

**Production of biofuels and wastes**

Terajoules

**Table Notes**

The conversion of fuelwood (solid volume, 9.135 TJ/m<sup>3</sup>) is based on an average 20-30% moisture content of wood from an unspecified species.

The methodology used for estimating fuel bagasse production for certain countries is derived from the work done by the Economic Commission for Latin America and the Caribbean (ECLAC). Although several different methodologies have been devised, the one selected assumes a yield of 3.26 tons of fuel bagasse at 50% humidity per ton of cane sugar produced. This methodology was used for instances where national data on bagasse production were not available. In these cases, data were derived from

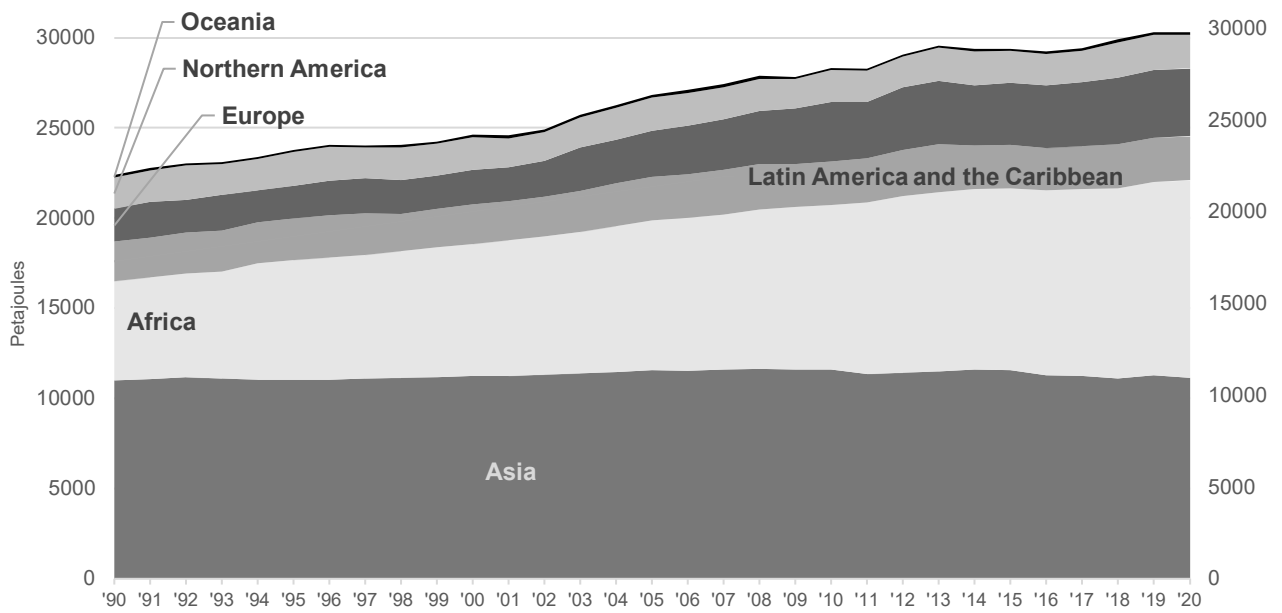
sugar production figures extracted from the Sugar Yearbook of the International Sugar Organization (London) or from the FAOSTAT database of the Food and Agriculture Organization of the United Nations.

Biogasoline includes Other liquid biofuels.

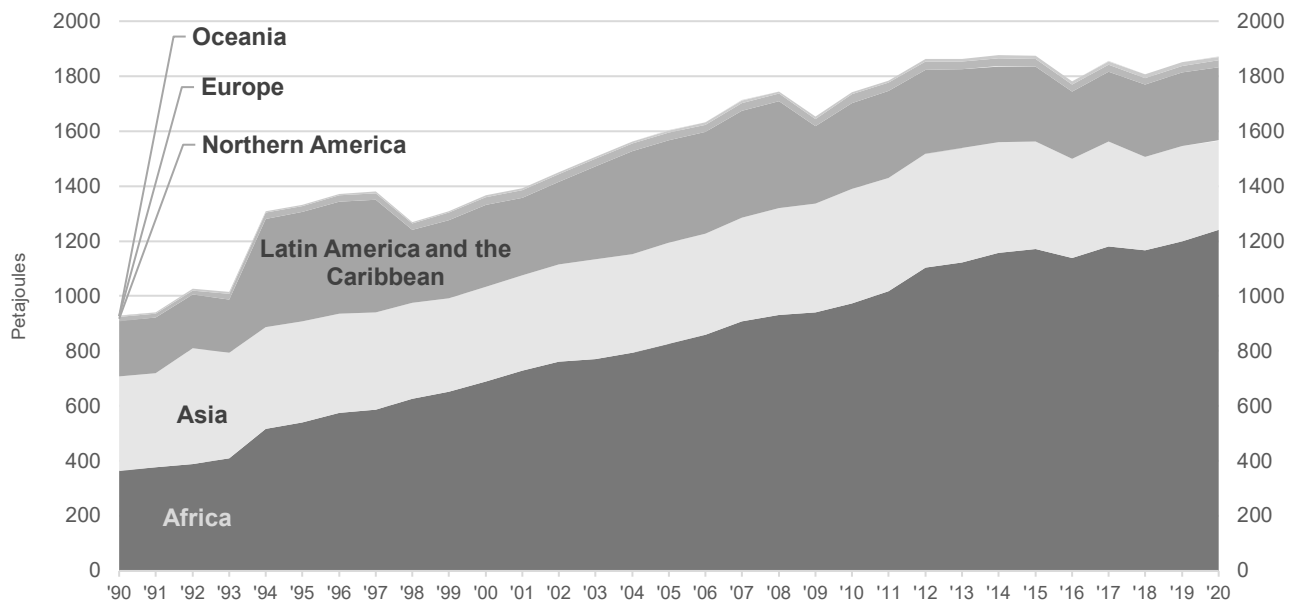
The total column excludes charcoal as it is the only secondary energy product in the table.

Please refer to the Definitions Section on pages ix to xv for the appropriate product description/classification, and xvi to xvii for the descriptions of relevant flows.

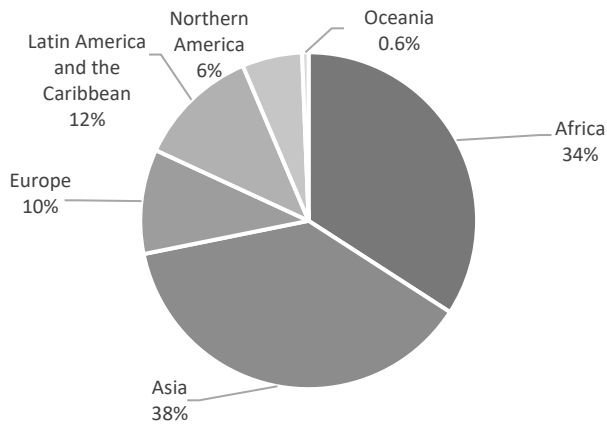
**Figure 29: Production of fuelwood by region, 1990-2020**



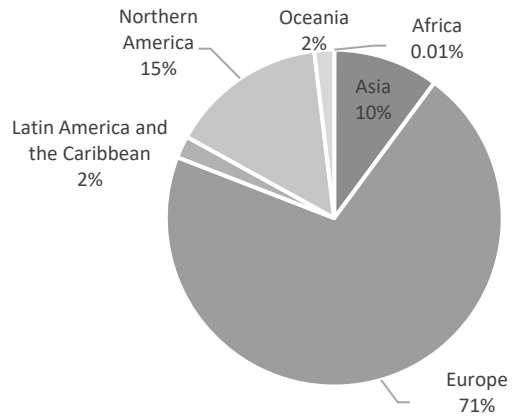
**Figure 30: Production of charcoal by region, 1990-2020**



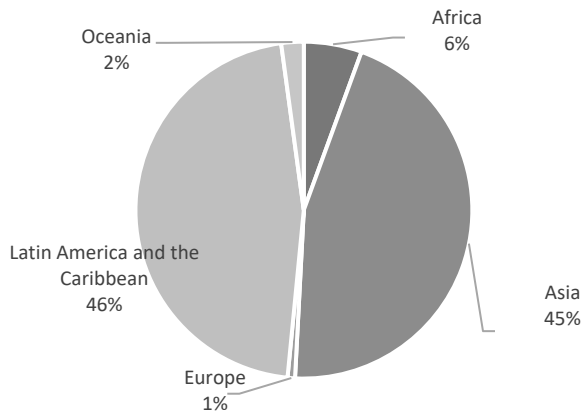
**Figure 31: Production of total solid biofuels by region, 2020**



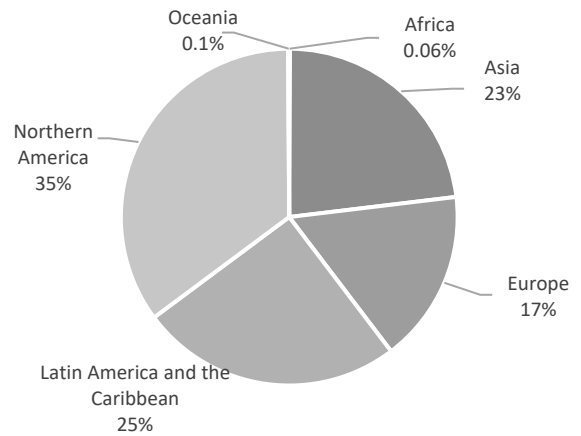
**Figure 32: Production of biogases by region, 2020**



