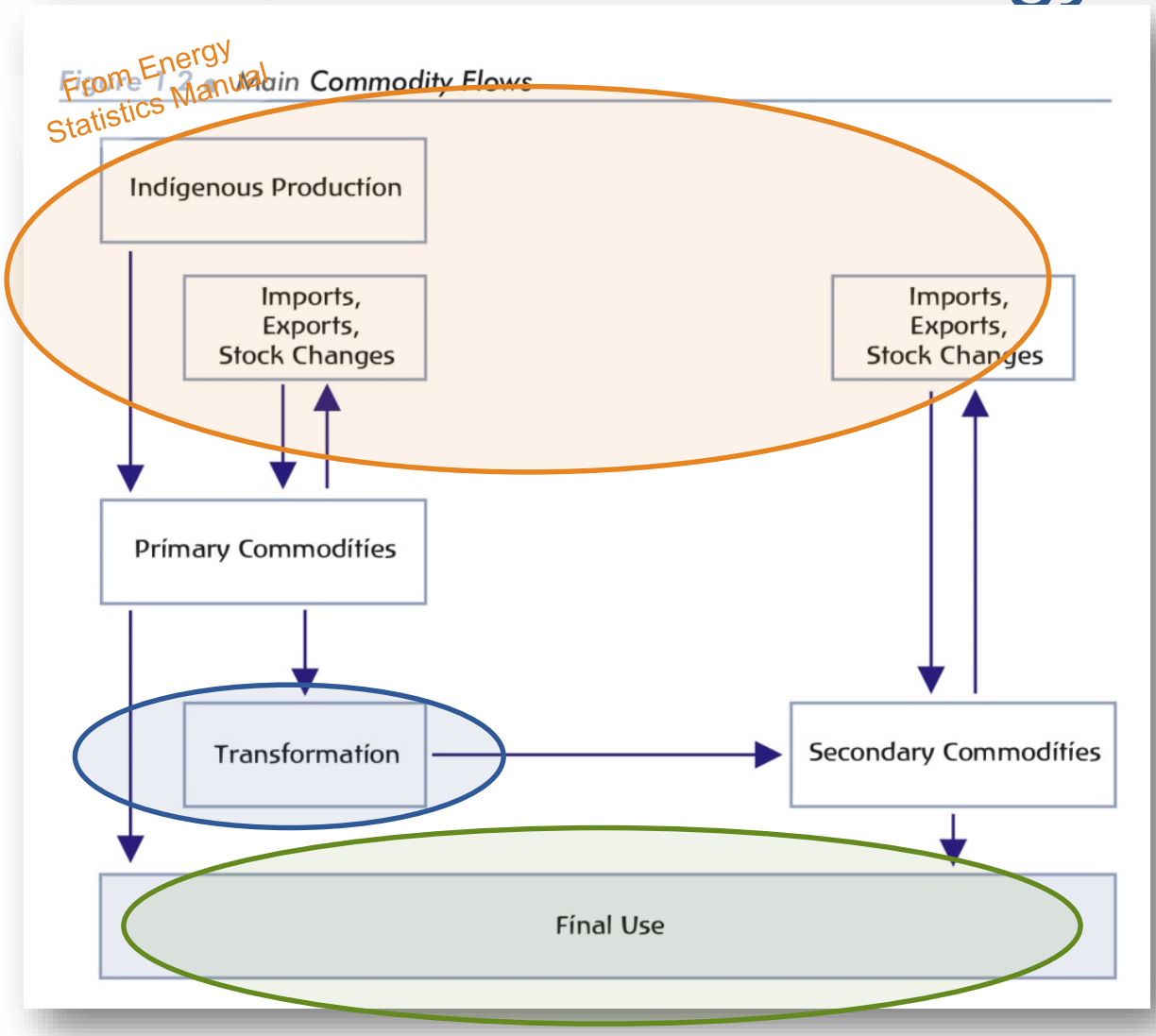


http://www.iea.org/publications/freepublications/publication/energy-statistics-manual.html

ENERGY STATISTICS

Understanding of energy statistics

Main structure of Energy Statistics



- Supply
- Transformation
- Final Use

Main structure of Energy Statistics

From Energy Statistics Manual

Demand statistics

Figure 1.3 ● Commodity Balance Structure

Sources of supply (Fig. 1.4)
+Transfers between commodities
= DOMESTIC SUPPLY
statistical difference
TOTAL DEMAND =
Transformation input
+ Energy sector own use
+ Distribution and other losses
+ FINAL CONSUMPTION =
Non-energy use
+ Final energy consumption

Supply balance

Figure 1.4 ● Sources of Supply

Production
Other sources
Imports
Exports
International marine bunkers
Stock change

Reference Approach

Sectoral Approach

- *Statistical difference is the difference between independent data sets!*
- *It provides an indication of uncertainties*

Main structure of Energy Statistics

From Energy Statistics Manual

Industrial energy demand

Figure 1.5 ● Industry

- Iron and steel
- Chemicals and petrochemicals
- Non-ferrous metals
- Non-metallic minerals
- Transport equipment
- Machinery
- Mining and quarrying
- Food, beverages and tobacco
- Pulp, paper and print
- Wood and wood products
- Textiles and leather
- Construction
- Not elsewhere specified

Other energy demand

Figure 1.6 ● Other Sectors

- Agriculture
- Commerce and public services
- Residential
- Other

Transport: At least four transport modes are identified: *road, rail, air* and *national navigation*. The IEA, in addition, includes pipeline transport (transport of materials by pipeline); Eurostat treats this consumption as part of the energy sector own use. The amounts of fuels included under these headings cover the fuel use for

How does this look like in practice?

