United Nations Statistics Division

Commodity Balances

Alex Blackburn
UNSD

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http://unstats.un.org/unsd/energy

overview

- Statistics for all energy products
- Why present commodity balances?
- Structure
- UN questionnaire

Basic statistics for energy products

Own use

Offshore production

Refinery fuel

Backflows

How can we relate these similar concepts across products?

Net generation

Inland deliveries

Refinery output

	Petroleum Products								
	LPG	Naphtha	Gasoline	Total Kerosene	*Of which: Jet Kerosene*	Gas/ Diesel Oil	Fuel Oil	Other Products	Total Products (5)+(6)+(7) +(8)+(10) +(11)+(12)
				(8)	(9)	(10)	(11)	(12)	(13)
+ Refinery Output									
+ Receipts									
+ Imports									
- Exports									
- Products Transferred									
+ Interproduct T...									
- Stock Chang...									

RODUCTION: (TRANSFORMATION SECTOR)

Country

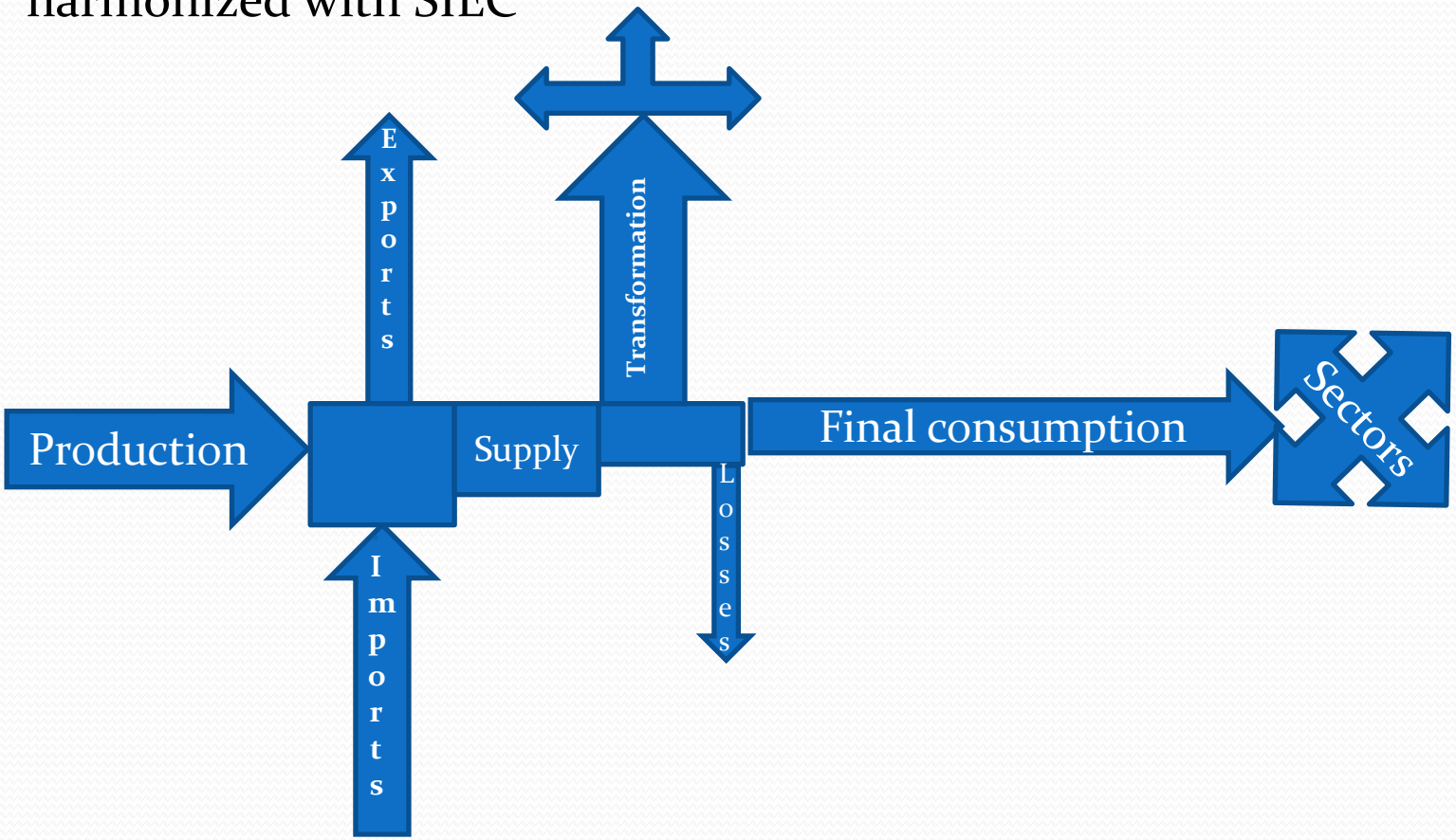
2014		MAIN ACTIVITY			R PLANTS			TOTAL	
		ELECTRICITY					HEAT	MAIN ACTIVITY PRODUCER	AUTOPRODUCER
ELECTRICITY UNIT: GWh (10^6 kWh)		A	B	C	D	E	F	G(=A+B+C)	H(=D+E+F)
Electricity	1	0	0		0	0			
Nuclear	2								
Hydro	3							0	0
Pumped hydro	4							0	0
Geothermal	5								
Solar									
Tide, wa...									
Wind	8							0	0
Combustible fuels	9							0	0
Heat from chemical sources	10							0	0
Other sources	11							0	0