**Figure 33: Production of bagasse by region, 2020**



**Figure 34: Production of liquids biofuels by region, 2020**



**Figure 35: Production of energy from waste by region, 2020**

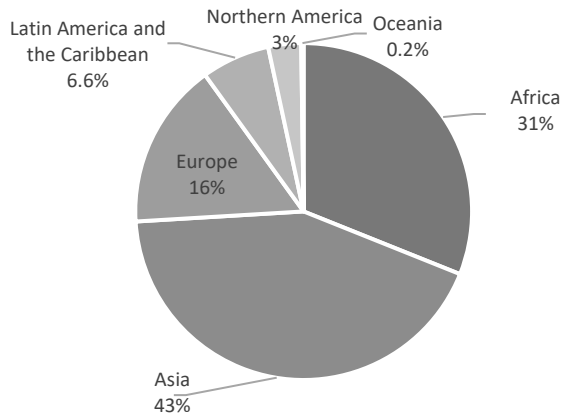


Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
World	2017	29,416,201	317,264	8,876,031	3,890,138	1,674,517	1,854,378
	2018	29,892,932	317,464	8,933,972	4,088,091	1,790,488	1,807,059
	2019	30,330,580	320,103	8,900,537	4,057,183	1,810,389	1,850,563
	2020	30,295,861	324,476	8,813,247	4,112,134	1,711,610	1,871,084
Africa	2017	10,379,364	164,689	3,200,302	207,023	..	1,180,440
	2018	10,544,521	168,070	3,277,333	217,860	..	1,165,772
	2019	10,713,824	171,834	3,384,399	235,845	..	1,199,285
	2020	10,981,131	176,069	3,458,688	228,581	..	1,241,554
Algeria	2017	484	..	..	..	..	..
	2018	1,032	..	..	..	..	..
	2019	484	..	..	..	..	..
	2020	425	..	..	..	..	..
Angola	2017	159,460	..	103,650	*1,248	..	33,276
	2018	161,604	..	105,044	*1,382	..	33,778
	2019	163,722	..	106,421	*1,422	..	34,214
	2020	165,838	..	107,797	*1,429	..	34,663
Benin	2017	105,436	..	4,169	..	..	14,937
	2018	108,829	..	4,411	..	..	15,258
	2019	117,219	..	3,386	..	..	16,409
	2020	120,634	..	3,595	..	..	16,887
Botswana	2017	6,388	..	..	..	..	2,216
	2018	6,389	..	..	..	..	2,216
	2019	6,390	..	..	..	..	2,216
	2020	6,391	..	..	..	..	2,216
Burkina Faso	2017	128,164	..	..	*633	..	*7,523
	2018	129,653	..	..	*633	..	*7,641
	2019	131,169	..	..	1,061	..	*7,700
	2020	*131,736	..	..	*927	..	*7,847
Burundi	2017	54,801	..	..	552	..	7,788
	2018	54,801	..	..	492	..	7,788
	2019	54,801	..	..	468	..	7,788
	2020	54,801	..	..	514	..	7,788
Cabo Verde	2017	*1,413	..	..	..	..	*19
	2018	*1,399	..	..	..	..	*19
	2019	*1,385	..	..	..	..	*20
	2020	*1,370	..	..	..	..	*19
Cameroon	2017	268,800	..	5,271	1,537	..	7,148
	2018	275,912	..	5,411	1,551	..	7,337
	2019	283,134	..	5,552	1,605	..	7,529
	2020	290,465	..	5,696	1,613	..	7,724
Central African Rep.	2017	*33,327	..	..	..	..	*422
	2018	*33,579	..	..	..	..	*434
	2019	*33,831	..	..	..	..	*445
	2020	*34,058	..	..	..	..	*454
Chad	2017	71,920	..	..	*914	..	14,131
	2018	72,916	..	..	*949	..	14,485
	2019	73,920	..	..	*985	..	14,839
	2020	74,948	..	..	*927	..	15,200
Comoros	2017	3,715	..	17	..	..	5
	2018	3,799	..	18	..	..	*5
	2019	*3,818	..	*18	..	..	*5
	2020	*3,837	..	*18	..	..	*5
Congo	2017	51,186	..	15,641	..	..	6,805
	2018	51,911	..	15,862	..	..	6,902
	2019	52,647	..	16,087	..	..	6,999
	2020	53,394	..	16,316	..	..	7,099

Table 12

## Production of biofuels and wastes

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Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
1,075,006	1,366,840	2,177,787	1,483,096	996,834	51,273,715
1,136,818	1,380,729	2,330,170	1,669,098	1,023,886	52,563,647
1,187,504	1,390,011	2,366,057	1,800,033	1,031,788	53,194,185
1,182,309	1,390,996	2,153,006	1,790,927	1,057,432	52,831,999
3,106	..	1,480	..	109	13,956,073
3,106	..	2,244	..	128	14,213,262
3,106	..	2,259	..	118	14,511,386
2,881	..	2,431	..	134	14,849,916
..	..	..	..	..	484
..	..	..	..	..	1,032
..	..	..	..	..	484
..	..	..	..	..	425
..	..	..	..	..	264,358
..	..	..	..	..	268,031
..	..	..	..	..	271,566
..	..	..	..	..	275,064
..	..	..	..	..	109,605
..	..	..	..	..	113,240
..	..	..	..	..	120,604
..	..	..	..	..	124,229
..	..	..	..	..	6,388
..	..	..	..	..	6,389
..	..	..	..	..	6,390
..	..	..	..	..	6,391
..	..	..	..	*36	128,833
..	..	..	..	*36	130,322
..	..	..	..	*36	132,267
..	..	..	..	*36	*132,698
..	..	..	..	..	55,353
..	..	..	..	..	55,293
..	..	..	..	..	55,268
..	..	..	..	..	55,315
..	..	..	..	..	*1,413
..	..	..	..	..	*1,399
..	..	..	..	..	*1,385
..	..	..	..	..	*1,370
..	..	..	..	7	275,615
..	..	..	..	7	282,881
..	..	..	..	7	290,298
..	..	..	..	7	297,781
..	..	..	..	..	*33,327
..	..	..	..	..	*33,579
..	..	..	..	..	*33,831
..	..	..	..	..	*34,058
..	..	..	..	..	72,834
..	..	..	..	..	73,865
..	..	..	..	..	74,906
..	..	..	..	..	75,874
..	..	..	..	..	3,732
..	..	..	..	..	3,816
..	..	..	..	..	*3,835
..	..	..	..	..	*3,854
..	..	..	..	..	66,827
..	..	..	..	..	67,773
..	..	..	..	..	68,734
..	..	..	..	..	69,710

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Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Côte d'Ivoire	2017	262,429	..	1,986	..	..	44,180
	2018	259,853	..	2,131	..	..	43,735
	2019	265,745	..	2,262	..	..	44,901
	2020	275,235	..	2,306	..	..	45,594
Dem. Rep. of the Congo	2017	1,176,516	..	..	3,014	..	120,354
	2018	1,190,695	..	..	4,654	..	121,858
	2019	1,206,201	..	..	4,131	..	121,858
	2020	1,221,496	..	..	4,131	..	129,559
Djibouti	2017	3,605	..	..	..	..	1,574
	2018	3,650	..	..	..	..	1,595
	2019	3,696	..	..	..	..	1,615
	2020	3,743	..	..	..	..	1,636
Egypt	2017	140,736	..	..	*23,412	..	42,625
	2018	141,672	..	..	*23,915	..	42,950
	2019	142,632	..	..	*23,939	..	43,279
	2020	143,592	..	..	32,247	..	43,610
Equatorial Guinea	2017	4,083	..	..	..	..	310
	2018	4,083	..	..	..	..	324
	2019	4,083	..	..	..	..	324
	2020	4,083	..	..	..	..	338
Eritrea	2017	25,502	2,701	1,472	..	..	4,724
	2018	25,797	2,733	1,489	..	..	4,782
	2019	26,133	2,770	1,508	..	..	4,841
	2020	26,500	2,808	1,529	..	..	4,908
Eswatini	2017	12,062	..	..	12,365	..	266
	2018	12,174	..	..	12,974	..	*295
	2019	12,094	..	..	14,729	..	*295
	2020	12,038	..	..	*14,455	..	*295
Ethiopia	2017	1,010,532	155,887	152,800	9,158	..	130,275
	2018	1,021,978	159,501	156,343	*8,494	..	133,272
	2019	1,033,598	163,179	159,948	*7,722	..	136,340
	2020	1,045,400	167,379	164,065	*7,915	..	139,476
Gabon	2017	*50,778	..	2,180	628	..	676
	2018	*51,975	..	2,138	641	..	687
	2019	*52,070	..	2,749	649	..	698
	2020	*52,290	..	2,720	*656	..	709
Gambia	2017	6,921	..	..	..	..	2,008
	2018	6,997	..	..	..	..	2,045
	2019	7,074	..	..	..	..	2,083
	2020	7,153	..	..	..	..	2,121
Ghana	2017	161,583	..	..	..	..	50,153
	2018	176,833	..	..	..	..	52,963
	2019	173,064	..	..	..	..	52,066
	2020	178,994	..	..	..	..	54,453
Guinea	2017	112,388	..	..	629	..	11,907
	2018	112,730	..	..	*638	..	12,140
	2019	113,089	..	..	*647	..	12,377
	2020	113,461	..	..	*649	..	12,619
Guinea-Bissau	2017	26,119	..	..	..	..	2,221
	2018	26,434	..	..	..	..	2,271
	2019	26,434	..	..	..	..	2,271
	2020	27,073	..	..	..	..	2,374
Kenya	2017	515,908	..	26,055	14,367	..	151,040
	2018	*515,908	..	25,879	11,676	..	115,758
	2019	*527,802	..	*26,474	*11,946	..	118,413
	2020	*539,897	..	*22,985	*11,907	..	121,127

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Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	264,415
..	..	..	..	..	261,984
..	..	..	..	..	268,008
..	..	..	..	..	277,541
..	..	..	..	..	1,179,530
..	..	..	..	..	1,195,349
..	..	..	..	..	1,210,332
..	..	..	..	..	1,225,627
..	..	..	..	..	3,605
..	..	..	..	..	3,650
..	..	..	..	..	3,696
..	..	..	..	..	3,743
..	..	..	..	..	164,148
..	..	..	..	..	165,587
..	..	..	..	..	166,571
..	..	..	..	..	175,839
..	..	..	..	..	4,083
..	..	..	..	..	4,083
..	..	..	..	..	4,083
..	..	..	..	..	4,083
..	..	..	..	..	29,675
..	..	..	..	..	30,019
..	..	..	..	..	30,411
..	..	..	..	..	30,837
..	..	..	..	..	24,427
..	..	..	..	..	25,148
..	..	..	..	..	26,823
..	..	..	..	..	*26,493
..	..	134	..	..	1,328,511
..	..	161	..	..	1,346,477
..	..	170	..	..	1,364,617
..	..	217	..	..	1,384,977
..	..	..	..	..	*53,586
..	..	..	..	..	*54,754
..	..	..	..	..	*55,467
..	..	..	..	..	*55,667
..	..	..	..	..	6,921
..	..	..	..	..	6,997
..	..	..	..	..	7,074
..	..	..	..	..	7,153
..	..	..	..	..	161,583
..	..	..	..	..	176,833
..	..	..	..	..	173,064
..	..	..	..	..	178,994
..	..	..	..	..	113,017
..	..	..	..	..	113,367
..	..	..	..	..	113,736
..	..	..	..	..	114,110
..	..	..	..	..	26,119
..	..	..	..	..	26,434
..	..	..	..	..	26,434
..	..	..	..	..	27,073
..	..	..	..	5	556,335
..	..	..	..	4	*553,467
..	..	..	..	4	*566,226
..	..	..	..	2	*574,791

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Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Lesotho	2017	10,576	3,995	1,441	..	..	510
	2018	*9,994	*3,481	*1,459	..	..	153
	2019	*9,793	*3,412	*1,473	..	..	*153
	2020	*9,857	*3,402	*1,476	..	..	*177
Liberia	2017	81,091	..	..	..	..	8,891
	2018	83,734	..	..	..	..	9,197
	2019	86,462	..	..	..	..	9,513
	2020	89,276	..	..	..	..	9,853
Libya	2017	24,602	..	..	..	..	3,338
	2018	24,884	..	..	..	..	3,371
	2019	25,169	..	..	..	..	3,405
	2020	25,450	..	..	..	..	3,439
Madagascar	2017	266,494	..	..	2,851	..	23,680
	2018	299,749	..	..	2,497	..	27,199
	2019	312,613	..	..	2,487	..	28,497
	2020	*325,117	..	..	*2,462	..	*29,636
Malawi	2017	53,435	..	..	6,772	..	17,047
	2018	53,973	..	..	*6,772	..	17,429
	2019	54,605	..	..	*6,772	..	17,819
	2020	55,178	..	..	*6,772	..	17,819
Mali	2017	*153,587	..	..	*1,457	..	15,340
	2018	*155,249	..	..	*1,457	..	15,488
	2019	*156,665	..	..	*1,457	..	*15,635
	2020	*158,109	..	..	*1,457	..	*15,635
Mauritania	2017	19,448	..	..	..	..	6,534
	2018	19,814	..	..	..	..	6,682
	2019	20,179	..	..	..	..	6,844
	2020	20,563	..	..	..	..	6,992
Mauritius	2017	266	..	..	9,382	..	15
	2018	204	..	..	8,690	..	15
	2019	162	..	..	8,541	..	12
	2020	145	..	..	7,087	..	6
Morocco	2017	63,022	..	..	1,196	..	585
	2018	61,328	..	..	1,332	..	596
	2019	60,568	..	..	1,122	..	608
	2020	59,087	..	..	*1,158	..	622
Mozambique	2017	285,973	..	13,552	9,777	..	47,742
	2018	290,683	..	13,343	9,706	..	48,182
	2019	295,388	..	13,145	9,520	..	48,647
	2020	300,132	..	12,966	8,988	..	49,125
Namibia	2017	13,711	..	1,586	..	..	4,868
	2018	15,718	..	1,601	..	..	5,399
	2019	18,426	..	1,592	..	..	5,508
	2020	20,161	..	1,491	..	..	7,592
Niger	2017	*54,496	*584	*470	..	..	1,593
	2018	*65,932	*803	*647	..	..	1,652
	2019	*68,537	*876	*705	..	..	1,711
	2020	*71,283	*949	*763	..	..	1,800
Nigeria	2017	2,330,370	..	2,451,619	633	..	118,962
	2018	2,347,592	..	2,515,866	757	..	120,959
	2019	2,365,280	..	2,581,230	*541	..	122,991
	2020	2,383,436	..	2,647,712	*548	..	125,056
Rwanda	2017	*84,179	..	..	232	..	*18,349
	2018	*84,526	..	..	253	..	*18,467
	2019	*84,526	..	..	248	..	*18,467
	2020	*84,800	..	..	*243	..	*18,556



