

Production of biofuels and wastes

Terajoules

Table Notes

The conversion of fuelwood (solid volume, 9.135 TJ/m³) 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.

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
World	2020	28,424,689	328,364	7,595,063	4,055,900	1,756,138	1,904,660
	2021	29,283,855	391,146	8,147,519	3,893,417	1,797,357	1,937,799
	2022	29,370,503	396,645	8,178,969	4,109,414	1,799,303	1,977,838
	2023	29,429,409	409,217	8,539,904	4,373,279	1,779,400	1,956,473
Africa	2020	9,724,268	182,252	1,471,867	190,485	42,400	1,297,079
	2021	9,908,630	218,716	1,473,904	174,632	42,400	1,346,751
	2022	10,156,909	229,633	1,501,774	197,508	42,400	1,367,233
	2023	10,360,531	243,037	1,527,354	159,599	42,400	1,365,512
Algeria	2020	475	..	..	..	..	..
	2021	119	..	..	..	..	..
	2022	831	..	..	..	..	..
	2023	365	..	..	..	..	..
Angola	2020	202,156	..	114,610	*1,429	..	34,663
	2021	204,813	..	116,050	*1,429	..	35,840
	2022	207,742	..	117,470	*1,429	..	36,261
	2023	210,144	..	118,841	*1,429	..	37,150
Benin	2020	120,634	..	3,595	..	..	16,134
	2021	118,611	..	4,691	..	..	16,603
	2022	122,682	..	4,892	..	..	17,576
	2023	125,986	..	5,200	..	..	18,290
Botswana	2020	32,274	..	..	..	..	2,216
	2021	32,697	..	..	..	..	2,216
	2022	33,120	..	..	..	..	2,216
	2023	*33,828	..	..	..	..	2,216
Burkina Faso	2020	189,882	..	1,700	1,090	..	36,964
	2021	152,107	..	1,750	1,090	..	24,102
	2022	155,156	..	1,800	1,093	..	25,075
	2023	*156,674	..	*1,825	1,097	..	*26,049
Burundi	2020	54,801	..	..	514	..	7,788
	2021	54,801	..	..	400	..	11,004
	2022	54,801	..	..	490	..	11,181
	2023	54,801	..	..	346	..	11,381
Cabo Verde	2020	*1,370	..	..	..	..	*19
	2021	*1,370	..	..	..	..	*19
	2022	*1,352	..	..	..	..	*19
	2023	*1,370	..	..	..	..	*21
Cameroon	2020	293,453	..	5,755	1,513	..	7,811
	2021	301,296	..	5,908	1,559	..	8,020
	2022	309,228	..	6,064	1,617	..	8,231
	2023	317,336	..	6,223	1,670	..	8,447
Central African Rep.	2020	39,241	..	..	..	..	446
	2021	43,165	..	..	..	..	490
	2022	47,477	..	..	..	..	539
	2023	*49,376	..	..	..	..	*561
Chad	2020	74,948	..	..	*927	..	15,200
	2021	75,991	..	..	*942	..	15,572
	2022	77,054	..	..	*942	..	15,954
	2023	78,141	..	..	*942	..	16,343
Comoros	2020	*4,147	..	*160	..	..	*266
	2021	*4,102	..	*160	..	..	*266
	2022	*4,047	..	*160	..	..	*266
	2023	*3,992	..	*160	..	..	*266
Congo	2020	53,983	..	16,316	..	..	7,296
	2021	54,771	..	16,554	..	..	7,403
	2022	55,571	..	16,796	..	..	7,511
	2023	56,384	..	17,041	..	..	7,621

