

Renewable Energy Statistics Training

Exercise 5c: Energy balance wood fuel; wood pellets and charcoal

The table below shows the production, imports and exports of wood energy commodities in 2015, as reported by the Food and Agriculture Organisation (FAO – FAOSTAT). Use this data to complete the three columns of the energy balance for your country, noting that:

- One cubic metre of wood fuel = 0.75 tonnes of wood fuel.
- Six cubic metres of wood fuel will make one tonne of charcoal.
- One tonne of wood fuel will make 0.95 tonnes of wood pellets.

If possible, use your own knowledge to identify the end-use sectors where these products are consumed.

Wood energy data for 2015, as reported in FAOSTAT

Country	Wood Fuel (in m ³)			Wood Pellets (in tonnes)			Wood Charcoal (in tonnes)		
	Production	Imports	Exports	Production	Imports	Exports	Production	Imports	Exports
Algeria	8,533,232	2	-	-	-	-	730,029	261	140
Bahrain	7,035	36,728	18	-	-	-	1,125	12,009	367
Egypt	17,740,286	98	4,318	25,000	-	17,000	1,423,059	793	86,077
Ethiopia	108,173,872	3	2,670	-	56	-	4,219,572	173	32
Iran (Islamic Republic of)	52,000	1,600	41	-	-	16	494	5,332	30
Iraq	118,000	2	-	-	-	-	22,567	2,947	12
Jordan	342,503	110	32	-	11	-	45,770	6,199	22
Kuwait	19,250	370	7	-	114	0	2,965	31,608	1,399
Lebanon	18,706	2,365	205	-	-	-	3,000	13,454	313
Libya	1,011,659	13	23	-	-	-	110,891	539	15
Mauritania	2,051,160	191	-	-	-	-	211,737	58	18
Morocco	6,679,160	61	80	-	-	-	113,435	535	291
Oman	45,361	722	81	-	126	-	6,780	10,785	67
Palestine	-	-	-	-	58	-	-	-	-
Qatar	5,122	5,980	108	-	2,332	-	778	5,534	184
Sudan	15,211,000	20,819	852	-	43	-	588,000	7	200
Tunisia	3,610,000	24	69	1,000	-	225	204,000	188	114
United Arab Emirates	18,724	4,843	172	-	3,883	302	2,715	15,461	9,550

Answer sheet:

Supply and consumption 2015	Wood Fuel	Biomass pellets and briquettes	Charcoal
	Tonnes	Tonnes	Tonnes
Production (+)			
Imports (+)			
Exports (-)			
Stock changes (+)			
International Bunkers (-)			
Domestic supply (=)			
Transfers			
Statistical Differences			
Power plants			
CHP plants			
Commercial heat plants			
Charcoal production			
Biomass pellet and briquette production			
Other transformation			
Energy sector and own use			
Distribution losses			
Total final consumption			
Industry sector			
Transport sector			
of which road transport			
Commercial and public services			
Residential			
of which traditional uses			
Other			
Net calorific value (MJ/t)	15,120	16,920	30,800

Completed answer sheet (for UAE):

Supply and consumption		Wood Fuel	Biomass pellets and briquettes	Charcoal
		Tonnes	Tonnes	Tonnes
2015				
Production	(+)	14,043	1,000	2,715
Imports	(+)	3,632		15,461
Exports	(-)	129	225	9,550
Stock changes	(+)			
International Bunkers	(-)			
Domestic supply	(=)	17,546	775	8,626
Transfers				
Statistical Differences				
Power plants				
CHP plants				
Commercial heat plants				
Charcoal production		12,218		
Biomass pellet and briquette production		1053		
Other transformation				
Energy sector and own use				
Distribution losses				
Total final consumption		4,275	775	8,626
Industry sector			775	
Transport sector				
of which road transport				
Commercial and public services				
Residential		4,275		8,626
of which traditional uses		4,275		8,626
Other				
Net calorific value (MJ/t)		15,120	16,920	30,800

1. Wood Fuel production, imports and exports from FAOSTAT x 0.75 to convert into tonnes.
2. Pellets and charcoal taken directly from FAOSTAT.
3. Wood Fuel to charcoal transformation = charcoal production x 6 x 0.75.
4. Wood Fuel to pellet transformation = pellet production / 0.95.
5. Total final consumption = Domestic supply, less anything used in transformation.
6. Total final consumption attributed to end-use sectors based on local knowledge.