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Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	16,012
..	..	..	..	..	*14,934
..	..	..	..	..	*14,677
..	..	..	..	..	*14,735
..	..	..	..	..	81,091
..	..	..	..	..	83,734
..	..	..	..	..	86,462
..	..	..	..	..	89,276
..	..	..	..	..	24,602
..	..	..	..	..	24,884
..	..	..	..	..	25,169
..	..	..	..	..	25,450
..	..	..	..	..	269,345
..	..	..	..	..	302,246
..	..	..	..	..	315,100
..	..	..	..	..	*327,579
*98	..	301	..	..	60,606
*98	..	419	..	..	61,262
*98	..	371	..	..	61,847
*98	..	307	..	..	62,355
..	..	..	..	..	*155,044
..	..	..	..	..	*156,706
..	..	..	..	..	*158,122
..	..	..	..	..	*159,566
..	..	..	..	..	19,448
..	..	..	..	..	19,814
..	..	..	..	..	20,179
..	..	..	..	..	20,563
..	..	..	..	61	9,709
..	..	..	..	81	8,975
..	..	..	..	71	8,775
..	..	..	..	89	7,321
3,008	..	..	..	..	67,227
3,008	..	..	..	..	65,669
3,008	..	..	..	..	64,698
2,783	..	..	..	..	63,028
..	..	..	..	..	309,302
..	..	..	..	..	313,732
..	..	..	..	..	318,053
..	..	..	..	..	322,086
..	..	..	..	..	15,297
..	..	..	..	..	17,319
..	..	..	..	..	20,018
..	..	..	..	..	21,652
..	..	..	..	..	*55,550
..	..	..	..	..	*67,382
..	..	..	..	..	*70,118
..	..	..	..	..	*72,995
..	..	..	..	..	4,782,622
..	..	..	..	..	4,864,215
..	..	..	..	..	4,947,051
..	..	..	..	..	5,031,696
..	..	..	..	..	*84,411
..	..	..	..	..	*84,779
..	..	..	..	..	*84,774
..	..	..	..	..	*85,043

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Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Sao Tome and Principe	2017	1,033	..	..	..	..	286
	2018	1,039	..	..	..	..	289
	2019	1,039	..	..	..	..	289
	2020	1,051	..	..	..	..	295
Senegal	2017	64,534	..	252	2,706	..	5,575
	2018	63,838	..	252	3,536	..	5,387
	2019	65,601	..	1,513	5,880	..	5,476
	2020	75,144	..	1,680	5,909	..	6,728
Seychelles	2017	29	..	..	..	..	..
	2018	29	..	..	..	..	..
	2019	29	..	..	..	..	..
	2020	29	..	..	..	..	..
Sierra Leone	2017	53,723	..	*72	201	..	13,334
	2018	54,143	..	*72	*201	..	13,629
	2019	54,572	..	*72	*201	..	13,924
	2020	55,038	..	*72	*201	..	14,249
Somalia	2017	138,909	..	..	*527	..	37,447
	2018	142,539	..	..	*530	..	38,816
	2019	146,278	..	..	*550	..	40,235
	2020	150,132	..	..	*548	..	41,704
South Africa	2017	208,834	..	..	51,052	..	13,152
	2018	183,523	..	..	56,670	..	11,250
	2019	189,067	..	..	57,200	..	11,447
	2020	206,308	..	..	53,494	..	12,750
South Sudan	2017	9,478	..	..	..	..	325
	2018	7,952	..	..	..	..	345
	2019	8,014	..	..	..	..	348
	2020	8,110	..	..	..	..	352
St. Helena and Depend.	2017	6	..	..	..	..	..
	2018	5	..	..	..	..	..
	2019	5	..	..	..	..	..
	2020	5	..	..	..	..	..
Sudan	2017	140,834	..	47,319	*16,711	..	17,346
	2018	141,830	..	47,868	*16,989	..	17,346
	2019	142,351	..	48,413	*17,004	..	17,346
	2020	142,351	..	48,861	*16,742	..	17,346
Togo	2017	105,704	..	1,245	..	..	21,093
	2018	111,890	..	1,641	..	..	22,332
	2019	115,890	..	2,056	..	..	23,128
	2020	123,433	..	2,150	..	..	24,633
Tunisia	2017	39,427	1,523	4,370	..	..	6,579
	2018	39,708	1,551	4,377	..	..	6,726
	2019	39,946	1,598	4,321	..	..	6,873
	2020	40,193	1,530	*4,340	..	..	7,028
Uganda	2017	773,962	..	..	*22,796	..	*60,008
	2018	808,674	..	..	*27,568	..	60,960
	2019	836,714	..	..	*41,058	..	76,954
	2020	931,340	..	..	*32,881	..	84,054
United Rep. of Tanzania	2017	553,309	..	203,916	6,618	..	47,643
	2018	561,390	..	207,727	6,741	..	49,088
	2019	569,782	..	239,151	7,761	..	48,989
	2020	578,493	..	241,157	7,822	..	51,784
Zambia	2017	264,372	..	45,135	*3,475	..	33,350
	2018	269,585	..	46,025	*3,475	..	34,008
	2019	274,789	..	46,914	*3,475	..	34,665
	2020	280,017	..	47,806	*3,475	..	35,324

Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	1,033
..	..	..	..	..	1,039
..	..	..	..	..	1,039
..	..	..	..	..	1,051
..	..	..	..	..	67,492
..	..	..	..	..	67,626
..	..	..	..	..	72,994
..	..	..	..	..	82,733
..	..	..	..	..	29
..	..	..	..	..	29
..	..	..	..	..	29
..	..	..	..	..	29
..	..	..	..	..	53,996
..	..	..	..	..	54,416
..	..	..	..	..	54,845
..	..	..	..	..	55,311
..	..	..	..	..	139,436
..	..	..	..	..	143,069
..	..	..	..	..	146,828
..	..	..	..	..	150,680
..	..	..	..	..	259,885
..	..	..	..	..	240,192
..	..	..	..	..	246,267
..	..	..	..	..	259,802
..	..	..	..	..	9,478
..	..	..	..	..	7,952
..	..	..	..	..	8,014
..	..	..	..	..	8,110
..	..	..	..	..	6
..	..	..	..	..	5
..	..	..	..	..	5
..	..	..	..	..	5
..	..	..	..	..	204,864
..	..	..	..	..	206,686
..	..	..	..	..	207,768
..	..	..	..	..	207,953
..	..	..	..	..	106,949
..	..	..	..	..	113,531
..	..	..	..	..	117,946
..	..	..	..	..	125,584
..	..	..	..	..	45,320
..	..	..	..	..	45,636
..	..	..	..	..	45,864
..	..	..	..	..	46,063
..	..	..	..	..	796,757
..	..	..	..	..	836,241
..	..	..	..	..	877,772
..	..	..	..	..	964,221
..	..	..	..	..	763,843
..	..	..	..	..	775,859
..	..	..	..	..	816,694
..	..	..	..	..	827,473
..	..	..	..	..	312,983
..	..	..	..	..	319,085
..	..	..	..	..	325,178
..	..	..	..	..	331,299

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Zimbabwe	2017	189,702	..	116,083	2,180	..	269
	2018	192,394	..	117,730	2,687	..	273
	2019	195,139	..	119,410	2,725	..	277
	2020	198,044	..	121,187	1,423	..	281
<b>Asia</b>	<b>2017</b>	<b>11,236,338</b>	<b>134,179</b>	<b>4,398,457</b>	<b>1,814,508</b>	<b>164,990</b>	<b>381,286</b>
	<b>2018</b>	<b>11,102,648</b>	<b>130,773</b>	<b>4,335,053</b>	<b>2,030,507</b>	<b>176,397</b>	<b>341,590</b>
	<b>2019</b>	<b>11,271,650</b>	<b>129,084</b>	<b>4,401,333</b>	<b>1,931,384</b>	<b>172,494</b>	<b>347,468</b>
	<b>2020</b>	<b>11,116,117</b>	<b>129,840</b>	<b>4,185,675</b>	<b>1,861,722</b>	<b>145,834</b>	<b>324,816</b>
Afghanistan	2017	16,960	..	..	..	..	4,037
	2018	17,266	..	..	..	..	4,149
	2019	17,578	..	..	..	..	4,265
	2020	17,281	..	..	..	..	4,384
Armenia	2017	6,082	2,428	..	..	..	..
	2018	4,348	1,289	..	..	..	..
	2019	4,019	871	..	..	..	..
	2020	4,312	388	..	..	..	..
Azerbaijan	2017	1,379	..	..	..	..	6
	2018	1,347	..	187	..	..	3
	2019	1,279	..	408	..	..	3
	2020	973	..	401	..	..	2
Bahrain	2017	66	..	..	..	..	34
	2018	66	..	..	..	..	34
	2019	66	..	..	..	..	35
	2020	64	..	..	..	..	35
Bangladesh	2017	237,541	105,368	200,555	1,753	..	9,972
	2018	235,268	103,118	196,272	1,771	..	9,998
	2019	233,025	101,766	193,698	*1,949	..	10,023
	2020	230,812	102,792	195,650	*1,977	..	10,048
Bhutan	2017	47,457	..	..	..	..	207
	2018	47,831	..	..	..	..	252
	2019	48,209	..	..	..	..	257
	2020	48,591	..	..	..	..	263
Brunei Darussalam	2017	106	..	..	..	..	10
	2018	106	..	..	..	..	10
	2019	106	..	..	..	..	10
	2020	106	..	..	..	..	10
Cambodia	2017	139,949	..	1,132	..	..	12,580
	2018	142,417	..	1,454	..	..	12,490
	2019	145,076	..	2,079	..	..	12,418
	2020	142,990	..	1,505	..	..	12,347
China	2017	1,516,539	..	1,753,712	259,293	..	48,294
	2018	1,489,069	..	1,788,786	294,675	..	48,289
	2019	1,461,314	..	1,788,786	261,810	..	47,892
	2020	1,434,087	..	1,788,786	*270,274	..	47,499
China, Macao SAR	2017	..	..	..	..	..	..
	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
Cyprus	2017	781	..	175	..	..	73
	2018	786	..	162	..	..	48
	2019	798	..	246	..	..	40
	2020	689	..	288	..	..	34
Georgia	2017	15,115	103	59	..	..	..
	2018	11,233	125	42	..	..	..
	2019	10,101	137	32	..	..	..
	2020	9,454	43	31	..	..	..

Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	1,045	..	..	309,010
..	..	1,664	..	..	314,476
..	..	1,718	..	..	318,992
..	..	1,908	..	..	322,561
<b>599,185</b>	<b>162,196</b>	<b>130,087</b>	<b>523,364</b>	<b>83,433</b>	<b>19,246,736</b>
<b>617,371</b>	<b>169,507</b>	<b>137,441</b>	<b>633,487</b>	<b>109,458</b>	<b>19,442,642</b>
<b>602,137</b>	<b>171,004</b>	<b>151,868</b>	<b>734,152</b>	<b>106,922</b>	<b>19,672,029</b>
<b>561,141</b>	<b>157,876</b>	<b>158,351</b>	<b>749,634</b>	<b>107,011</b>	<b>19,173,201</b>
..	..	..	..	..	16,960
..	..	..	..	..	17,266
..	..	..	..	..	17,578
..	..	..	..	..	17,281
..	..	..	..	..	8,510
..	..	..	..	..	5,637
..	..	..	..	..	4,890
..	..	..	..	..	4,700
..	2,782	..	..	..	4,162
..	2,966	..	..	..	4,500
..	3,075	..	..	..	4,762
..	3,164	..	..	..	4,538
..	..	..	..	..	66
..	..	..	..	..	66
..	..	..	..	..	66
..	..	..	..	..	64
..	..	..	..	..	545,217
..	..	..	..	..	536,429
..	..	..	..	..	530,439
..	..	..	..	..	531,230
..	..	..	..	..	47,457
..	..	..	..	..	47,831
..	..	..	..	..	48,209
..	..	..	..	..	48,591
..	..	..	..	..	106
..	..	..	..	..	106
..	..	..	..	..	106
..	..	..	..	..	106
..	..	..	..	..	141,081
..	..	..	..	..	143,870
..	..	..	..	..	147,155
..	..	..	..	..	144,495
229,441	..	*80,400	321,757	..	4,161,142
221,906	..	*80,400	*323,840	..	4,198,676
230,386	..	85,760	*323,840	..	4,151,896
188,107	..	93,505	*312,800	..	4,087,559
..	3,339	..	..	..	3,339
..	3,386	..	..	..	3,386
..	3,878	..	..	..	3,878
..	3,423	..	..	..	3,423
122	37	..	54	504	1,673
158	52	..	..	554	1,711
164	101	..	..	579	1,889
271	148	..	..	556	1,952
..	..	..	..	..	15,277
..	..	..	..	..	11,399
..	..	..	10	..	10,279
..	..	..	4	..	9,532

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					Charcoal
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	
India	2017	5,549,926	..	1,056,729	998,812	..	113,664
	2018	5,698,172	..	1,037,543	1,056,815	..	*82,187
	2019	5,851,142	..	1,047,001	957,070	..	*80,535
	2020	5,998,430	..	1,092,146	954,022	..	*76,553
Indonesia	2017	1,032,622	..	388,084	*49,751	..	26,609
	2018	901,816	..	409,291	52,464	..	47,053
	2019	947,857	..	419,574	*53,782	..	52,923
	2020	773,561	..	493,729	*53,782	..	*44,250
Iran (Islamic Rep. of)	2017	*73,994	*1,175	8,715	..	..	9
	2018	*73,994	*1,175	8,373	..	..	9
	2019	*73,994	*1,175	8,205	..	..	9
	2020	*73,994	*1,175	8,579	..	..	9
Iraq	2017	1,982	..	..	..	..	797
	2018	1,977	..	..	..	..	565
	2019	2,008	..	..	..	..	574
	2020	2,039	..	..	..	..	583
Israel	2017	183	..	..	..	..	..
	2018	183	..	..	..	..	..
	2019	183	..	..	..	..	..
	2020	183	..	..	..	..	..
Japan	2017	73,880	..	75,019	..	145,237	343
	2018	77,642	..	79,576	..	146,898	343
	2019	79,194	..	102,947	..	144,794	343
	2020	89,763	..	89,701	..	120,939	343
Jordan	2017	3,261	..	..	..	..	1,410
	2018	3,325	..	..	..	..	1,441
	2019	3,397	..	..	..	..	1,473
	2020	3,469	..	..	..	..	1,506
Kazakhstan	2017	2,202	..	..	..	..	14
	2018	2,171	..	..	..	..	47
	2019	2,436	..	..	..	..	41
	2020	1,862	..	11	..	..	50
Korea, Dem.Ppl's.Rep.	2017	46,520	..	..	..	..	4,891
	2018	46,740	..	..	..	..	4,930
	2019	46,952	..	..	..	..	4,970
	2020	47,159	..	..	..	..	5,011
Korea, Republic of	2017	77,939	..	0	..	7,172	..
	2018	88,260	..	..	..	8,378	..
	2019	76,104	..	..	..	7,857	..
	2020	71,464	..	..	..	7,666	..
Kuwait	2017	185	..	..	..	..	91
	2018	187	..	..	..	..	92
	2019	189	..	..	..	..	93
	2020	189	..	..	..	..	93
Kyrgyzstan	2017	60	..	..	..	..	..
	2018	96	..	..	..	..	..
	2019	85	..	..	..	..	..
	2020	1	..	..	..	..	..
Lao People's Dem. Rep.	2017	53,063	..	..	*3,286	..	*6,048
	2018	52,710	..	..	*3,220	..	*6,136
	2019	52,363	..	..	4,031	..	*6,195
	2020	52,025	..	..	*3,830	..	6,048
Lebanon	2017	*4,971	..	..	..	..	89
	2018	*4,971	..	..	..	..	89
	2019	4,971	..	..	..	..	89
	2020	4,931	..	..	..	..	89

Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	7,605,467
..	..	..	..	..	7,792,529
..	..	..	..	..	7,855,214
..	..	..	..	..	8,044,599
..	..	..	110,624	496	1,581,577
..	..	..	199,745	513	1,563,829
..	..	..	271,993	526	1,693,731
..	..	..	278,282	*526	1,599,880
..	..	..	..	288	*84,172
..	..	..	..	254	*83,796
..	..	..	..	254	*83,628
..	..	..	..	254	*84,002
..	..	..	..	..	1,982
..	..	..	..	..	1,977
..	..	..	..	..	2,008
..	..	..	..	..	2,039
1,302	1,487	..	..	960	3,932
1,548	1,814	..	..	878	4,423
1,807	2,142	..	..	878	5,010
1,855	2,203	..	..	963	5,204
231,788	28,921	4	442	4,616	559,907
248,481	30,850	4	431	9,058	592,940
231,007	32,192	4	465	90	590,693
224,902	29,896	4	459	71	555,734
..	..	..	..	49	3,310
..	..	..	..	41	3,366
..	..	..	..	42	3,439
..	..	..	..	42	3,511
..	..	..	..	32	2,234
..	..	..	..	19	2,189
..	..	..	..	43	2,479
..	..	..	..	70	1,943
..	..	..	..	..	46,520
..	..	..	..	..	46,740
..	..	..	..	..	46,952
..	..	..	..	..	47,159
134,086	39,798	6,987	19,320	7,333	292,634
108,143	40,155	9,037	23,515	7,406	284,894
102,191	37,090	12,841	23,551	8,108	267,743
107,650	36,229	10,731	23,885	8,384	266,010
..	..	..	..	..	185
..	..	..	..	..	187
..	..	..	..	..	189
..	..	..	..	..	189
..	..	..	..	..	60
..	..	..	..	..	96
..	..	..	..	..	85
..	..	..	..	..	1
..	..	..	..	..	56,349
..	..	..	..	..	55,930
..	..	..	..	..	56,394
..	..	..	..	..	55,855
..	..	..	..	..	*4,971
..	..	..	..	83	*5,054
..	..	..	..	415	5,386
..	..	..	..	257	5,188

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Malaysia	2017	22,780	..	*8,196	*755	..	864
	2018	22,425	..	*12,581	*591	..	867
	2019	22,083	..	12,624	*518	..	458
	2020	21,751	..	9,945	*525	..	515
Maldives	2017	149	..	..	..	..	26
	2018	150	..	..	..	..	26
	2019	151	..	..	..	..	26
	2020	152	..	..	..	..	27
Mongolia	2017	5,481	..	..	..	..	506
	2018	5,481	..	..	..	..	510
	2019	5,481	..	..	..	..	515
	2020	5,772	..	..	..	..	519
Myanmar	2017	431,655	..	25,943	..	..	856
	2018	432,788	..	26,005	..	..	856
	2019	426,076	..	25,811	..	..	856
	2020	427,156	..	25,876	..	..	*856
Nepal	2017	361,118	18,579	17,804	11,821	..	325
	2018	365,996	18,829	18,045	*11,833	..	325
	2019	372,785	19,179	18,379	*11,832	..	328
	2020	379,557	19,527	18,713	*11,307	..	334
Oman	2017	436	..	..	..	..	210
	2018	447	..	..	..	..	216
	2019	458	..	..	..	..	221
	2020	458	..	..	..	..	221
Other Asia	2017	6,281	..	..	..	..	..
	2018	6,324	..	..	..	..	..
	2019	6,102	..	..	..	..	..
	2020	5,915	..	..	..	..	..
Pakistan	2017	*311,634	*5,969	*256,937	*141,268	..	2,516
	2018	*306,330	*5,671	*252,564	*149,508	..	2,567
	2019	*306,579	*5,387	*252,769	*149,508	..	2,617
	2020	*306,023	*5,488	260,974	*149,824	..	2,617
Philippines	2017	*272,290	557	38,808	32,046	..	60,800
	2018	*275,761	565	38,473	33,588	..	63,042
	2019	*279,500	569	38,065	32,768	..	65,372
	2020	*281,131	427	33,312	31,280	..	67,098
Qatar	2017	47	..	..	..	..	23
	2018	47	..	..	..	..	23
	2019	47	..	..	..	..	23
	2020	47	..	..	..	..	23
Singapore	2017	267	..	..	..	..	141
	2018	262	..	..	..	..	139
	2019	258	..	..	..	..	137
	2020	258	..	..	..	..	137
Sri Lanka	2017	126,905	..	..	1,470	..	..
	2018	126,490	..	..	1,572	..	..
	2019	128,649	..	..	1,651	..	..
	2020	*129,150	..	..	*1,660	..	..
State of Palestine	2017	1,964	..	588	..	..	..
	2018	2,022	..	398	..	..	..
	2019	2,074	..	1,190	..	..	..
	2020	2,097	..	510	..	..	..
Syrian Arab Republic	2017	305	..	..	..	..	80
	2018	304	..	..	..	..	80
	2019	305	..	..	..	..	80
	2020	307	..	..	..	..	80



Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	16,928	1,715	50,374
..	..	..	25,502	6,146	67,246
..	..	..	44,374	4,425	84,023
..	..	..	58,411	4,175	94,807
..	..	..	..	..	149
..	..	..	..	..	150
..	..	..	..	..	151
..	..	..	..	..	152
..	..	..	..	..	5,481
..	..	..	..	..	5,481
..	..	..	..	..	5,481
..	..	..	..	..	5,772
..	..	..	..	1	457,599
..	..	..	..	1	458,794
..	..	..	..	1	451,888
..	..	..	..	*1	453,033
..	..	..	..	11,821	421,143
..	..	..	..	12,019	426,722
..	..	..	..	12,133	434,307
..	..	..	..	12,353	441,458
..	..	..	..	..	436
..	..	..	..	..	447
..	..	..	..	..	458
..	..	..	..	..	458
..	54,380	187	..	272	61,120
..	56,731	7	..	268	63,330
..	57,322	3	..	219	63,645
..	56,377	3	..	711	63,005
..	..	..	..	..	*715,808
..	..	..	..	..	*714,073
..	..	..	..	..	*714,243
..	..	..	..	..	*722,309
..	527	8,608	6,591	..	*359,427
..	543	11,130	6,645	..	*366,705
..	634	13,030	7,044	..	*371,611
..	467	10,141	5,196	..	*361,954
..	..	..	..	..	47
..	..	..	..	..	47
..	..	..	..	..	47
..	..	..	..	..	47
..	26,741	..	..	..	27,008
..	24,811	..	..	..	25,073
..	25,133	..	..	..	25,392
..	23,346	..	..	..	23,604
..	..	..	..	..	128,374
..	..	..	..	..	128,062
..	..	..	..	..	130,300
..	..	..	..	..	*130,810
..	..	..	..	..	2,552
..	..	..	..	..	2,420
..	..	..	..	..	3,264
..	..	..	..	..	2,607
..	..	..	..	..	305
..	..	..	..	..	304
..	..	..	..	..	305
..	..	..	..	..	307

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Tajikistan	2017	*50,225	..	..	..	..	..
	2018	*50,225	..	..	..	..	..
	2019	50,142	..	..	..	..	..
	2020	50,142	..	..	..	..	..
Thailand	2017	315,620	..	391,430	262,756	12,581	78,057
	2018	233,303	..	312,620	364,892	21,121	43,159
	2019	229,289	..	340,594	389,444	19,843	42,510
	2020	127,177	..	23,439	314,513	17,229	32,568
Timor-Leste	2017	813	..	..	..	..	..
	2018	776	..	..	..	..	..
	2019	742	..	..	..	..	..
	2020	709	..	..	..	..	..
Türkiye	2017	56,773	..	45,407	..	..	..
	2018	40,654	..	30,720	..	..	..
	2019	43,794	..	30,898	..	..	..
	2020	48,232	..	38,454	..	..	..
Turkmenistan	2017	89	..	..	..	..	..
	2018	89	..	..	..	..	..
	2019	89	..	..	..	..	..
	2020	89	..	..	..	..	..
Uzbekistan	2017	*924	..	..	..	..	..
	2018	*926	..	..	..	..	..
	2019	*929	..	..	..	..	..
	2020	*959	..	..	..	..	..
Viet Nam	2017	*362,700	..	129,162	51,497	..	5,723
	2018	324,561	..	121,961	59,578	..	9,588
	2019	328,245	..	118,026	67,021	..	10,060
	2020	315,057	..	103,623	*68,727	..	8,541
Yemen	2017	5,120	..	..	..	..	1,985
	2018	5,306	..	..	..	..	2,033
	2019	5,429	..	..	..	..	2,080
	2020	5,553	..	..	..	..	2,127
<b>Europe</b>	<b>2017</b>	<b>3,526,803</b>	<b>18,395</b>	<b>301,593</b>	<b>25,851</b>	<b>542,956</b>	<b>13,261</b>
	<b>2018</b>	<b>3,709,235</b>	<b>18,609</b>	<b>326,059</b>	<b>25,831</b>	<b>544,653</b>	<b>12,880</b>
	<b>2019</b>	<b>3,763,876</b>	<b>19,171</b>	<b>334,900</b>	<b>25,911</b>	<b>570,180</b>	<b>11,979</b>
	<b>2020</b>	<b>3,764,329</b>	<b>18,562</b>	<b>345,665</b>	<b>29,789</b>	<b>565,769</b>	<b>12,219</b>
Albania	2017	6,959	..	..	..	..	..
	2018	6,710	..	..	..	..	..
	2019	6,627	..	..	..	..	..
	2020	6,420	..	..	..	..	..
Andorra	2017	..	..	..	..	..	..
	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
Austria	2017	161,236	..	8,726	..	32,663	36
	2018	151,477	..	8,157	..	33,651	41
	2019	154,653	..	7,327	..	33,643	42
	2020	160,363	..	7,599	..	33,170	43
Belarus	2017	61,577	..	2,345	..	..	89
	2018	63,754	..	2,084	..	1,013	103
	2019	67,665	..	1,836	..	5,759	189
	2020	70,034	..	1,633	..	8,049	272
Belgium	2017	41,400	841	6,407	..	1,732	..
	2018	41,840	741	6,565	..	1,817	..
	2019	40,744	818	6,611	..	1,548	..
	2020	40,757	639	6,457	..	1,308	..

Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	*50,225
..	..	..	..	..	*50,225
..	..	..	..	..	50,142
..	..	..	..	..	50,142
..	4,183	31,089	45,193	37,778	1,100,632
..	8,029	31,578	49,782	51,723	1,073,049
..	9,001	34,664	58,422	54,385	1,135,642
..	2,258	39,610	67,822	50,618	642,667
..	..	..	..	..	813
..	..	..	..	..	776
..	..	..	..	..	742
..	..	..	..	..	709
2,446	..	2,126	2,455	17,569	126,775
37,135	171	2,042	4,027	20,496	135,245
36,581	436	2,217	4,453	24,824	143,202
38,357	364	1,677	2,774	28,029	157,887
..	..	..	..	..	89
..	..	..	..	..	89
..	..	..	..	..	89
..	..	..	..	..	89
..	..	..	..	..	*924
..	..	..	..	..	*926
..	..	..	..	..	*929
..	..	..	..	..	*959
..	..	686	..	..	*544,045
..	..	3,243	..	..	509,343
..	..	3,350	..	..	516,642
..	..	2,680	..	..	490,086
..	..	..	..	..	5,120
..	..	..	..	..	5,306
..	..	..	..	..	5,429
..	..	..	..	..	5,553
<b>420,283</b>	<b>904,138</b>	<b>122,198</b>	<b>490,856</b>	<b>706,042</b>	<b>7,059,115</b>
<b>464,083</b>	<b>904,219</b>	<b>125,359</b>	<b>514,380</b>	<b>706,251</b>	<b>7,338,679</b>
<b>530,949</b>	<b>923,483</b>	<b>121,618</b>	<b>549,778</b>	<b>720,905</b>	<b>7,560,771</b>
<b>570,468</b>	<b>939,021</b>	<b>120,425</b>	<b>533,839</b>	<b>748,344</b>	<b>7,636,210</b>
..	..	..	..	..	6,959
..	..	..	..	..	6,710
..	..	..	..	..	6,627
..	..	..	..	..	6,420
..	*306	..	..	..	*306
..	*366	..	..	..	*366
..	*377	..	..	..	*377
..	*342	..	..	..	*342
16,538	18,622	5,681	9,097	13,021	265,584
15,332	19,441	5,236	9,377	9,505	252,175
14,476	19,796	5,042	10,829	8,983	254,750
14,414	21,576	4,768	8,192	8,819	258,902
829	..	..	736	468	65,955
970	..	..	515	507	68,843
792	..	..	589	465	77,106
381	..	..	*589	2,170	82,856
12,118	30,895	7,293	10,654	9,423	120,761
12,606	30,505	7,598	9,281	9,547	120,500
13,154	30,436	8,513	9,358	9,698	120,881
12,310	30,913	9,624	7,883	10,210	120,101

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Bosnia and Herzegovina	2017	28,596	..	..	..	..	1,180
	2018	60,650	..	..	..	..	885
	2019	60,775	..	..	..	..	944
	2020	62,209	..	..	..	..	885
Bulgaria	2017	40,827	..	1,217	..	5,104	72
	2018	51,330	..	8,219	..	4,273	60
	2019	52,470	..	11,043	..	4,331	62
	2020	53,551	..	12,945	..	3,839	68
Croatia	2017	64,565	..	19	..	..	280
	2018	62,621	..	32	..	..	290
	2019	62,228	..	30	..	..	416
	2020	63,166	..	97	..	..	390
Czechia	2017	103,824	..	6,379	..	15,281	..
	2018	108,298	..	5,576	..	14,675	..
	2019	116,959	..	5,331	..	18,803	..
	2020	122,005	..	5,667	..	19,783	..
Denmark	2017	47,135	..	20,219	..	..	..
	2018	48,866	..	17,606	..	..	..
	2019	44,543	..	17,963	..	..	..
	2020	41,341	..	18,929	..	..	..
Estonia	2017	51,714	..	9,175	..	1,382	..
	2018	55,681	..	11,914	..	1,404	..
	2019	58,683	..	13,906	..	1,229	..
	2020	58,757	..	11,405	..	1,285	..
Finland	2017	202,437	212	1,698	..	154,761	..
	2018	201,498	308	1,773	..	167,032	..
	2019	202,704	249	1,986	..	169,744	..
	2020	188,379	195	1,942	..	158,132	..
France	2017	385,063	2,193	5,887	6,156	35,747	..
	2018	386,062	2,340	6,816	5,835	31,967	..
	2019	384,602	2,806	6,783	6,262	33,969	..
	2020	363,151	2,543	8,124	6,608	32,357	..
Germany	2017	454,708	3,660	9,098	..	31,453	974
	2018	475,112	3,653	13,404	..	26,710	974
	2019	490,503	3,277	13,321	..	27,299	974
	2020	490,878	2,970	12,647	..	28,012	974
Greece	2017	27,655	..	6,199	..	..	30
	2018	25,977	..	6,769	..	..	59
	2019	25,746	..	6,532	..	..	30
	2020	24,110	..	6,918	..	..	30
Hungary	2017	86,339	256	12,047	..	310	..
	2018	75,737	241	13,039	..	303	..
	2019	73,931	379	11,253	..	377	..
	2020	73,067	229	11,577	..	385	..
Iceland	2017	..	..	..	..	..	..
	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
Ireland	2017	9,418	955	..	..	..	..
	2018	9,365	1,091	..	..	..	..
	2019	8,896	1,022	..	..	..	..
	2020	7,925	1,429	..	..	..	..
Isle of Man	2017	..	..	..	..	..	..
	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..

Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	63	28,659
..	..	..	..	97	60,747
..	..	..	..	67	60,842
..	..	..	..	104	62,313
1,621	1,240	577	3,384	1,958	55,929
2,095	2,415	465	4,657	2,245	75,699
2,785	2,472	439	6,299	2,133	81,972
2,770	1,755	411	5,046	2,232	82,549
483	..	..	14	2,672	67,752
818	..	..	15	3,081	66,568
1,129	..	..	10	3,442	66,838
1,630	..	..	6	3,481	68,380
10,228	6,422	2,743	5,793	25,444	176,115
12,061	6,115	2,013	7,149	25,279	181,166
12,499	6,376	2,493	9,142	24,332	195,934
12,753	6,688	2,028	9,518	24,889	203,332
..	36,679	139	..	10,906	115,078
..	35,566	172	..	13,333	115,543
..	35,855	105	..	16,544	115,009
..	35,533	58	..	21,224	117,085
606	2,123	..	..	540	65,540
611	2,117	..	..	571	72,298
614	1,791	..	..	592	76,815
14	2,217	..	..	832	74,510
2,001	23,808	1,293	10,992	7,147	404,348
2,048	24,865	1,246	10,145	7,804	416,719
1,818	25,214	1,130	12,187	7,851	422,883
2,025	24,105	1,193	10,920	7,076	393,967
17,628	106,691	23,589	71,618	33,880	688,453
18,712	105,735	26,569	81,367	36,645	702,048
20,149	105,494	25,788	74,754	40,750	701,358
16,274	104,191	22,306	72,637	47,469	675,661
54,307	269,372	21,180	118,054	323,250	1,285,082
46,695	259,778	19,459	123,059	318,527	1,286,397
48,440	258,838	17,090	131,854	317,935	1,308,557
44,399	261,986	17,314	115,074	324,259	1,297,538
0	..	..	5,649	4,484	43,987
1,213	..	..	6,312	4,724	44,995
1,758	..	253	7,206	5,233	46,726
405	..	629	6,633	5,665	44,359
3,777	3,606	11,792	5,814	4,141	128,082
4,322	3,417	12,757	5,925	3,916	119,657
3,339	4,445	13,588	6,182	3,785	117,279
3,857	4,820	13,320	5,336	3,745	116,336
..	..	..	..	70	70
..	..	..	..	74	74
..	..	..	..	71	71
..	..	..	..	78	78
..	8,677	7	1,053	2,322	22,432
..	11,953	113	1,120	2,108	25,750
..	11,812	180	1,222	2,092	25,224
..	12,215	137	1,536	2,190	25,433
..	*396	..	..	..	*396
..	*546	..	..	..	*546
..	*542	..	..	..	*542
..	*543	..	..	..	*543

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Italy	2017	327,658	..	..	..	..	295
	2018	295,832	..	..	..	..	295
	2019	304,029	..	..	..	..	295
	2020	298,256	..	..	..	..	295
Jersey	2017	..	..	..	..	..	..
	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
Kosovo	2017	15,305	..	..	..	..	..
	2018	15,415	..	..	..	..	..
	2019	13,364	..	..	..	..	..
	2020	12,874	..	..	..	..	..
Latvia	2017	85,124	..	267	..	..	371
	2018	102,172	..	277	..	..	257
	2019	102,427	..	359	..	..	248
	2020	95,417	..	233	..	..	244
Liechtenstein	2017	189	..	..	..	..	..
	2018	225	..	..	..	..	..
	2019	207	..	..	..	..	..
	2020	164	..	..	..	..	..
Lithuania	2017	53,960	..	721	..	..	9
	2018	52,657	..	1,175	..	..	15
	2019	50,969	..	1,265	..	..	15
	2020	51,852	..	1,431	..	..	15
Luxembourg	2017	2,727	..	201	..	..	..
	2018	3,603	..	208	..	..	..
	2019	4,545	..	226	..	..	..
	2020	6,887	..	327	..	..	..
Malta	2017	..	..	..	..	..	..
	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
Montenegro	2017	9,235	..	..	..	..	21
	2018	7,964	..	..	..	..	18
	2019	8,164	..	..	..	..	22
	2020	8,205	..	..	..	..	22
Netherlands	2017	40,729	..	16,362	..	..	..
	2018	44,674	..	11,507	..	..	..
	2019	48,425	..	11,881	..	..	..
	2020	51,492	..	12,613	..	..	..
North Macedonia	2017	12,072	..	223	..	..	..
	2018	10,206	..	261	..	..	..
	2019	10,358	..	369	..	..	..
	2020	10,476	..	291	..	..	..
Norway	2017	36,469	..	..	..	425	..
	2018	36,472	..	..	..	369	..
	2019	38,659	..	..	..	408	..
	2020	40,816	..	..	..	334	..
Poland	2017	200,861	..	45,516	..	11,574	..
	2018	330,440	377	43,309	..	10,788	..
	2019	318,155	363	48,295	..	10,245	..
	2020	305,482	829	58,211	..	10,794	..
Portugal	2017	58,938	..	5,888	313	44,530	259
	2018	57,515	..	9,653	406	43,272	259
	2019	67,503	..	7,024	489	43,452	266
	2020	71,972	..	5,741	445	43,435	266

Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
11,765	71,443	8,063	25,477	79,453	523,859
11,989	70,893	9,011	27,659	79,221	494,605
12,951	73,103	9,118	32,085	84,288	515,574
14,524	70,608	10,767	46,216	84,484	524,854
..	*799	..	..	..	*799
..	*760	..	..	..	*760
..	*764	..	..	..	*764
..	*760	..	..	..	*760
..	..	..	..	..	15,305
..	..	..	..	..	15,415
..	..	..	..	..	13,364
..	..	..	..	..	12,874
73	362	233	1,965	3,902	91,927
119	558	210	3,252	3,643	110,231
108	652	23	3,044	3,376	109,988
167	911	..	3,149	3,359	103,235
..	*703	..	..	23	*914
..	*759	..	..	24	*1,008
..	*785	..	..	25	*1,016
..	*841	..	..	25	*1,030
183	2,476	359	4,349	1,350	63,398
644	1,692	458	5,675	1,554	63,855
744	1,498	456	6,146	1,632	62,709
1,010	2,693	847	5,987	1,617	65,437
578	1,557	..	..	867	5,930
624	1,552	..	..	915	6,902
620	1,567	..	..	753	7,711
977	1,441	..	..	752	10,384
..	..	..	10	77	87
..	..	..	..	70	70
..	..	..	..	68	68
..	..	..	..	56	56
..	..	..	..	..	9,235
..	..	..	..	..	7,964
..	..	..	..	..	8,164
..	..	..	..	..	8,205
..	60,374	..	70,987	13,509	201,961
..	60,110	1,672	67,675	13,696	199,334
..	60,667	1,273	69,979	14,913	207,139
..	64,867	880	71,362	17,404	218,619
..	..	..	0	742	13,037
..	..	..	0	778	11,245
..	..	..	..	793	11,520
..	..	..	50	825	11,642
3,192	15,812	..	4,158	1,535	61,591
3,525	16,600	..	3,733	2,226	62,926
3,568	16,267	..	3,175	3,631	65,708
3,601	15,823	..	3,150	2,697	66,421
22,229	18,077	5,168	33,016	11,739	348,180
27,023	19,412	5,055	32,629	12,068	481,101
28,437	20,415	5,468	35,341	12,498	479,216
27,657	23,113	5,510	35,064	13,498	480,158
2,249	8,738	..	13,162	3,561	137,380
2,482	8,120	..	13,373	3,453	138,275
2,684	8,666	..	14,455	3,355	147,628
2,157	8,341	..	12,292	3,464	147,849

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Republic of Moldova	2017	26,284	1	4,936	..	..	30
	2018	28,063	2	4,559	..	..	12
	2019	23,591	1	3,362	..	..	15
	2020	25,738	3	1,690	..	..	30
Romania	2017	149,227	..	..	..	..	36
	2018	144,164	..	..	..	..	33
	2019	144,700	..	..	..	..	30
	2020	142,414	..	..	..	..	11
Russian Federation	2017	107,613	..	..	..	..	2,163
	2018	119,089	..	..	..	..	2,328
	2019	126,553	..	..	..	..	1,963
	2020	119,561	..	..	..	..	1,665
Serbia	2017	45,396	..	81	..	..	585
	2018	46,936	..	105	..	..	418
	2019	49,151	..	99	..	..	347
	2020	67,335	..	93	..	..	442
Slovakia	2017	18,957	..	2,137	..	14,125	..
	2018	22,518	..	2,620	..	12,861	..
	2019	38,456	..	7,309	..	12,797	..
	2020	35,384	..	*6,631	..	13,297	..
Slovenia	2017	25,949	..	370	..	..	..
	2018	23,193	..	339	..	..	..
	2019	22,610	..	322	..	..	..
	2020	21,870	..	278	..	..	..
Spain	2017	120,403	1,840	40,248	19,381	26,615	433
	2018	117,794	1,887	39,947	19,590	27,690	433
	2019	118,707	2,033	39,590	19,160	31,331	433
	2020	127,642	1,812	34,702	22,736	24,695	433
Sweden	2017	229,283	103	..	..	167,254	..
	2018	219,212	106	..	..	166,828	..
	2019	220,661	64	..	..	175,245	..
	2020	227,533	84	..	..	186,893	..
Switzerland	2017	42,750	..	..	..	..	..
	2018	39,990	..	..	..	..	..
	2019	42,330	..	..	..	..	..
	2020	42,930	..	..	..	..	..
Ukraine	2017	121,861	..	..	..	..	6,402
	2018	141,044	..	..	..	..	6,402
	2019	133,765	..	..	..	..	5,691
	2020	147,860	..	..	..	..	6,136
United Kingdom	2017	22,360	8,334	95,226	..	..	..
	2018	25,077	7,862	110,145	..	..	..
	2019	24,820	8,159	110,877	..	..	..
	2020	26,055	7,830	117,483	..	..	..
<b>Latin America &amp; Carib.</b>	<b>2017</b>	<b>2,374,224</b>	<b>..</b>	<b>922,534</b>	<b>1,727,014</b>	<b>160,303</b>	<b>253,750</b>
	<b>2018</b>	<b>2,437,322</b>	<b>12</b>	<b>935,721</b>	<b>1,708,705</b>	<b>165,667</b>	<b>261,172</b>
	<b>2019</b>	<b>2,451,859</b>	<b>13</b>	<b>722,587</b>	<b>1,767,526</b>	<b>151,574</b>	<b>266,184</b>
	<b>2020</b>	<b>2,440,767</b>	<b>5</b>	<b>766,293</b>	<b>1,903,414</b>	<b>155,274</b>	<b>266,839</b>
Anguilla	2017	*2	..	..	..	..	..
	2018	*2	..	..	..	..	..
	2019	*2	..	..	..	..	..
	2020	*2	..	..	..	..	..
Argentina	2017	34,873	..	..	49,522	..	11,977
	2018	39,250	..	..	54,974	..	11,918
	2019	50,800	..	..	53,476	..	12,125
	2020	50,150	..	..	49,465	..	12,002



Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
316	..	..	..	282	31,819
2,091	..	..	..	313	35,028
1,922	..	..	..	292	29,169
214	..	..	..	327	27,971
3,845	207	1,192	6,129	755	161,357
7,203	188	944	6,927	865	160,291
6,140	188	1,447	7,726	794	160,995
11,665	188	1,190	10,759	772	166,988
215,266	..	..	..	..	322,879
244,991	..	..	..	..	364,080
305,868	..	..	..	..	432,421
311,158	..	..	..	..	430,719
44	..	..	..	723	46,244
49	..	..	..	958	48,049
51	..	..	..	1,190	50,491
57	..	..	..	1,624	69,110
7,283	2,214	3,136	4,011	6,384	58,247
6,784	1,161	3,296	4,048	6,228	59,516
7,311	2,386	3,564	4,011	5,984	81,819
8,289	2,523	3,538	4,306	5,479	79,446
2,014	..	..	..	1,076	29,410
2,409	..	..	..	1,018	26,960
2,597	..	..	..	930	26,459
2,395	..	..	..	1,129	25,671
8,903	21,743	8,871	64,842	12,237	325,083
12,275	21,280	11,075	63,252	12,374	327,164
11,308	21,412	11,504	73,065	12,184	340,294
12,713	19,769	11,420	67,909	13,539	336,937
748	62,730	6,600	2,429	7,445	476,592
755	58,296	6,915	9,494	7,359	468,965
744	62,211	6,694	11,850	7,600	485,069
4,132	67,825	7,543	11,482	7,780	513,272
11,220	48,140	..	278	5,059	107,447
11,070	48,750	..	221	5,238	105,270
11,670	49,050	..	501	5,564	109,115
11,510	48,960	..	491	5,742	109,632
2,507	..	563	..	1,601	126,532
..	..	107	..	1,995	143,147
..	..	1,874	..	2,028	137,667
34,090	..	..	..	3,862	185,812
7,732	79,924	13,722	17,186	113,932	358,415
12,567	91,269	10,988	17,517	114,290	389,715
13,274	100,405	5,574	18,768	115,032	396,909
12,919	103,473	6,941	18,253	115,466	408,420
<b>1,165</b>	<b>..</b>	<b>613,109</b>	<b>260,268</b>	<b>16,103</b>	<b>6,074,717</b>
<b>1,376</b>	<b>489</b>	<b>732,955</b>	<b>283,484</b>	<b>18,710</b>	<b>6,284,440</b>
<b>1,427</b>	<b>1,047</b>	<b>778,336</b>	<b>293,073</b>	<b>21,297</b>	<b>6,188,739</b>
<b>1,591</b>	<b>1,133</b>	<b>720,339</b>	<b>271,898</b>	<b>22,420</b>	<b>6,283,134</b>
..	..	..	..	..	*2
..	..	..	..	..	*2
..	..	..	..	..	*2
..	..	..	..	..	*2
..	..	23,450	105,653	..	213,498
..	..	23,638	89,350	..	207,212
..	..	22,780	79,010	..	206,065
..	..	30,238	43,126	..	172,980