Example Natural Gas in France, 1999.

- Reference Approach
  - Gross inland consumption
  - Correct for non energy use
- Sectoral Approach
  - Transformation input
  - Final Energy Use

Some caution is needed:

- *Fuel input into refineries, blast furnaces, coke ovens etc. is not combusted but transformed!*
- *Coke input in Iron and Steel*

From Energy Statistics Manual

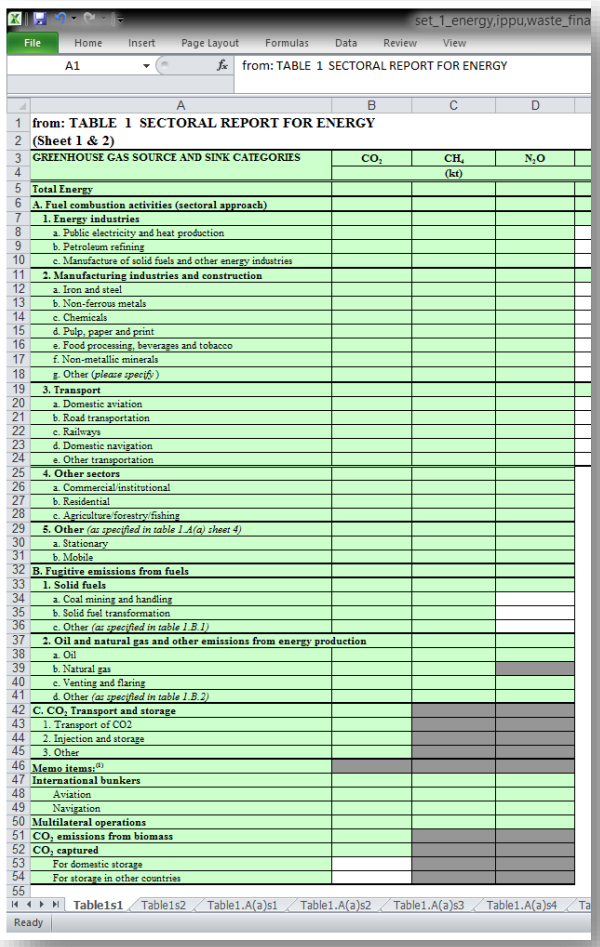
Figure 1.7 • Comparison of Eurostat and IEA Formats for Natural Gas Balance

FRANCE 1999	NATURAL GAS	Terajoules (GCV)		
EUROSTAT format			IEA format	
Primary production		77 670	Production	77 670
Recovered products		-	From other sources	-
Imports		1 649 710	Imports	1 649 710
Stock change		-92 853	Exports	-30 456
Exports		-30 456	Intl marine bunkers	-
Bunkers		-	Stock change	-92 853
Gross inland consumption		**1 604 071**	**DOMESTIC SUPPLY**	**1 604 071**
Transformation input		**49 791**	Transfers	-
Public thermal power stations		1 805	Statistical difference	-20 440
Autoprod. thermal power stations		47 986	**TRANSFORMATION**	**49 791**
Nuclear power stations		-	Electricity plants	49 791
Patent fuel and briquetting plants		-	CHP plants	-
Coke-oven plants		-	Heat plants	-
Blast-furnace plants		-	Blast furnaces/gas works	-
Gas works		-	Coke/pat. fuel/BKB plants	-
Refineries		-	Petroleum refineries	-
District heating plants			Petrochemical industry	-
Transformation output		-	Liquefaction plants	-
Public thermal power stations		-	Other transformation sector	-
Autoprod. thermal power stations		-	**ENERGY SECTOR**	**17 320**
Nuclear power stations		-	Coal mines	-
Patent fuel and briquettin plants		-	Oil and gas extraction	9 715
Coke-oven plants		-	Petroleum refineries	-
Blast-furnace plants		-	Electricity and heat plants	-
Gas works		-	Pumped storage	-
Refineries		-	Other energy sector	7 605
District heating plants		-	**Distribution losses**	**2 619**
Exchanges and transfers, returns		-	**FINAL CONSUMPTION**	**1 513 901**
Interproduct transfers		-	**INDUSTRY SECTOR**	**661 262**
Products transferred		-	Iron and steel	39 614
Returns from petrochem. industry		-	Chemical and petrochemical	199 241
Consumption of the energy branch		**17 320**	*of which: Feedstock*	*103 146*
Distribution losses		**2 619**	Non-ferrous metals	17 180
Available for final consumption		**1 534 341**	Non-metallic minerals	78 163
Final non-energy consumption		**103 146**	Transport equipment	-
Chemical industry		103 146	Machinery	74 125
Other sectors		-	Mining and quarrying	6 449
Final energy consumption		**1 410 755**	Food and tobacco	106 468
Industry		558 116	Paper, pulp and print	66 401
Iron & steel industry		*39 614*	Wood and wood products	-
Non-ferrous metal industry		*17 180*	Construction	2 371
Chemical industry		*96 095*	Textile and leather	19 183
Glass, pottery & building mat. industry		*78 163*	Non-specified	52 067
Ore-extraction industry		*6 449*	**TRANSPORT**	**28**
Food, drink & tobacco industry		*106 468*	International civil aviation	-
Textile, leather & clothing industry		*19 183*	Domestic air	-
Paper and printing		*66 401*	Road	14
Engineering & other metal industry		*74 125*	Rail	-
Other industries		*54 438*	Pipeline transport	-
Transport		28	Internal navigation	-
Railways		-	Non-specified	14
Road transport		*14*	**OTHER SECTORS**	**852 611**
Air transport		-	Agriculture	11 729
Inland navigation		-	Commerce and pub. services	399 324
Households, commerce, pub. auth, etc.		852 611	Residential	441 558
Households		*441 558*	Non-specified	-
Agriculture		*11 729*	**NON-ENERGY USE**	**-**
Statistical difference		**20 440**	Industry/transformation/energy	-
			Transport	-
			Other sectors	-

ACTIVITY DATA

How to get Energy Sector activity data into your inventory?