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
1,158,088	1,415,009	2,176,056	1,760,158	1,099,312	49,768,776
1,181,068	1,434,987	2,286,202	1,962,935	1,176,336	51,554,822
1,189,736	1,467,383	2,318,105	2,065,642	1,201,902	52,097,601
1,209,144	1,446,704	2,461,502	2,310,282	1,213,377	53,172,216
2,828	1,566	2,529	..	1,683	11,619,878
3,090	3,488	2,618	..	1,617	11,829,095
2,875	8,608	2,595	..	1,721	12,144,022
2,827	8,866	2,877	..	1,857	12,349,348
..	..	..	..	..	475
..	..	..	..	..	119
..	..	..	..	..	831
..	..	..	..	..	365
..	..	..	..	..	318,195
..	..	..	..	..	322,292
..	..	..	..	..	326,641
..	..	..	..	..	330,414
..	..	..	..	..	124,229
..	..	..	..	..	123,302
..	..	..	..	..	127,574
..	..	..	..	..	131,186
..	..	..	..	..	32,274
..	..	..	..	..	32,697
..	..	..	..	..	33,120
..	..	..	..	..	*33,828
..	1,566	..	..	*36	194,274
..	3,488	..	..	*36	158,471
..	8,608	..	..	*36	166,693
..	*8,866	..	..	*36	*168,499
..	..	..	..	..	55,315
..	..	..	..	..	55,201
..	..	..	..	..	55,291
..	..	..	..	..	55,147
..	..	..	..	..	*1,370
..	..	..	..	..	*1,370
..	..	..	..	..	*1,352
..	..	..	..	..	*1,370
..	..	..	..	7	300,728
..	..	..	..	7	308,771
..	..	..	..	7	316,916
..	..	..	..	7	325,236
..	..	..	..	..	39,241
..	..	..	..	..	43,165
..	..	..	..	..	47,477
..	..	..	..	..	*49,376
..	..	..	..	..	75,874
..	..	..	..	..	76,933
..	..	..	..	..	77,996
..	..	..	..	..	79,083
..	..	..	..	..	*4,307
..	..	..	..	..	*4,262
..	..	..	..	..	*4,207
..	..	..	..	..	*4,152
..	..	..	..	..	70,299
..	..	..	..	..	71,325
..	..	..	..	..	72,367
..	..	..	..	..	73,425

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Côte d'Ivoire	2020	264,606	..	4,647	..	..	42,459
	2021	321,224	..	6,838	..	..	67,319
	2022	359,500	..	9,337	..	..	43,106
	2023	362,185	..	9,839	..	..	43,224
Dem. Rep. of the Congo	2020	1,270,090	..	..	4,131	..	256,921
	2021	1,311,685	..	..	*4,170	..	265,335
	2022	1,357,594	..	..	*4,232	..	274,622
	2023	*1,398,322	..	..	*4,247	..	*282,861
Djibouti	2020	3,743	..	..	..	..	1,636
	2021	3,790	..	..	..	..	1,658
	2022	3,838	..	..	..	..	1,680
	2023	3,886	..	..	..	..	1,702
Egypt	2020	143,592	..	..	32,247	..	42,427
	2021	144,517	..	..	26,726	..	42,736
	2022	142,112	..	..	34,541	..	43,047
	2023	143,769	..	..	*8,440	..	31,211
Equatorial Guinea	2020	4,083	..	..	..	..	338
	2021	4,083	..	..	..	..	344
	2022	4,083	..	..	..	..	351
	2023	4,083	..	..	..	..	359
Eritrea	2020	26,500	2,808	1,529	..	..	4,918
	2021	26,911	2,852	1,553	..	..	5,008
	2022	27,516	2,916	1,588	..	..	5,100
	2023	28,001	2,968	1,616	..	..	5,193
Eswatini	2020	12,062	..	..	15,956	..	277
	2021	12,062	..	..	14,150	..	277
	2022	*12,062	..	..	13,783	..	*295
	2023	13,270	..	..	*13,668	..	*295
Ethiopia	2020	1,334,603	166,332	163,038	2,909	..	167,899
	2021	*1,360,592	166,966	163,660	2,529	..	176,588
	2022	1,396,178	173,937	170,493	*2,317	..	181,173
	2023	1,447,384	178,374	174,842	*2,046	..	185,988
Gabon	2020	*29,225	..	*10,039	*6,100	..	9,853
	2021	*28,922	..	*10,327	*6,185	..	10,473
	2022	*28,916	..	10,539	*6,224	..	11,186
	2023	*29,205	..	*10,645	*6,286	..	*11,299
Gambia	2020	7,153	..	..	..	..	2,121
	2021	7,233	..	..	..	..	2,161
	2022	7,314	..	..	..	..	2,200
	2023	7,397	..	..	..	..	2,241
Ghana	2020	178,994	..	..	..	..	54,453
	2021	174,939	..	..	..	..	45,312
	2022	183,388	..	..	..	..	53,582
	2023	181,126	..	..	..	..	46,375
Guinea	2020	113,461	..	..	*649	..	12,619
	2021	113,861	..	..	*653	..	12,863
	2022	114,275	..	..	*663	..	13,112
	2023	114,703	..	..	*664	..	13,366
Guinea-Bissau	2020	13,633	..	1,512	..	..	1,001
	2021	14,994	..	1,651	..	..	1,101
	2022	16,496	..	1,817	..	..	1,211
	2023	*15,309	..	*1,863	..	..	2,541
Kenya	2020	704,110	..	31,493	2,624	..	77,483
	2021	714,974	..	31,875	2,999	..	79,003
	2022	726,646	..	32,263	3,172	..	80,525
	2023	740,019	..	32,669	2,390	..	82,126