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Aruba	2017	20	..	..	..	..	7
	2018	21	..	..	..	..	7
	2019	22	..	..	..	..	8
	2020	23	..	..	..	..	8
Bahamas	2017	309	..	..	..	..	34
	2018	309	..	..	..	..	34
	2019	309	..	..	..	..	34
	2020	310	..	..	..	..	34
Barbados	2017	44	..	..	478	..	9
	2018	43	..	..	539	..	9
	2019	43	..	..	430	..	9
	2020	43	..	..	*477	..	9
Belize	2017	995	..	..	4,270	..	91
	2018	1,021	..	..	4,295	..	91
	2019	1,048	..	..	4,416	..	91
	2020	679	..	..	3,862	..	91
Bolivia (Plur. State of)	2017	7,895	..	..	34,444	..	1,419
	2018	8,040	..	..	34,924	..	1,452
	2019	6,792	..	..	36,806	..	1,485
	2020	7,649	..	..	36,618	..	1,527
Brazil	2017	990,234	..	774,475	1,278,872	..	169,271
	2018	1,039,645	..	867,675	1,218,269	..	177,295
	2019	1,045,802	..	658,218	1,252,702	..	182,812
	2020	1,046,688	..	704,754	1,402,503	..	183,372
British Virgin Islands	2017	15	..	..	..	..	2
	2018	15	..	..	..	..	2
	2019	15	..	..	..	..	2
	2020	15	..	..	..	..	2
Chile	2017	241,105	..	..	..	93,577	3,621
	2018	240,328	..	..	..	100,675	4,165
	2019	237,692	..	..	..	98,853	3,704
	2020	*225,911	..	..	..	101,233	4,490
Colombia	2017	88,193	..	467	50,323	12,900	601
	2018	106,426	..	..	56,019	13,190	383
	2019	109,935	..	..	84,032	..	350
	2020	105,517	..	..	92,837	..	13
Costa Rica	2017	3,402	..	3,037	11,189	..	27
	2018	3,010	..	2,979	10,442	..	28
	2019	4,651	..	3,017	10,258	..	28
	2020	5,079	..	3,172	10,428	..	27
Cuba	2017	9,638	..	*88	40,413	..	2,272
	2018	8,805	..	*88	48,463	..	1,894
	2019	7,525	..	*88	40,119	..	2,245
	2020	7,417	..	*88	31,238	..	2,230
Dominica	2017	68	..	..	..	..	7
	2018	68	..	..	..	..	7
	2019	67	..	..	..	..	7
	2020	67	..	..	..	..	7
Dominican Republic	2017	19,873	..	490	11,410	..	3,331
	2018	20,289	..	516	11,514	..	3,480
	2019	20,722	..	*525	*10,800	..	3,629
	2020	21,160	..	*525	12,646	..	3,786
Ecuador	2017	8,059	..	..	14,294	..	..
	2018	7,864	..	..	12,334	..	..
	2019	7,622	..	..	13,707	..	..
	2020	7,351	..	..	13,134	..	..

Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	20
..	..	..	..	..	21
..	..	..	..	..	22
..	..	..	..	..	23
..	..	..	..	..	309
..	..	..	..	..	309
..	..	..	..	..	309
..	..	..	..	..	310
..	..	..	..	..	522
..	..	..	..	..	582
..	..	..	..	..	473
..	..	..	..	..	*520
..	..	..	..	..	5,265
..	..	..	..	..	5,316
..	..	..	..	..	5,464
..	..	..	..	..	4,541
..	..	..	..	..	42,340
..	..	25	..	..	42,989
..	..	942	..	..	44,541
..	..	1,497	..	..	45,765
..	..	574,136	137,433	7,993	3,763,144
..	..	691,896	171,348	8,532	3,997,365
..	..	733,409	189,733	11,245	3,891,110
..	..	670,858	208,294	13,011	4,046,108
..	..	..	..	..	15
..	..	..	..	..	15
..	..	..	..	..	15
..	..	..	..	..	15
..	..	..	..	3,849	338,531
..	..	..	..	4,484	345,487
..	..	..	..	4,235	340,780
..	..	..	..	3,522	*330,666
..	..	4,634	15,415	..	171,933
..	..	6,337	18,384	..	200,355
..	489	8,122	19,497	5	222,080
..	714	7,056	18,998	1	225,124
..	..	586	..	13	18,226
..	..	608	..	16	17,055
..	..	670	..	18	18,616
..	..	659	..	17	19,356
..	..	*348	..	..	50,487
..	..	*348	..	..	57,704
..	..	*348	..	..	48,080
..	..	*348	..	..	39,091
..	..	..	..	..	68
..	..	..	..	..	68
..	..	..	..	..	67
..	..	..	..	..	67
..	..	..	..	*157	31,930
..	..	..	..	*157	32,476
..	..	..	..	*157	32,204
..	..	..	..	*157	34,489
..	..	1,260	..	567	24,180
..	..	1,107	..	925	22,231
..	..	1,458	..	867	23,653
..	..	740	..	929	22,154

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
El Salvador	2017	8,666	..	..	14,073	..	837
	2018	4,755	12	..	14,379	..	1
	2019	4,140	13	..	14,927	..	3
	2020	3,633	5	..	15,321	..	10
Falkland Is. (Malvinas)	2017	8	..	..	..	..	3
	2018	8	..	..	..	..	4
	2019	9	..	..	..	..	4
	2020	9	..	..	..	..	4
Grenada	2017	315	..	..	21	..	67
	2018	327	..	..	22	..	69
	2019	339	..	..	22	..	72
	2020	292	..	..	19	..	62
Guatemala	2017	237,545	..	..	53,779	..	1,800
	2018	242,245	..	..	51,340	..	1,896
	2019	246,902	..	..	53,779	..	1,994
	2020	254,345	..	..	54,054	..	*2,065
Guyana	2017	1,057	..	..	5,552	..	43
	2018	1,129	..	..	3,913	..	40
	2019	1,153	..	..	2,408	..	41
	2020	998	..	..	2,750	..	40
Haiti	2017	141,050	..	..	983	..	38,015
	2018	143,143	..	..	998	..	38,580
	2019	145,267	..	..	1,013	..	39,152
	2020	140,474	..	..	979	..	37,860
Honduras	2017	49,389	..	12,218	23,000	..	1
	2018	55,298	..	9,520	21,848	..	6
	2019	53,793	..	10,858	15,940	..	5
	2020	54,700	..	7,833	11,102	..	3
Jamaica	2017	5,006	..	..	1,965	..	1,133
	2018	*5,006	..	..	1,544	..	1,121
	2019	4,788	..	..	1,888	..	738
	2020	7,516	..	..	1,515	..	700
Mexico	2017	250,601	..	74,807	76,659	6	..
	2018	249,084	..	0	107,146	0	..
	2019	247,919	..	0	113,249	0	..
	2020	249,125	..	..	113,800	4	..
Nicaragua	2017	45,435	..	1,633	16,165	..	305
	2018	46,147	..	1,712	15,717	..	309
	2019	46,373	..	1,641	16,287	..	297
	2020	46,737	..	*1,616	14,177	..	309
Panama	2017	7,059	..	..	5,997	..	34
	2018	7,015	..	..	5,846	..	33
	2019	6,973	..	..	4,660	..	32
	2020	6,930	..	..	4,599	..	31
Paraguay	2017	117,769	..	23,335	..	..	13,103
	2018	101,576	..	23,931	..	..	12,801
	2019	98,604	..	23,692	..	..	11,871
	2020	95,818	..	23,355	..	..	12,295
Peru	2017	67,996	..	5,690	24,128	..	5,365
	2018	68,556	..	4,637	23,945	..	5,191
	2019	69,509	..	4,374	29,068	..	5,182
	2020	72,194	..	4,654	25,258	..	5,624
Puerto Rico	2017	..	..	..	..	..	..
	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..

Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	510	23,249
..	489	..	..	495	20,129
..	557	..	..	570	20,207
..	419	..	..	591	19,969
..	..	..	..	..	8
..	..	..	..	..	8
..	..	..	..	..	9
..	..	..	..	..	9
..	..	..	..	..	336
..	..	..	..	..	348
..	..	..	..	..	361
..	..	..	..	..	312
..	..	..	..	308	291,632
..	..	..	..	430	294,015
..	..	..	..	308	300,989
..	..	..	..	281	308,680
..	..	..	..	..	6,609
..	..	..	..	..	5,043
..	..	..	..	..	3,561
..	..	..	..	..	3,748
..	..	234	..	..	142,267
..	..	238	..	..	144,379
..	..	241	..	..	146,521
..	..	241	..	..	141,694
..	..	..	..	..	84,607
..	..	..	..	..	86,666
..	..	..	..	..	80,592
..	..	..	..	..	73,635
..	..	..	..	..	6,971
..	..	..	..	..	*6,550
..	..	..	..	..	6,676
..	..	..	..	..	9,031
897	..	..	..	2,008	404,978
1,010	..	..	..	2,844	360,084
1,067	..	..	..	2,799	365,034
1,200	..	..	..	3,000	367,129
..	..	..	..	..	63,233
..	..	..	..	..	63,577
..	..	..	..	75	64,376
..	..	..	..	71	62,601
..	..	..	..	..	13,056
..	..	..	..	..	12,861
..	..	..	..	..	11,633
..	..	..	..	..	11,529
..	..	6,479	..	..	147,583
..	..	7,071	..	..	132,578
..	..	8,366	..	..	130,662
..	..	7,093	..	..	126,266
..	..	515	66	558	98,953
..	..	0	2,867	691	100,697
..	..	271	3,231	823	107,276
..	..	..	..	719	102,826
..	..	..	..	*139	*139
..	..	..	..	*136	*136
..	..	..	..	*195	*195
..	..	..	..	*121	*121