Energy statistics ➔ CRF



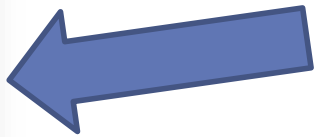
set_1_energy,ippu,waste_fina

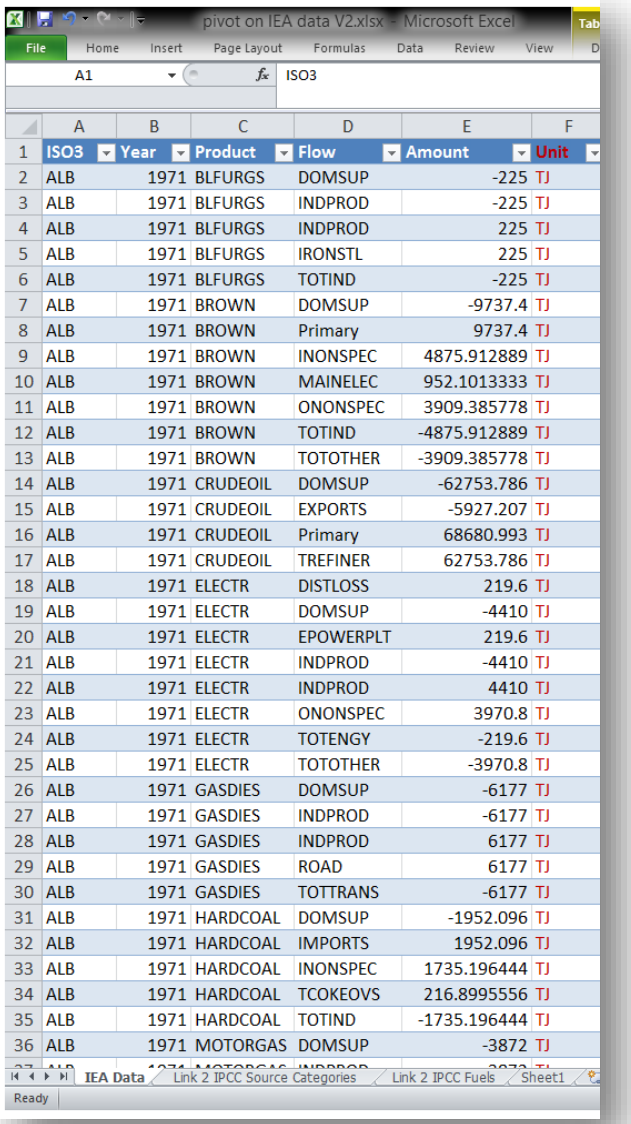
from: TABLE 1 SECTORAL REPORT FOR ENERGY

	A	B	C	D
1	from: TABLE 1 SECTORAL REPORT FOR ENERGY			
2	(Sheet 1 & 2)			
3	GREENHOUSE GAS SOURCE AND SINK CATEGORIES	CO_2	CH_4	N_2O
4			(kt)	
5	Total Energy			
6	A. Fuel combustion activities (sectoral approach)			
7	1. Energy industries			
8	a. Public electricity and heat production			
9	b. Petroleum refining			
10	c. Manufacture of solid fuels and other energy industries			
11	2. Manufacturing industries and construction			
12	a. Iron and steel			
13	b. Non-ferrous metals			
14	c. Chemicals			
15	d. Pulp, paper and print			
16	e. Food processing, beverages and tobacco			
17	f. Non-metallic minerals			
18	g. Other (*please specify*)			
19	3. Transport			
20	a. Domestic aviation			
21	b. Road transportation			
22	c. Railways			
23	d. Domestic navigation			
24	e. Other transportation			
25	4. Other sectors			
26	a. Commercial/institutional			
27	b. Residential			
28	c. Agriculture/forestry/fishing			
29	5. Other (*as specified in table 1.A(a) sheet 4*)			
30	a. Stationary			
31	b. Mobile			
32	B. Fugitive emissions from fuels			
33	1. Solid fuels			
34	a. Coal mining and handling			
35	b. Solid fuel transformation			
36	c. Other (*as specified in table 1.B.1*)			
37	2. Oil and natural gas and other emissions from energy production			
38	a. Oil			
39	b. Natural gas			
40	c. Venting and flaring			
41	d. Other (*as specified in table 1.B.2*)			
42	C. CO_2 Transport and storage			
43	1. Transport of CO2			
44	2. Injection and storage			
45	3. Other			
46	Memo items:(a)			
47	International bunkers			
48	Aviation			
49	Navigation			
50	Multilateral operations			
51	CO_2 emissions from biomass			
52	CO_2 captured			
53	For domestic storage			
54	For storage in other countries			
55				

Table1s1 | Table1s2 | Table1.A(a)s1 | Table1.A(a)s2 | Table1.A(a)s3 | Table1.A(a)s4