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	269,253
..	328,062
..	368,837
..	372,024
..	1,274,221
..	1,315,855
..	1,361,826
..	*1,402,569
..	3,743
..	3,790
..	3,838
..	3,886
..	175,839
..	171,243
..	176,653
..	152,209
..	4,083
..	4,083
..	4,083
..	4,083
..	30,837
..	31,315
..	32,019
..	32,584
..	28,018
..	26,212
..	..	2	..	..	25,847
..	*26,938
..	..	303	..	..	1,667,186
..	..	336	..	..	*1,694,083
..	..	357	..	..	1,743,282
..	..	428	..	..	1,803,074
..	*45,365
..	*45,435
..	*45,679
..	*46,135
..	7,153
..	7,233
..	7,314
..	7,397
..	5	178,999
..	0	174,939
..	2	183,390
..	7	181,133
..	114,110
..	114,514
..	114,939
..	115,367
..	15,145
..	16,645
..	18,312
..	*17,172
..	..	26	..	2	738,255
..	..	30	..	6	749,884
..	..	34	..	4	762,119
..	..	20	..	2	775,101

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Lesotho	2020	*9,857	*6,292	*64	..	..	0
	2021	*9,884	*6,149	*49	..	..	0
	2022	9,087	6,010	37	..	..	1
	2023	*7,815	*5,835	*28	..	..	1
Liberia	2020	89,276	..	..	..	..	9,841
	2021	92,181	..	..	..	..	10,176
	2022	95,177	..	..	..	..	10,522
	2023	98,270	..	..	..	..	10,880
Libya	2020	25,497	..	..	..	..	3,439
	2021	25,768	..	..	..	..	3,474
	2022	26,037	..	..	..	..	3,508
	2023	26,306	..	..	..	..	3,543
Madagascar	2020	*325,117	..	..	*2,462	..	*29,636
	2021	*338,122	..	..	*2,511	..	30,031
	2022	*338,122	..	..	*2,511	..	30,769
	2023	*338,672	..	..	*2,533	..	31,536
Malawi	2020	137,220	..	..	5,097	..	7,396
	2021	140,879	..	..	3,961	..	7,959
	2022	137,220	..	..	3,961	..	8,520
	2023	*144,417	..	..	*3,900	..	7,844
Mali	2020	*143,838	..	..	896	..	18,054
	2021	143,675	..	..	896	..	18,703
	2022	148,846	..	..	896	..	19,382
	2023	*151,824	..	..	*896	..	*19,765
Mauritania	2020	20,563	..	..	..	..	6,992
	2021	20,947	..	..	..	..	7,139
	2022	21,343	..	..	..	..	7,301
	2023	21,744	..	..	..	..	7,464
Mauritius	2020	145	..	..	7,087	..	12
	2021	139	..	..	6,716	..	9
	2022	140	..	..	5,690	..	8
	2023	134	..	..	5,978	..	*8
Morocco	2020	59,942	..	..	1,714	..	622
	2021	59,652	..	..	1,326	..	638
	2022	59,552	..	..	1,236	..	653
	2023	59,771	..	..	833	..	685
Mozambique	2020	*337,712	..	17,384	8,988	..	49,125
	2021	*341,411	..	17,663	*7,514	..	49,613
	2022	*345,110	..	16,126	*6,409	..	51,077
	2023	348,810	..	*15,000	5,350	..	35,533
Namibia	2020	22,751	..	1,494	..	..	8,475
	2021	24,670	..	1,542	..	..	9,139
	2022	30,586	..	1,612	..	..	11,317
	2023	30,756	..	1,670	..	..	11,353
Niger	2020	*95,389	*949	*763	..	..	1,800
	2021	*96,492	1,172	879	..	..	1,926
	2022	91,438	1,214	*1,086	..	..	..
	2023	85,191	1,285	1,387	..	..	..
Nigeria	2020	754,801	..	524,813	*548	..	41,584
	2021	775,602	..	557,545	*548	..	43,035
	2022	781,811	..	570,965	*556	..	43,741
	2023	788,169	..	584,709	*556	..	44,459
Rwanda	2020	*84,800	..	..	*243	..	*18,556
	2021	*84,800	..	..	*243	..	*18,556
	2022	*89,888	..	..	*246	..	*19,576
	2023	*89,888	..	..	*246	..	*19,576