So why make commodity balances?

- They allow all data for all products to be presented in the same way
- Directly comparable concepts of key flows like production, own use, transformation inputs, transfers
- Check on data completeness (product by product)
- A key step in generating energy balances

Commodity balances

- A commodity balance describes all flows of a single energy product, where supply and uses can be measured and compared.
- Products are as defined by the current energy product classification – harmonized with SIEC



Commodity balances – supply and use

Gas Oil/ Diesel Oil (DL); Metric tons, thousand		2007	2008	2009	2010	2011	2012
DL01	Production	31223	30875	30428	30880	30177	31547
DL022	Receipts from other sources		11	16	235	361	433
DL03	Imports	1527	3316	1578	696	1677	763
DL04	Exports	7048	7768	7607	6967	6335	8097
DL051	International marine bunkers	56	54	35	45	27	23
DL06	Stock changes	8	158	-169	121	190	83
DLGA	Total energy supply	25639	26222	24549	24678	25663	24540
DL07	Transfers and recycled products	-1368	-234	-247	-551	-888	-1476
DLSD	Statistical differences	-917	-1395	-829	-2830	-2932	-2570
DL08	Transformation			28	229	215	238
DL088	Transf in electricity, CHP and heat plants			28	229	215	238
DL09	Energy industries own use			13	16	26	36
DL0925	Oil refineries			13	16	26	36
DLNA	Final consumption			25384	27814	29242	28312
DL11	Non-energy uses			0	0	0	0
DL12	Final energy consumption			25384	27814	29242	28312
DL121	Manufacturing, construction			3900	4564	4798	4708
DL122	Transport	15686	16396	15594	17137	17891	17694
DL123	Other	7559	6838	5890	6113	6553	5910