Ready





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A1: ISO3

	A	B	C	D	E	F
1	ISO3	Year	Product	Flow	Amount	Unit
2	ALB	1971	BLFURGS	DOMSUP	-225	TJ
3	ALB	1971	BLFURGS	INDPROD	-225	TJ
4	ALB	1971	BLFURGS	INDPROD	225	TJ
5	ALB	1971	BLFURGS	IRONSTL	225	TJ
6	ALB	1971	BLFURGS	TOTIND	-225	TJ
7	ALB	1971	BROWN	DOMSUP	-9737.4	TJ
8	ALB	1971	BROWN	Primary	9737.4	TJ
9	ALB	1971	BROWN	INONSPEC	4875.912889	TJ
10	ALB	1971	BROWN	MAINELEC	952.1013333	TJ
11	ALB	1971	BROWN	ONONSPEC	3909.385778	TJ
12	ALB	1971	BROWN	TOTIND	-4875.912889	TJ
13	ALB	1971	BROWN	TOTOTHER	-3909.385778	TJ
14	ALB	1971	CRUDEOIL	DOMSUP	-62753.786	TJ
15	ALB	1971	CRUDEOIL	EXPORTS	-5927.207	TJ
16	ALB	1971	CRUDEOIL	Primary	68680.993	TJ
17	ALB	1971	CRUDEOIL	TREFINER	62753.786	TJ
18	ALB	1971	ELECTR	DISTLOSS	219.6	TJ
19	ALB	1971	ELECTR	DOMSUP	-4410	TJ
20	ALB	1971	ELECTR	EPOWERPLT	219.6	TJ
21	ALB	1971	ELECTR	INDPROD	-4410	TJ
22	ALB	1971	ELECTR	INDPROD	4410	TJ
23	ALB	1971	ELECTR	ONONSPEC	3970.8	TJ
24	ALB	1971	ELECTR	TOTENGY	-219.6	TJ
25	ALB	1971	ELECTR	TOTOTHER	-3970.8	TJ
26	ALB	1971	GASDIES	DOMSUP	-6177	TJ
27	ALB	1971	GASDIES	INDPROD	-6177	TJ
28	ALB	1971	GASDIES	INDPROD	6177	TJ
29	ALB	1971	GASDIES	ROAD	6177	TJ
30	ALB	1971	GASDIES	TOTTRANS	-6177	TJ
31	ALB	1971	HARDCOAL	DOMSUP	-1952.096	TJ
32	ALB	1971	HARDCOAL	IMPORTS	1952.096	TJ
33	ALB	1971	HARDCOAL	INONSPEC	1735.196444	TJ
34	ALB	1971	HARDCOAL	TCOKEOVS	216.8995556	TJ
35	ALB	1971	HARDCOAL	TOTIND	-1735.196444	TJ
36	ALB	1971	MOTORGAS	DOMSUP	-3872	TJ

IEA Data | Link 2 IPCC Source Categories | Link 2 IPCC Fuels | Sheet1

Ready

Tools

Spreadsheet

Strengths

- Almost everybody knows how to use this
- Easy to manipulate
- Strong in presentation
  - Tables
  - Graphs

Weaknesses

- QA/QC
  Data screening not implicit
- Difficult to add gases, years etc.

Database

Strengths

- QA/QC
  Data screening during input easily implemented
- Double entries
- Typos in labels
- Values (blank)
- Easy to add gases, years, etc

Weaknesses

- Not many people know hopw to use this
- Not designed for easy data presentation

Use Spreadsheet for data collection and calculations
Store results in a database

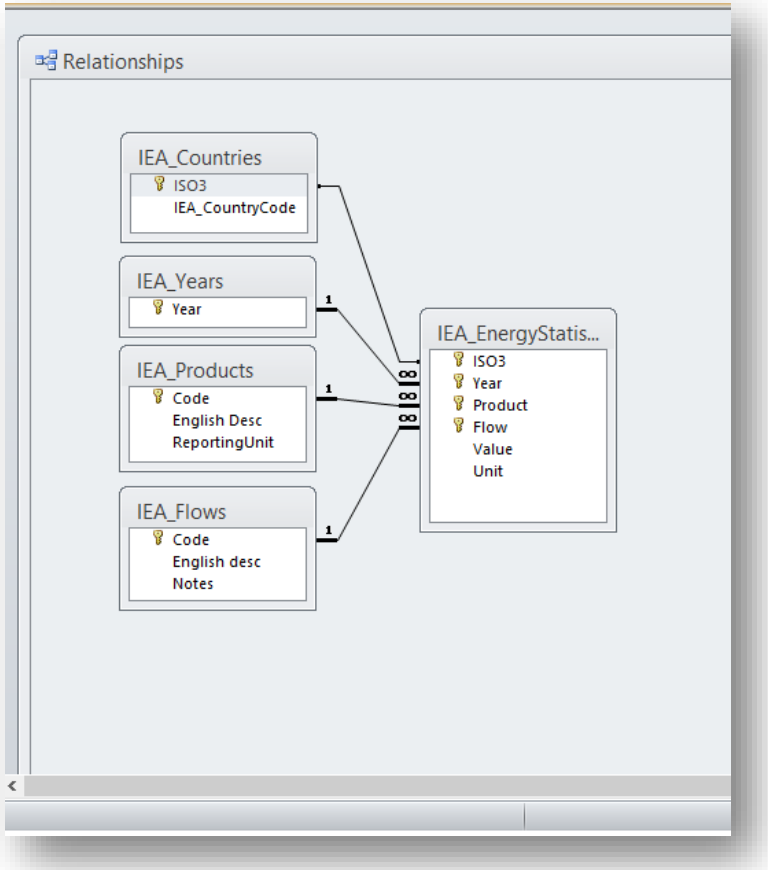
Import of IEA data: data source

How to do this?