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	*16,213
..	*16,082
..	15,134
..	*13,679
..	89,276
..	92,181
..	95,177
..	98,270
..	25,497
..	25,768
..	26,037
..	26,306
..	*327,579
..	*340,634
..	*340,634
..	*341,205
45	..	307	..	..	142,669
46	..	316	..	..	145,203
48	..	152	..	..	141,382
*50	..	143	..	..	*148,510
..	*144,734
..	144,571
..	149,741
..	*152,719
..	20,563
..	20,947
..	21,343
..	21,744
..	*298
..	7,530
..	*228
..	7,083
..	*207
..	6,036
..	*160
..	6,272
2,783	64,438
3,044	64,022
2,827	63,615
2,777	63,381
..	*364,084
..	*366,588
..	*367,646
..	369,160
..	24,245
..	26,212
..	32,198
..	32,427
..	*97,101
..	*98,543
..	93,738
..	87,863
..	1,280,162
..	1,333,695
..	1,353,332
..	1,373,434
..	*85,043
..	*85,043
..	*90,134
..	*90,134

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Sao Tome and Principe	2020	1,051	..	..	..	..	295
	2021	1,056	..	..	..	..	300
	2022	1,061	..	..	..	..	303
	2023	1,068	..	..	..	..	307
Senegal	2020	75,144	..	1,680	6,003	..	6,728
	2021	76,709	..	1,885	3,642	..	6,918
	2022	75,565	..	1,254	3,428	..	6,688
	2023	75,793	..	1,267	3,426	..	7,060
Seychelles	2020	29	..	..	..	..	..
	2021	29	..	..	..	..	..
	2022	29	..	..	..	..	..
	2023	*29	..	..	..	..	..
Sierra Leone	2020	55,038	..	*72	*204	..	14,249
	2021	55,519	..	*72	*204	..	14,561
	2022	56,024	..	*72	*204	..	14,886
	2023	56,551	..	*72	*215	..	15,218
Somalia	2020	150,132	..	..	*461	..	41,706
	2021	154,103	..	..	*524	..	43,230
	2022	158,196	..	..	*546	..	44,810
	2023	162,415	..	..	*521	..	46,448
South Africa	2020	88,080	..	..	53,494	41,630	7,531
	2021	87,717	..	..	50,583	41,630	7,618
	2022	82,076	..	..	53,766	41,630	6,992
	2023	86,087	..	..	54,198	41,630	7,553
South Sudan	2020	*29,881	..	..	..	..	*1,195
	2021	*30,346	..	..	..	..	*1,434
	2022	38,761	..	..	..	..	1,680
	2023	32,073	..	..	..	..	1,687
St. Helena and Depend.	2020	5	..	..	..	..	..
	2021	5	..	..	..	..	..
	2022	5	..	..	..	..	..
	2023	*5	..	..	..	..	..
Sudan	2020	*172,266	..	9,658	16,742	..	21,703
	2021	*168,541	..	*9,725	*16,757	..	21,703
	2022	*172,652	..	*9,800	*16,911	..	*22,125
	2023	*175,392	..	*9,850	*16,989	..	*22,450
Togo	2020	135,797	..	1,495	..	..	22,125
	2021	124,732	..	2,068	..	..	22,627
	2022	127,671	..	2,221	..	..	23,158
	2023	130,490	..	2,221	..	..	23,669
Tunisia	2020	40,193	5,870	..	..	..	7,028
	2021	40,477	5,744	..	..	..	7,139
	2022	40,720	5,705	..	..	..	7,291
	2023	40,645	5,640	..	..	..	7,432
Uganda	2020	631,742	..	*153,611	3,738	..	84,054
	2021	651,340	35,833	113,944	5,274	..	94,571
	2022	672,153	39,851	*113,274	18,532	..	99,317
	2023	692,414	48,935	112,605	8,449	..	104,704
United Rep. of Tanzania	2020	578,493	..	237,438	7,822	770	51,784
	2021	587,518	..	233,815	7,599	770	53,237
	2022	596,873	..	235,614	7,644	770	54,732
	2023	606,565	..	239,112	7,760	770	56,268
Zambia	2020	280,017	..	47,806	*3,475	..	35,324
	2021	*282,336	..	52,770	*3,500	..	*36,875
	2022	*298,619	..	53,683	*3,500	..	38,232
	2023	*298,619	..	54,347	3,500	..	38,232

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	1,051
..	1,056
..	1,061
..	1,068
..	82,826
..	82,236
..	80,248
..	80,486
..	29
..	29
..	29
..	*29
..	55,314
..	55,795
..	56,299
..	56,838
..	150,592
..	154,627
..	158,742
..	162,936
..	183,204
..	179,930
..	177,471
..	181,916
..	*29,881
..	*30,346
..	38,761
..	32,073
..	5
..	5
..	5
..	*5
..	*198,665
..	*195,023
..	*199,363
..	*202,231
..	137,292
..	126,800
..	129,892
..	132,712
..	46,063
..	46,220
..	46,425
..	46,285
..	1,335	790,426
..	1,340	807,731
..	1,465	845,277
..	1,605	864,007
..	824,523
..	829,701
..	840,901
..	854,208
..	331,299
..	*338,606
..	*355,801
..	*356,466