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
St. Kitts-Nevis	2017	0	..	..	..	..	0
	2018	0	..	..	..	..	0
	2019	*1	..	..	..	..	0
	2020	0	..	..	..	..	0
St. Lucia	2017	*643	..	..	..	..	115
	2018	*617	..	..	..	..	106
	2019	*595	..	..	..	..	*91
	2020	*575	..	..	..	..	*86
St. Vincent-Grenadines	2017	65	..	..	..	..	11
	2018	65	..	..	..	..	11
	2019	65	..	..	..	..	11
	2020	64	..	..	..	..	11
Suriname	2017	915	..	736	..	..	..
	2018	916	..	737	..	..	..
	2019	916	..	751	..	..	..
	2020	784	..	642	..	..	..
Trinidad and Tobago	2017	281	..	..	..	..	54
	2018	279	..	..	..	..	54
	2019	276	..	..	..	..	54
	2020	273	..	..	..	..	54
Turks and Caicos Islands	2017	11	..	..	..	..	4
	2018	11	..	..	..	..	4
	2019	11	..	..	..	..	4
	2020	11	..	..	..	..	4
United States Virgin Is.	2017	*29	..	..	..	..	*5
	2018	*30	..	..	..	..	*5
	2019	*30	..	..	..	..	*5
	2020	*31	..	..	..	..	*5
Uruguay	2017	25,060	..	11,807	882	53,820	..
	2018	25,794	..	12,873	858	51,802	..
	2019	24,286	..	12,238	829	52,720	..
	2020	22,885	..	14,626	969	54,037	..
Venezuela (Bolivar. Rep.)	2017	10,597	..	13,752	8,595	..	187
	2018	10,185	..	11,053	9,375	..	180
	2019	6,862	..	7,185	6,711	..	102
	2020	5,312	..	5,029	5,660	..	80
<b>Northern America</b>	<b>2017</b>	<b>1,736,960</b>	..	<b>30,772</b>	..	<b>777,012</b>	<b>25,134</b>
	<b>2018</b>	<b>1,940,435</b>	..	<b>34,967</b>	..	<b>875,157</b>	<b>25,134</b>
	<b>2019</b>	<b>1,972,401</b>	..	<b>35,673</b>	..	<b>887,310</b>	<b>25,134</b>
	<b>2020</b>	<b>1,841,322</b>	..	<b>33,047</b>	..	<b>816,647</b>	<b>25,134</b>
Bermuda	2017	..	..	..	..	..	..
	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
Canada	2017	303,938	..	..	..	170,156	..
	2018	322,155	..	..	..	175,510	..
	2019	315,582	..	..	..	179,383	..
	2020	303,071	..	..	..	164,250	..
Greenland	2017	..	..	..	..	..	..
	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
St. Pierre-Miquelon	2017	5	..	..	..	..	..
	2018	5	..	..	..	..	..
	2019	5	..	..	..	..	..
	2020	5	..	..	..	..	..

Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	0
..	..	..	..	..	0
..	..	..	..	..	*1
..	..	..	..	..	0
..	..	..	..	..	*643
..	..	..	..	..	*617
..	..	..	..	..	*595
..	..	..	..	..	*575
..	..	..	..	..	65
..	..	..	..	..	65
..	..	..	..	..	65
..	..	..	..	..	64
..	..	..	..	..	1,650
..	..	..	..	..	1,652
..	..	..	..	..	1,667
..	..	..	..	..	1,426
..	..	..	..	..	281
..	..	..	..	..	279
..	..	..	..	..	276
..	..	..	..	..	273
..	..	..	..	..	11
..	..	..	..	..	11
..	..	..	..	..	11
..	..	..	..	..	11
..	..	..	..	..	*29
..	..	..	..	..	*30
..	..	..	..	..	*30
..	..	..	..	..	*31
268	..	1,466	1,700	..	95,003
366	..	1,688	1,535	..	94,917
360	..	1,729	1,601	..	93,764
391	..	1,608	1,479	..	95,995
..	..	..	..	..	32,944
..	..	..	..	..	30,613
..	..	..	..	..	20,757
..	..	..	..	..	16,001
<b>47,497</b>	<b>300,506</b>	<b>1,306,782</b>	<b>208,462</b>	<b>172,883</b>	<b>4,580,874</b>
<b>47,097</b>	<b>306,513</b>	<b>1,327,068</b>	<b>237,710</b>	<b>169,991</b>	<b>4,938,938</b>
<b>46,274</b>	<b>294,478</b>	<b>1,306,629</b>	<b>222,994</b>	<b>162,865</b>	<b>4,928,624</b>
<b>42,544</b>	<b>292,966</b>	<b>1,147,103</b>	<b>235,482</b>	<b>159,430</b>	<b>4,568,541</b>
..	*590	..	..	..	*590
..	*600	..	..	..	*600
..	*600	..	..	..	*600
..	*600	..	..	..	*600
6,137	7,658	36,582	12,917	16,977	554,365
6,314	8,686	37,011	10,010	16,977	576,662
6,491	9,955	41,084	11,666	16,977	581,138
6,668	9,942	34,323	13,102	16,977	548,333
..	94	..	..	..	94
..	98	..	..	..	98
..	110	..	..	..	110
..	103	..	..	..	103
..	..	..	..	..	5
..	..	..	..	..	5
..	..	..	..	..	5
..	..	..	..	..	5

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
United States	2017	*1,433,017	..	*30,772	..	*606,856	25,134
	2018	*1,618,275	..	*34,967	..	*699,647	25,134
	2019	*1,656,814	..	*35,673	..	*707,927	25,134
	2020	*1,538,246	..	*33,047	..	*652,397	25,134
<b>Oceania</b>	<b>2017</b>	<b>162,513</b>	<b>..</b>	<b>22,374</b>	<b>115,744</b>	<b>29,256</b>	<b>508</b>
	<b>2018</b>	<b>158,770</b>	<b>..</b>	<b>24,840</b>	<b>105,189</b>	<b>28,615</b>	<b>511</b>
	<b>2019</b>	<b>156,970</b>	<b>..</b>	<b>21,644</b>	<b>96,517</b>	<b>28,832</b>	<b>514</b>
	<b>2020</b>	<b>152,195</b>	<b>..</b>	<b>23,879</b>	<b>88,629</b>	<b>28,087</b>	<b>522</b>
Australia	2017	76,467	..	3,018	110,298	*15,727	..
	2018	73,548	..	5,257	100,228	15,220	..
	2019	72,141	..	2,665	91,324	15,438	..
	2020	69,643	..	4,634	83,844	14,777	..
Cook Islands	2017	..	..	*57	..	..	..
	2018	..	..	*57	..	..	..
	2019	..	..	*57	..	..	..
	2020	..	..	*57	..	..	..
Fiji	2017	338	..	..	4,533	..	73
	2018	338	..	..	4,023	..	73
	2019	338	..	..	4,255	..	74
	2020	338	..	..	3,830	..	74
French Polynesia	2017	42	..	..	..	..	16
	2018	42	..	..	..	..	16
	2019	43	..	..	..	..	16
	2020	43	..	..	..	..	16
Kiribati	2017	*63	..	*510	..	..	12
	2018	*65	..	*512	..	..	12
	2019	*65	..	*514	..	..	12
	2020	*65	..	*512	..	..	13
Marshall Islands	2017	..	..	*194	..	..	..
	2018	..	..	*195	..	..	..
	2019	..	..	*197	..	..	..
	2020	..	..	*192	..	..	..
Micronesia (Fed. States of)	2017	24	..	..	..	..	11
	2018	24	..	..	..	..	11
	2019	25	..	..	..	..	11
	2020	25	..	..	..	..	11
New Caledonia	2017	115	..	..	..	..	18
	2018	117	..	..	..	..	19
	2019	118	..	..	..	..	19
	2020	119	..	..	..	..	19
New Zealand	2017	26,353	..	4,368	..	13,529	..
	2018	25,521	..	4,536	..	13,395	..
	2019	24,957	..	3,927	..	13,394	..
	2020	21,754	..	3,944	..	13,310	..
Niue	2017	1	..	..	..	..	0
	2018	1	..	..	..	..	0
	2019	1	..	..	..	..	0
	2020	1	..	..	..	..	0
Papua New Guinea	2017	55,936	..	*11,773	913	..	293
	2018	55,936	..	*11,832	938	..	293
	2019	56,103	..	*11,832	938	..	293
	2020	57,029	..	*12,063	955	..	299
Samoa	2017	*1,089	..	*377	..	..	16
	2018	*1,089	..	*377	..	..	16
	2019	*1,087	..	*377	..	..	17
	2020	*1,087	..	*378	..	..	17



Table 12

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
41,360	292,165	1,270,200	195,545	155,906	*4,025,820
40,783	297,129	1,290,057	227,701	153,014	*4,361,572
39,783	283,813	1,265,545	211,328	145,888	*4,346,770
35,876	282,321	1,112,780	222,381	142,453	*4,019,499
<b>3,771</b>	..	<b>4,132</b>	<b>147</b>	<b>18,264</b>	<b>356,200</b>
<b>3,785</b>	..	<b>5,103</b>	<b>37</b>	<b>19,347</b>	<b>345,686</b>
<b>3,609</b>	..	<b>5,347</b>	<b>37</b>	<b>19,681</b>	<b>332,636</b>
<b>3,685</b>	..	<b>4,356</b>	<b>74</b>	<b>20,093</b>	<b>320,998</b>
3,771	..	4,020	147	14,970	228,418
3,785	..	4,985	37	16,103	219,163
3,609	..	5,333	37	16,325	206,872
3,685	..	4,342	74	16,662	197,660
..	..	..	..	..	*57
..	..	..	..	..	*57
..	..	..	..	..	*57
..	..	..	..	..	*57
..	..	..	..	..	4,871
..	..	..	..	..	4,361
..	..	..	..	..	4,593
..	..	..	..	..	4,168
..	..	..	..	..	42
..	..	..	..	..	42
..	..	..	..	..	43
..	..	..	..	..	43
..	..	..	..	..	*573
..	..	..	..	..	*577
..	..	..	..	..	*579
..	..	..	..	..	*577
..	..	..	..	..	*194
..	..	..	..	..	*195
..	..	..	..	..	*197
..	..	..	..	..	*192
..	..	..	..	..	24
..	..	..	..	..	24
..	..	..	..	..	25
..	..	..	..	..	25
..	..	*5	..	..	120
..	..	*5	..	..	123
..	..	*5	..	..	124
..	..	*5	..	..	125
..	..	107	..	3,294	47,651
..	..	107	..	3,244	46,804
..	..	..	..	3,356	45,634
..	..	..	..	3,431	42,438
..	..	..	..	..	1
..	..	..	..	..	1
..	..	..	..	..	1
..	..	..	..	..	1
..	..	..	..	..	68,622
..	..	..	..	..	68,706
..	..	..	..	..	68,873
..	..	..	..	..	70,047
..	..	..	..	0	*1,466
..	..	..	..	0	*1,466
..	..	..	..	0	*1,464
..	..	..	..	0	*1,465

Table 12

## Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Solomon Islands	2017	1,227	..	*2,078	..	..	43
	2018	1,231	..	*2,074	..	..	44
	2019	1,235	..	*2,075	..	..	45
	2020	1,235	..	*2,100	..	..	46
Tonga	2017	19	..	..	..	..	7
	2018	19	..	..	..	..	7
	2019	19	..	..	..	..	7
	2020	19	..	..	..	..	7
Vanuatu	2017	831	..	..	..	..	19
	2018	831	..	..	..	..	19
	2019	831	..	..	..	..	20
	2020	831	..	..	..	..	20
Wallis and Futuna Is.	2017	*7	..	..	..	..	..
	2018	*7	..	..	..	..	..
	2019	*7	..	..	..	..	..
	2020	*7	..	..	..	..	..

## Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	*3,305
..	..	..	..	..	*3,305
..	..	..	..	..	*3,310
..	..	..	..	..	*3,335
..	..	..	..	..	19
..	..	..	..	..	19
..	..	..	..	..	19
..	..	..	..	..	19
..	..	0	..	..	831
..	..	5	..	..	837
..	..	8	..	..	840
..	..	*8	..	..	840
..	..	..	..	..	*7
..	..	..	..	..	*7
..	..	..	..	..	*7
..	..	..	..	..	*7