1. Working in a database is preferred, but a spreadsheet will also do
2. Simple database structure
3. Link
   a) IEA **flows** to IPCC **source categories**
   b) IEA **products** to IPCC **fuels**
4. Import IEA data as activity rates into your emissions inventory

Similar procedure for any other data source

IEA Database structure



Import of IEA data: inventory

Why this structure?

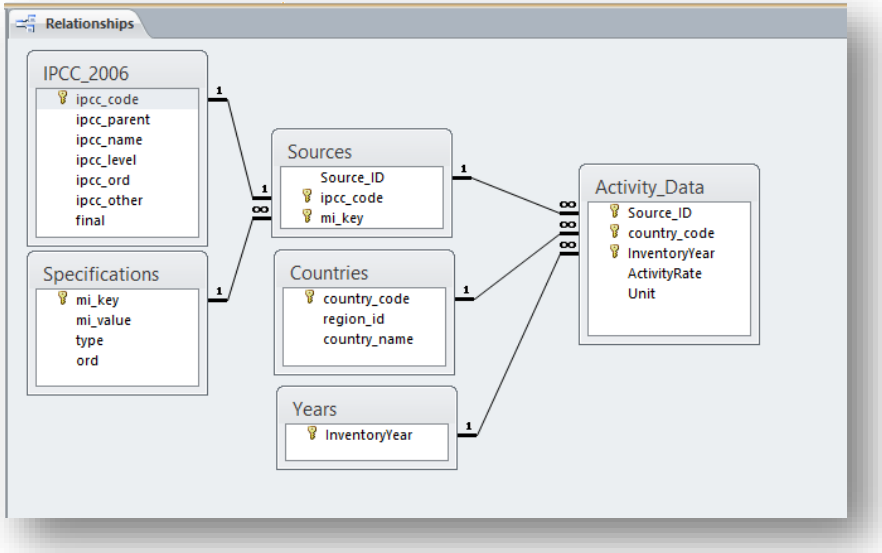
1. A “source” is a unique combination of an IPCC source category and a “specification”
   - Energy sector = “fuel”
   - Agriculture sector = “animal type”
   - etc.
2. Activity Data: only 1 data point for each source in each country in each year.

Database structure prevents

- *double entries*
- *Invalid labels*

Similar procedure for any other data source

Inventory Database structure



IEA flows and products

“Flows”

Code	English desc	
AGRICULT	Agriculture/forestry	
AHYDPUMP	Autoproducer - pumped hydro production (GWh)	
AUTOCHP	Autoproducer CHP plants	
AUTOELEC	Autoproducer electricity plants	
AUTOHEAT	Autoproducer heat plants	
AVBUNK	International aviation bunkers	International aviatior
CHEMICAL	Chemical and petrochemical	
COMMPUB	Commercial and public services	
CONSTRUC	Construction	
DISTLOSS	Losses	
DOMESAIR	Domestic aviation	
DOMESNAV	Domestic navigation	
DOMSUP	Domestic supply	
EBIOGAS	Gasification plants for biogases	
EBKB	BKB plants	
EBLASTFUR	Blast furnaces	
ECHARCOAL	Charcoal production plants	
ECOALLIQ	Coal liquefaction plants	
ECOKEOVS	Coke ovens	
EGASWKS	Gas works	
EGTL	Gas-to-liquids (GTL) plants	
ELAUTOC	Electricity output (GWh)-autoproducer CHP plants	
ELAUTOE	Electricity output (GWh)-autoproducer electricity plants	
ELMAINC	Electricity output (GWh)-main activity producer CHP plants	
ELMAINE	Electricity output (GWh)-main activity producer electricity pla	
ELNG	Liquefaction (LNG) / regasification plants	
ELOUTPUT	Electricity output (GWh)	

Record: 1 of 103 No Filter Search

“Products”

Code	English Desc	ReportingUnit	Click to
ADDITIVE	Additives/blending components (kt)	kt	
ANTCOAL	Anthracite (kt)	kt	
AVGAS	Aviation gasoline (kt)	kt	
BIODIESEL	Biodiesels (kt)	kt	
BIOGASOL	Biogasoline (kt)	kt	
BITCOAL	Other bituminous coal (kt)	kt	
BITUMEN	Bitumen (kt)	kt	
BKB	BKB/peat briquettes (kt)	kt	
BLFURGS	Blast furnace gas (TJ-gross)	TJ-gross	
BOILER	Electric boilers		
BROWN	Brown coal (if no detail) (kt)	kt	
CHARCOAL	Charcoal (kt)	kt	
CHEMHEAT	Heat from chemical sources		
COALTAR	Coal tar (kt)	kt	
COKCOAL	Coking coal (kt)	kt	
COKEOVGS	Coke oven gas (TJ-gross)	TJ-gross	
CRNGFEED	Crude/NGL/feedstocks (if no detail) (kt)	kt	
CRUDEOIL	Crude oil (kt)	kt	
ELECTR	Electricity (GWh)	GWh	
ETHANE	Ethane (kt)	kt	
GASCOKE	Gas coke (kt)	kt	
GASDIES	Gas/diesel oil (kt)	kt	
GASWKSGS	Gas works gas (TJ-gross)	TJ-gross	
GBIOMASS	Biogases (TJ-net)	TJ-net	
GEOTHERM	Geothermal (direct use in TJ-net)	direct use in TJ-net	
HARDCOAL	Hard coal (if no detail) (kt)	kt	
HEAT	Heat (TJ)	TJ	