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Zimbabwe	2020	206,274	..	121,196	1,423	..	*4,621
	2021	*210,348	..	120,929	*3	..	*4,428
	2022	213,167	..	122,811	968	..	4,626
	2023	233,559	..	124,322	1,024	..	4,717
Asia	2020	10,495,090	126,780	5,174,999	1,830,306	145,834	301,324
	2021	10,750,776	155,155	5,480,164	1,833,437	159,220	295,718
	2022	10,769,989	149,554	5,650,338	2,077,660	155,117	294,872
	2023	10,697,499	149,677	5,989,534	2,137,933	147,205	289,298
Afghanistan	2020	17,898	..	..	..	..	4,384
	2021	18,225	..	..	..	..	4,507
	2022	18,559	..	..	..	..	4,633
	2023	18,900	..	..	..	..	4,763
Armenia	2020	5,339	2,863	..	..	..	..
	2021	4,581	2,770	..	..	..	..
	2022	5,036	2,527	..	..	..	..
	2023	4,150	2,267	..	..	..	..
Azerbaijan	2020	974	..	397	..	..	2
	2021	838	..	372	..	..	3
	2022	644	..	267	..	..	6
	2023	666	..	253	..	..	3
Bahrain	2020	68	..	..	..	..	35
	2021	68	..	..	..	..	36
	2022	69	..	..	..	..	36
	2023	70	..	..	..	..	36
Bangladesh	2020	289,646	100,810	191,878	*1,977	..	10,048
	2021	290,862	118,887	226,286	*2,331	..	10,076
	2022	281,718	114,871	218,642	*2,252	..	10,103
	2023	*281,714	*114,871	*218,642	*2,252	..	10,130
Bhutan	2020	*1,644	..	..	..	..	263
	2021	*1,462	..	..	..	..	263
	2022	*1,325	..	..	..	..	271
	2023	1,203	..	..	..	..	0
Brunei Darussalam	2020	106	..	..	..	..	10
	2021	106	..	..	..	..	10
	2022	106	..	..	..	..	9
	2023	106	..	..	..	..	9
Cambodia	2020	65,015	..	1,272	..	..	9,687
	2021	63,923	..	956	..	..	8,838
	2022	62,867	..	240	..	..	7,880
	2023	61,848	..	1,433	..	..	7,026
China	2020	1,433,306	..	2,830,491	*270,274	..	47,123
	2021	1,406,900	..	3,082,977	*270,274	..	46,727
	2022	1,380,987	..	3,165,215	*270,274	..	46,334
	2023	1,355,560	..	3,645,085	*270,274	..	45,945
China, Macao SAR	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..
Cyprus	2020	761	..	217	..	..	34
	2021	748	..	257	..	..	39
	2022	818	..	470	..	..	61
	2023	669	..	396	..	..	33
Georgia	2020	8,072	43	31	..	..	..
	2021	8,368	31	19	..	..	..
	2022	7,416	37	13	..	..	..
	2023	7,423	43	25	..	..	..

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	1,893	..	..	330,786
..	..	1,937	..	..	*333,217
..	..	2,050	..	..	338,996
..	..	2,286	..	40	361,230
540,561	188,814	174,814	727,334	104,726	19,509,259
537,729	196,627	194,213	771,380	116,120	20,194,821
547,581	248,332	209,242	817,632	124,729	20,750,174
553,541	265,181	228,729	887,357	124,882	21,181,538
..	..	..	..	..	17,898
..	..	..	..	..	18,225
..	..	..	..	..	18,559
..	..	..	..	..	18,900
..	..	..	..	..	8,202
..	..	..	..	..	7,352
..	..	..	..	..	7,563
..	..	..	..	..	6,417
..	3,164	..	..	..	4,535
..	3,019	..	..	..	4,229
..	3,093	..	..	..	4,004
..	3,189	..	..	..	4,108
..	..	..	..	..	68
..	..	..	..	..	68
..	..	..	..	..	69
..	..	..	..	..	70
..	..	..	..	..	584,311
..	..	..	..	..	638,366
..	..	..	..	..	617,483
..	..	..	..	..	*617,479
..	..	..	..	..	*1,644
..	..	..	..	..	*1,462
..	..	..	..	..	*1,325
..	..	..	..	..	1,203
..	..	..	..	..	106
..	..	..	..	..	106
..	..	..	..	..	106
..	..	..	..	..	106
..	..	..	..	..	66,288
..	..	..	..	..	64,879
..	..	..	..	..	63,107
..	..	..	..	..	63,281
163,570	..	81,027	*312,800	..	5,091,468
140,933	..	78,344	*323,840	..	5,303,267
146,252	..	80,507	*323,840	..	5,367,075
150,213	..	88,742	*323,840	..	5,833,714
..	3,423	..	..	..	3,423
..	3,554	..	..	..	3,554
..	3,400	..	..	..	3,400
..	3,707	..	..	..	3,707
271	148	..	..	556	1,952
251	316	..	..	559	2,130
217	432	..	..	521	2,458
189	329	..	..	508	2,091
..	..	..	4	..	8,151
..	..	..	0	..	8,419
..	..	..	0	..	7,467
..	..	..	1	..	7,492