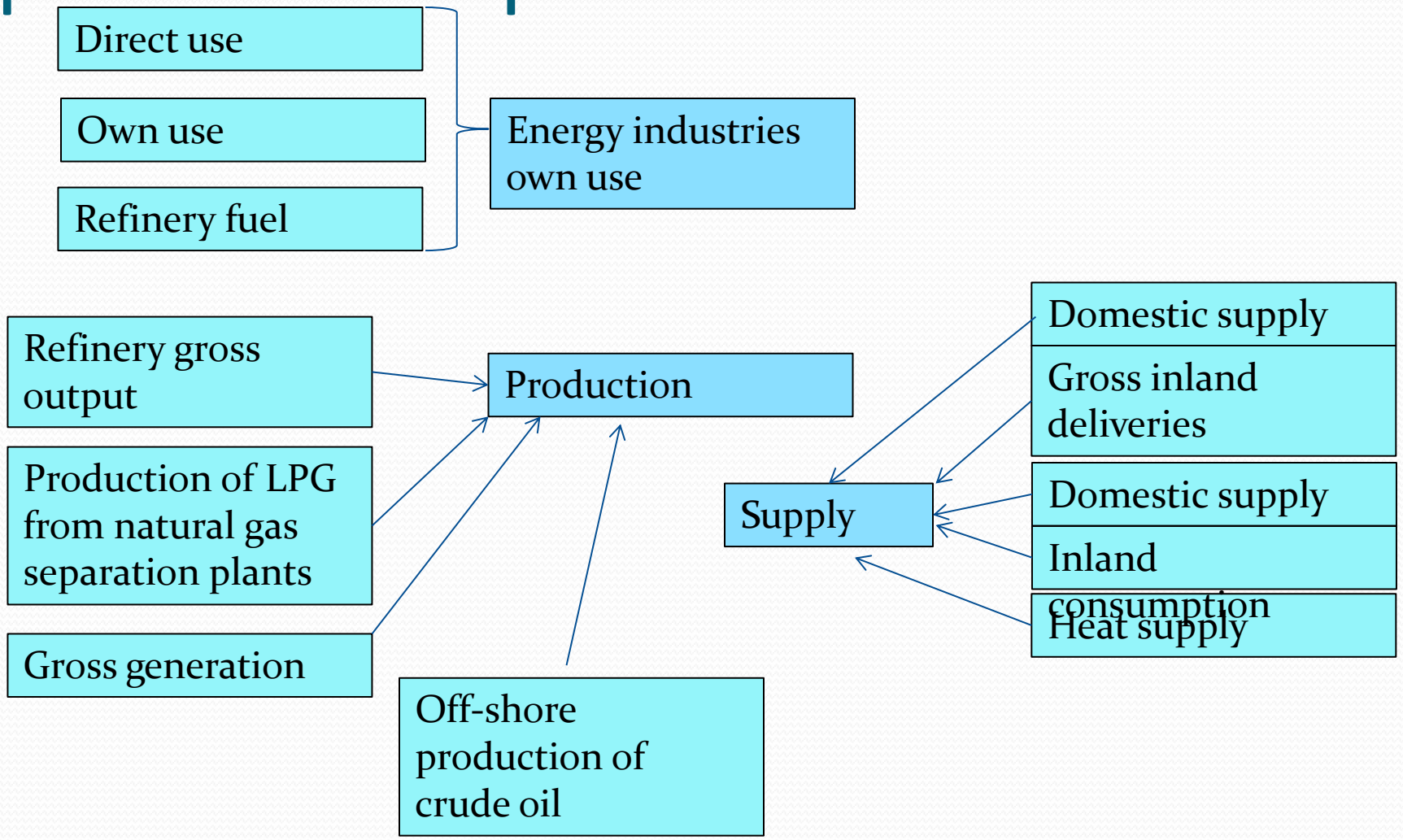
supply

Transformation and own use

Final consumption

- Statistical differences: balance b/w supply & use. The smaller the better, but should not be made zero artificially, acts as quality check

Common Terms allow cross-product comparisons



Structure

- Generally compiled individually for every energy product
- Minor products can be compiled for presentation
- Basic input/output checks can be done (weight basis only)

Example: Oil Statistics Vs Commodity Balances

	Crude Oil		Gasoline
	(1)		(7)
Production	100	Refinery Output	200
From Other sources		Receipts	0
Imports	500	Imports	10
Exports	0	Exports	40
Products Transferred /Backflows		Products Transferred	0
Direct Use	10	Interproduct Transfers	0
Stock Change	40	Stock Change	20
Statistical Difference	50	Statistical Difference	-15
Refinery Intake	500	Demand	165

Conventional crude oil (CR); Metric tons, thousand		2009
CR01	Production	100
CR03	Imports	500
CR04	Exports	0
CR06	Stock changes	40
CRGA	Total energy supply	560
CRSD	Statistical differences	50
CR08	Transformation	500
CR086	Oil refineries	500
CR09	Energy industries own use	10
CR0925	Oil refineries	10
Motor Gasoline (MO); Metric tons, thousand (WSR)		**2009**
MO01	Production	200
MO013	From refineries	200
MO014	From plants	0
MO03	Imports	10
MO04	Exports	40
MO051	International marine bunkers	15
MO06	Stock changes	20
MOGA	Total energy supply	135
MO07	Transfers and recycled products	0
MOSD	Statistical differences	-15
MO08	Transformation	5
MO088	Transformation in electricity, CHP and heat	5
MO08811	Electricity plants - Main activity producers	5
MO09	Energy industries own use	5
MO0911	Coal mines	5
MONA	Final consumption	140
MO11	Non-energy uses	10
MO12	Final energy consumption	130
MO121	Manufacturing, construction and non-fuel mini	10
MO1211	Iron and steel	10
MO122	Transport	120
MO1221	Road	120

Uses of Commodity Balances

- Refinery checks (weight basis)
- Standard dissemination tool
- Data completeness check (check products are all complete and of a similar magnitude to previous years)

Limits of Commodity Balances

- Different reporting units
- Different calorific values
- No distinction between primary and secondary energy, so if we sum across products we risk double counting