Record: 1 of 66 No Filter Search

Link IEA flows and products to CRF

"Flows" ➔ IPCC Source Categories

Flow	English desc			
EREFINER	Oil refineries			#N/A
CHEMICAL	Chemical and petrochemical	1.A.2.c	Chemicals	
CONSTRUC	Construction			#N/A
FOODPRO	Food and tobacco			#N/A
INONSPEC	Non-specified (industry)			#N/A
IRONSTL	Iron and steel	1.A.2.a	Iron and Steel	
MACHINE	Machinery			#N/A
MINING	Mining and quarrying			#N/A
NONFERR	Non-ferrous metals			#N/A
NONMET	Non-metallic minerals			#N/A
PAPERPRO	Paper, pulp and print			#N/A
TEXTILES	Textile and leather			#N/A
TRANSEQ	Transport equipment			#N/A
WOODPRO	Wood and wood products			#N/A
AGRICULT	Agriculture/forestry			#N/A
COMMPUB	Commercial and public services			#N/A
FISHING	Fishing			#N/A
ONONSPEC	Non-specified (other)			#N/A
RESIDENT	Residential	1.A.4.b	Residential	
DOMESAIR	Domestic aviation	1.A.3.a.ii	Domestic Aviation	
DOMESNAV	Domestic navigation	1.A.3.a.ii	Domestic Aviation	
PIPELINE	Pipeline transport			#N/A
RAIL	Rail	1.A.3.c	Railways	
ROAD	Road	1.A.3.b	Road Transportation	
TRNONSPE	Non-specified (transport)	1.A.3.e	Other Transportation	
AUTOCHP	Autoproducer CHP plants	1.A.1.a.ii	Combined Heat and Power Generation (CHP)	
AUTOELEC	Autoproducer electricity plants	1.A.1.a.i	Electricity Generation	
AUTOHEAT	Autoproducer heat plants			#N/A
MAINCHP	Main activity producer CHP plants			#N/A
MAINELEC	Main activity producer electricity plants			#N/A
MAINHEAT	Main activity producer heat plants			#N/A
TBKB	BKB plants			#N/A
TBLASTFUR	Blast furnaces			#N/A