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
India	2020	5,998,430	..	1,092,146	954,022	..	*76,553
	2021	6,160,345	..	1,107,256	974,946	..	*74,724
	2022	6,226,970	..	1,111,833	1,186,068	..	*50,711
	2023	*6,159,187	..	*1,099,730	*1,173,158	..	41,521
Indonesia	2020	*451,077	..	*193,605	*63,800	..	23,866
	2021	*513,409	..	*189,314	*51,159	..	23,069
	2022	*591,745	..	*198,465	*47,483	..	41,770
	2023	*601,766	..	*193,576	*78,660	..	43,867
Iran (Islamic Rep. of)	2020	*73,994	*1,175	8,579	..	..	7
	2021	*73,994	*1,175	9,094	..	..	7
	2022	*73,994	*1,175	9,298	..	..	7
	2023	*73,994	*1,175	9,568	..	..	7
Iraq	2020	2,039	..	..	..	..	583
	2021	2,190	..	..	..	..	626
	2022	2,220	..	..	..	..	635
	2023	2,230	..	..	..	..	649
Israel	2020	183	..	..	..	..	..
	2021	183	..	..	..	..	..
	2022	183	..	..	..	..	..
	2023	183	..	..	..	..	..
Japan	2020	89,763	..	84,467	..	120,939	217
	2021	92,238	..	112,566	..	133,195	197
	2022	97,358	..	85,732	..	132,948	185
	2023	102,595	..	100,549	..	124,977	168
Jordan	2020	3,468	..	..	..	..	1,506
	2021	3,540	..	..	..	..	1,538
	2022	3,613	..	..	..	..	1,572
	2023	3,688	..	..	..	..	1,606
Kazakhstan	2020	1,862	..	11	..	..	50
	2021	724	77	626	..	..	43
	2022	705	107	696	..	..	106
	2023	843	102	698	..	..	80
Korea, Dem.Ppl's.Rep.	2020	46,992	..	..	..	..	5,011
	2021	47,182	..	..	..	..	5,050
	2022	47,369	..	..	..	..	5,050
	2023	47,536	..	..	..	..	5,128
Korea, Republic of	2020	71,464	..	..	..	7,666	..
	2021	65,786	..	..	..	6,696	..
	2022	73,600	..	..	..	7,097	..
	2023	80,117	..	..	..	7,725	..
Kuwait	2020	190	..	..	..	..	94
	2021	193	..	..	..	..	95
	2022	195	..	..	..	..	100
	2023	197	..	..	..	..	97
Kyrgyzstan	2020	69	..	..	..	..	..
	2021	54	..	..	..	..	..
	2022	60	..	..	..	..	..
	2023	27	..	..	..	..	..
Lao People's Dem. Rep.	2020	52,025	..	..	*3,830	..	6,048
	2021	*51,687	..	..	*4,015	..	*6,136
	2022	51,357	..	..	*4,031	..	6,195
	2023	*51,138	..	..	*4,046	..	*6,048
Lebanon	2020	4,931	..	..	..	..	89
	2021	4,928	..	..	..	..	89
	2022	*4,933	..	..	..	..	89
	2023	*4,933	..	..	..	..	89