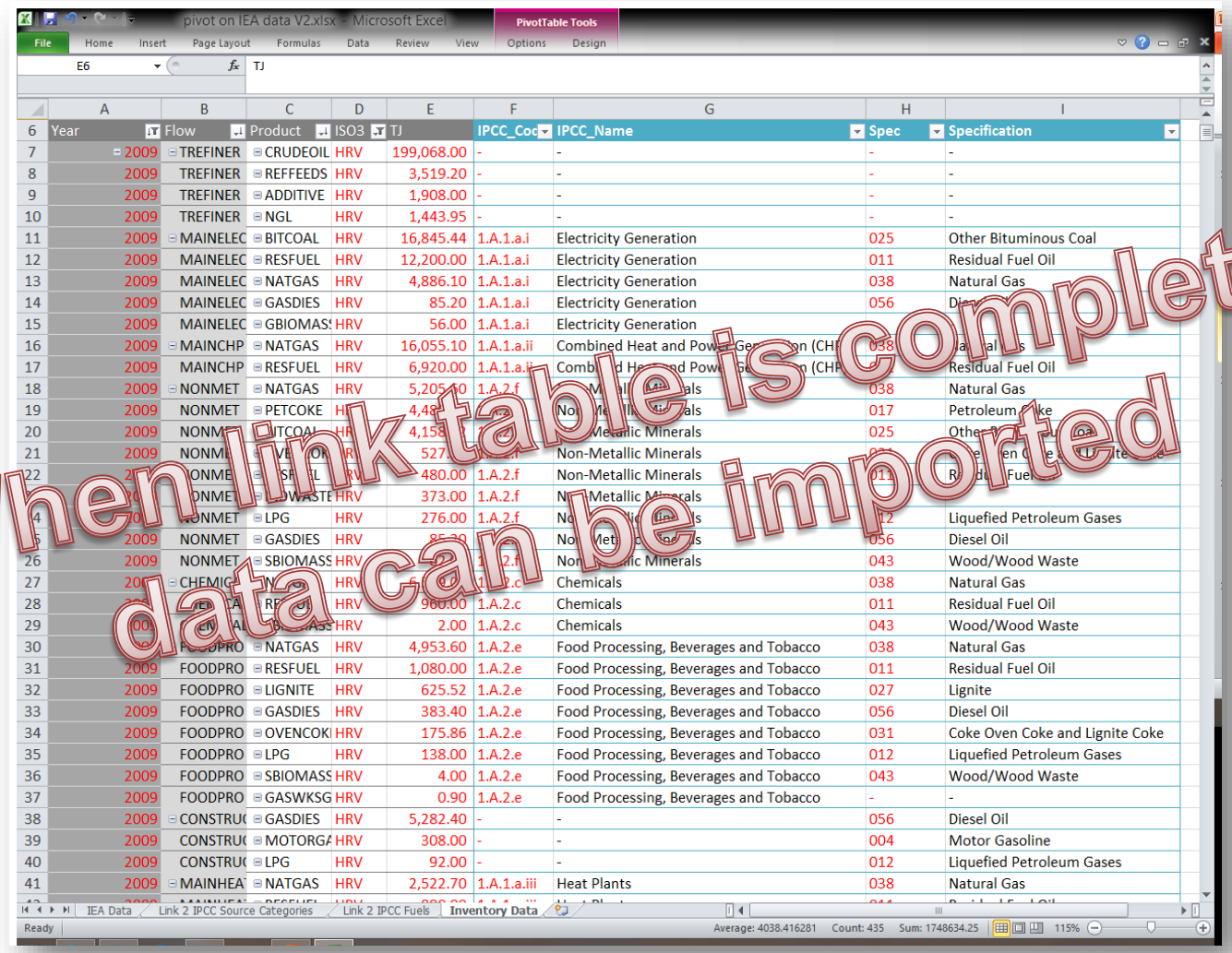
IPCC source Category
Links to IEA flows

"Products" ➔ IPCC fuels

Product	Fuel		
BIODIESEL	Biodiesels (kt)	056	Diesel Oil
BIOGASOL	Biogasoline (kt)	011	Residual Fuel Oil
GBIOMASS	Biogases (TJ-net)	004	Motor Gasoline
OBIOLIQ	Other liquid biofuels (kt)	012	Liquefied Petroleum Gases
SBIOMASS	Primary solid biofuels (TJ-net)		#N/A
ADDITIVE	Additives/blending components (kt)		#N/A
CRNGFEED	Crude/NGL/feedstocks (if no detail) (kt)		#N/A
CRUDEOIL	Crude oil (kt)		#N/A
NGL	Natural gas liquids (kt)		#N/A
NONCRUDE	Other hydrocarbons (kt)		#N/A
REFFEEDS	Refinery feedstocks (kt)		#N/A
BLFURGS	Blast furnace gas (TJ-gross)		#N/A
COKEOVGS	Coke oven gas (TJ-gross)		#N/A
GASWKSGS	Gas works gas (TJ-gross)		#N/A
NATGAS	Natural gas (TJ-gross)		#N/A
ANTCOAL	Anthracite (kt)		#N/A
BITCOAL	Other bituminous coal (kt)		#N/A
COKCOAL	Coking coal (kt)		#N/A
GASCOKE	Gas coke (kt)		#N/A
HARDCOAL	Hard coal (if no detail) (kt)		#N/A
OVENCOKE	Coke oven coke (kt)		#N/A
PATFUEL	Patent fuel (kt)		#N/A
SUBCOAL	Sub-bituminous coal (kt)		#N/A
HEAT	Heat (TJ)		#N/A
BKB	BKB/peat briquettes (kt)		#N/A
BROWN	Brown coal (if no detail) (kt)		#N/A
LIGNITE	Lignite (kt)		#N/A

IPCC Fuel code
Links to IPCC fuels

Linking activity data to inventory



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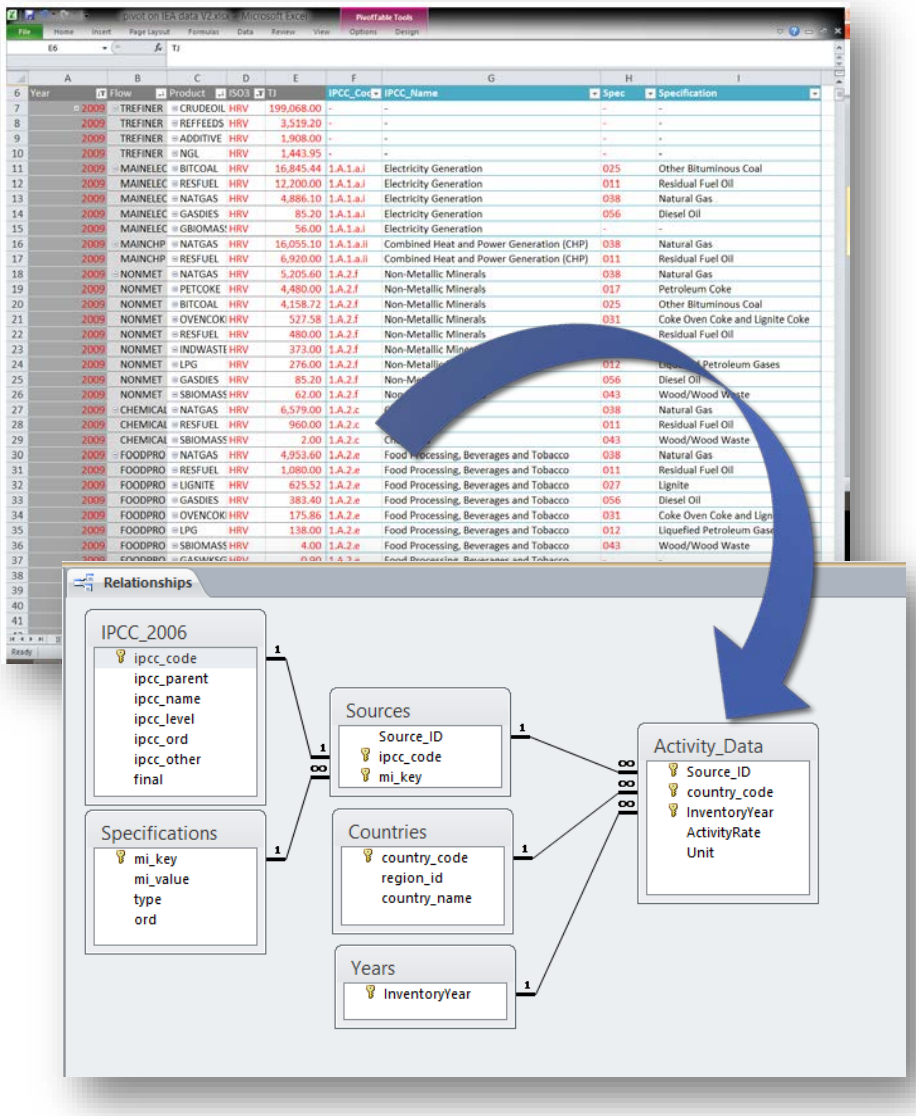
Year	Flow	Product	ISO3	TJ	IPCC_Code	IPCC_Name	Spec	Specification
2009	TREFINER	CRUDEOIL	HRV	199,068.00	-	-	-	-
2009	TREFINER	REFFEEDS	HRV	3,519.20	-	-	-	-
2009	TREFINER	ADDITIVE	HRV	1,908.00	-	-	-	-
2009	TREFINER	NGL	HRV	1,443.95	-	-	-	-
2009	MAINELEC	BITCOAL	HRV	16,845.44	1.A.1.a.i	Electricity Generation	025	Other Bituminous Coal
2009	MAINELEC	RESFUEL	HRV	12,200.00	1.A.1.a.i	Electricity Generation	011	Residual Fuel Oil
2009	MAINELEC	NATGAS	HRV	4,886.10	1.A.1.a.i	Electricity Generation	038	Natural Gas
2009	MAINELEC	GASDIES	HRV	85.20	1.A.1.a.i	Electricity Generation	056	Diesel Oil
2009	MAINELEC	GBIOMASS	HRV	56.00	1.A.1.a.i	Electricity Generation		
2009	MAINCHP	NATGAS	HRV	16,055.10	1.A.1.a.ii	Combined Heat and Power Generation (CHP)	038	
2009	MAINCHP	RESFUEL	HRV	6,920.00	1.A.1.a.ii	Combined Heat and Power Generation (CHP)		Residual Fuel Oil
2009	NONMET	NATGAS	HRV	5,205.60	1.A.2.f	Non-Metallic Minerals	038	Natural Gas
2009	NONMET	PETCOKE	HRV	4,48	1.A.2.f	Non-Metallic Minerals	017	Petroleum Coke
2009	NONMET	BITCOAL	HRV	4,158	1.A.2.f	Non-Metallic Minerals	025	
2009	NONMET	[illegible]	HRV	527	1.A.2.f	Non-Metallic Minerals		
2009	NONMET	[illegible]	HRV	480.00	1.A.2.f	Non-Metallic Minerals	011	
[illegible]	NONMET	[illegible]WASTE	HRV	373.00	1.A.2.f	Non-Metallic Minerals		
[illegible]	NONMET	LPG	HRV	276.00	1.A.2.f	Non-Metallic Minerals	012	Liquefied Petroleum Gases
2009	NONMET	GASDIES	HRV	85.20	1.A.2.f	Non-Metallic Minerals	056	Diesel Oil
2009	NONMET	SBIOMASS	HRV	[illegible]	1.A.2.f	Non-Metallic Minerals	043	Wood/Wood Waste
[illegible]	CHEMIC	[illegible]	HRV	[illegible]	1.A.2.c	Chemicals	038	Natural Gas
[illegible]	[illegible]	RE[illegible]	HRV	960.00	1.A.2.c	Chemicals	011	Residual Fuel Oil
[illegible]	[illegible]	[illegible]ASS	HRV	2.00	1.A.2.c	Chemicals	043	Wood/Wood Waste
[illegible]	FOODPRO	NATGAS	HRV	4,953.60	1.A.2.e	Food Processing, Beverages and Tobacco	038	Natural Gas
2009	FOODPRO	RESFUEL	HRV	1,080.00	1.A.2.e	Food Processing, Beverages and Tobacco	011	Residual Fuel Oil
2009	FOODPRO	LIGNITE	HRV	625.52	1.A.2.e	Food Processing, Beverages and Tobacco	027	Lignite
2009	FOODPRO	GASDIES	HRV	383.40	1.A.2.e	Food Processing, Beverages and Tobacco	056	Diesel Oil
2009	FOODPRO	OVENCOK	HRV	175.86	1.A.2.e	Food Processing, Beverages and Tobacco	031	Coke Oven Coke and Lignite Coke
2009	FOODPRO	LPG	HRV	138.00	1.A.2.e	Food Processing, Beverages and Tobacco	012	Liquefied Petroleum Gases
2009	FOODPRO	SBIOMASS	HRV	4.00	1.A.2.e	Food Processing, Beverages and Tobacco	043	Wood/Wood Waste
2009	FOODPRO	GASWKSG	HRV	0.90	1.A.2.e	Food Processing, Beverages and Tobacco	-	-
2009	CONSTRUC	GASDIES	HRV	5,282.40	-	-	056	Diesel Oil
2009	CONSTRUC	MOTORGA	HRV	308.00	-	-	004	Motor Gasoline
2009	CONSTRUC	LPG	HRV	92.00	-	-	012	Liquefied Petroleum Gases
2009	MAINHEA	NATGAS	HRV	2,522.70	1.A.1.a.iii	Heat Plants	038	Natural Gas

When link table is complete, data can be imported

Import Activity Data

- The spreadsheet now includes all you need
- Link this spreadsheet table to your database
- Append the data to your Activity Rates table



EMISSIONS

How to get emissions data into your inventory

Include emissions in database structure