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	36,823	5,888	..	8,087,310
..	..	62,900	6,072	..	8,311,518
..	..	73,700	6,550	..	8,605,122
..	..	86,488	7,399	..	*8,525,963
..	..	..	278,282	*526	*987,290
..	..	..	312,658	*526	*1,067,065
..	..	..	356,856	*540	*1,195,088
..	..	..	412,512	*542	*1,287,056
..	..	..	..	278	*84,025
..	..	..	..	271	*84,533
..	..	..	..	223	*84,690
..	..	..	..	223	*84,960
..	..	..	..	..	2,039
..	..	..	..	..	2,190
..	..	..	..	..	2,220
..	..	..	..	..	2,230
1,855	2,203	..	..	963	5,204
1,803	1,607	..	..	846	4,439
1,851	1,656	..	..	913	4,603
1,088	1,200	..	..	945	3,416
228,859	29,774	4	382	161	554,349
238,936	31,697	..	315	137	609,083
241,234	34,231	..	281	157	591,942
239,169	33,237	..	281	150	600,959
..	..	..	..	42	3,510
..	..	..	..	31	3,571
..	..	..	..	1	3,614
..	..	..	..	7	3,695
..	..	..	..	70	1,943
..	..	85	..	37	1,549
..	..	237	..	42	1,787
..	..	346	..	20	2,009
..	..	..	..	..	46,992
..	..	..	..	..	47,182
..	..	..	..	..	47,369
..	..	..	..	..	47,536
107,650	36,229	10,731	23,885	8,384	266,010
110,470	35,270	8,089	24,072	8,043	258,426
110,539	34,019	7,727	25,543	9,642	268,167
110,166	34,529	8,101	26,096	9,596	276,329
..	..	..	..	..	190
..	..	..	..	..	193
..	..	..	..	..	195
..	..	..	..	..	197
..	..	..	..	..	69
..	..	..	..	..	54
..	..	..	..	..	60
..	..	..	..	..	27
..	..	..	..	..	55,855
..	..	..	..	..	*55,702
..	..	..	..	..	55,388
..	..	..	..	..	*55,184
..	66	..	..	257	5,254
..	..	..	..	..	4,928
..	..	..	..	..	*4,933
..	26	..	..	..	*4,959

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Malaysia	2020	21,751	..	11,348	51	..	492
	2021	21,438	..	10,886	54	..	..
	2022	21,136	..	10,925	54	..	77
	2023	20,843	..	11,053	36	..	31
Maldives	2020	152	..	..	..	..	27
	2021	153	..	..	..	..	27
	2022	153	..	..	..	..	28
	2023	*154	..	..	..	..	28
Mongolia	2020	8,724	..	..	..	..	519
	2021	7,535	..	..	..	..	523
	2022	6,309	..	..	..	..	528
	2023	6,362	..	..	..	..	532
Myanmar	2020	335,292	..	30,925	6,479	..	983
	2021	354,512	..	28,750	6,508	..	1,001
	2022	301,261	..	29,045	*6,248	..	1,104
	2023	278,808	..	*27,500	*6,443	..	866
Nepal	2020	*378,704	*16,344	*20,235	..	..	261
	2021	*348,443	*26,916	*28,607	..	..	257
	2022	*288,217	*25,611	*26,565	..	..	255
	2023	*291,510	*26,111	*27,052	..	..	258
Oman	2020	458	..	..	..	..	221
	2021	481	..	..	..	..	232
	2022	493	..	..	..	..	238
	2023	506	..	..	..	..	244
Other Asia	2020	6,572	..	..	..	..	..
	2021	7,143	..	..	..	..	..
	2022	7,170	..	..	..	..	..
	2023	6,824	..	..	..	..	..
Pakistan	2020	*303,604	*5,118	*250,317	*149,824	..	2,617
	2021	*298,916	*4,862	*246,452	*150,224	..	*2,614
	2022	*294,467	*4,789	*246,100	*149,886	..	*2,623
	2023	*287,104	*4,669	*239,948	*144,017	..	*2,655
Philippines	2020	*281,131	427	33,312	31,280	..	67,098
	2021	*286,417	437	33,398	30,342	..	69,856
	2022	*291,343	437	33,174	32,376	..	72,594
	2023	*310,368	439	32,909	33,617	..	75,337
Qatar	2020	47	..	..	..	..	23
	2021	47	..	..	..	..	23
	2022	47	..	..	..	..	23
	2023	47	..	..	..	..	23
Singapore	2020	258	..	..	..	..	137
	2021	250	..	..	..	..	133
	2022	246	..	..	..	..	131
	2023	242	..	..	..	..	129
Sri Lanka	2020	131,422	..	..	1,545	..	..
	2021	132,686	..	..	2,030	..	..
	2022	129,149	..	..	2,476	..	..
	2023	*129,269	..	..	*2,479	..	..
State of Palestine	2020	3,582	..	510	..	..	..
	2021	3,668	..	453	..	..	..
	2022	3,760	..	1,376	..	..	..
	2023	3,978	..	384	..	..	..
Syrian Arab Republic	2020	333	..	..	..	..	80
	2021	335	..	..	..	..	80
	2022	339	..	..	..	..	80
	2023	344	..	..	..	..	80

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	38,182	6,025	77,357
..	..	..	41,910	5,795	80,084
..	..	..	48,274	6,781	87,169
..	..	..	50,698	6,872	89,502
..	..	..	..	..	152
..	..	..	..	..	153
..	..	..	..	..	153
..	..	..	..	..	*154
..	..	..	..	..	8,724
..	..	..	..	..	7,535
..	..	..	..	..	6,309
..	..	..	..	..	6,362
..	2,572	..	..	22	375,290
..	2,144	..	..	22	391,935
..	1,185	..	..	22	337,762
..	2,619	..	..	22	315,392
..	..	..	..	9,757	*425,040
..	..	..	..	10,488	*414,454
..	..	..	..	10,722	*351,115
..	..	..	..	10,846	*355,519
..	..	..	..	..	458
..	..	..	..	..	481
..	..	..	..	..	493
..	..	..	..	..	506
..	62,641	3	..	827	70,043
..	62,648	2	..	702	70,495
..	63,379	2	..	723	71,274
..	64,356	2	..	1,286	72,467
..	..	..	*258	..	*709,121
..	..	..	*331	..	*700,786
..	..	..	*55	..	*695,297
..	..	..	*268	..	*676,007
..	467	10,141	5,195	..	*361,953
..	274	13,116	6,191	..	*370,174
..	609	13,488	7,437	..	*378,863
..	720	14,030	8,357	..	*400,440
..	..	..	..	..	47
..	..	..	..	..	47
..	..	..	..	..	47
..	..	..	..	..	47
..	23,346	..	..	..	23,604
..	21,888	..	..	..	22,138
..	25,464	..	..	..	25,710
..	25,175	..	..	..	25,418
..	..	..	..	..	132,967
..	..	..	..	..	134,716
..	..	..	..	..	131,624
..	..	..	..	..	*131,748
..	..	..	..	..	4,092
..	..	..	..	..	4,120
..	..	..	..	..	5,136
..	..	..	..	..	4,362
..	..	..	..	..	333
..	..	..	..	..	335
..	..	..	..	..	339
..	..	..	..	..	344

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Tajikistan	2020	50,142	..	..	..	..	..
	2021	50,142	..	..	..	..	..
	2022	50,142	..	..	..	..	..
	2023	50,142	..	..	..	..	..
Thailand	2020	100,238	..	302,230	314,513	17,229	32,568
	2021	82,982	..	287,131	285,254	19,329	27,701
	2022	87,577	..	405,681	323,571	15,072	28,851
	2023	85,321	..	269,338	370,383	14,503	26,816
Timor-Leste	2020	709	..	..	..	..	..
	2021	677	..	..	..	..	..
	2022	647	..	..	..	..	..
	2023	617	..	..	..	..	..
Türkiye	2020	48,232	..	38,454	..	..	..
	2021	49,860	..	45,703	..	..	..
	2022	56,940	..	51,192	..	..	..
	2023	58,918	..	66,471	..	..	..
Turkmenistan	2020	77	..	..	..	..	..
	2021	78	..	..	..	..	..
	2022	79	..	..	..	..	..
	2023	80	..	..	..	..	..
United Arab Emirates	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..
Uzbekistan	2020	*959	..	..	..	..	..
	2021	*1,005	..	..	..	..	..
	2022	*621	..	..	..	..	..
	2023	*1,044	..	..	..	..	..
Viet Nam	2020	*197,773	..	84,573	32,711	..	8,541
	2021	*285,739	..	69,063	56,300	..	9,005
	2022	*290,187	..	55,408	52,942	..	10,346
	2023	*298,286	..	44,924	52,568	..	12,803
Yemen	2020	5,614	..	..	..	..	2,151
	2021	5,736	..	..	..	..	2,198
	2022	5,860	..	..	..	..	2,245
	2023	5,991	..	..	..	..	2,295
Europe	2020	3,711,184	19,328	368,461	29,626	573,038	13,834
	2021	4,055,690	17,251	395,837	25,883	583,927	13,736
	2022	3,897,800	17,392	390,872	25,542	570,192	11,846
	2023	3,717,868	16,466	402,195	23,210	558,102	11,524
Albania	2020	6,490	..	..	..	..	103
	2021	6,314	..	..	..	..	30
	2022	6,155	..	..	..	..	35
	2023	5,736	..	..	..	..	32
Andorra	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..
Austria	2020	160,452	..	7,245	..	33,170	43
	2021	181,292	..	6,764	..	34,393	43
	2022	168,829	..	7,482	..	34,798	32
	2023	162,720	..	6,760	..	37,125	31
Belarus	2020	70,034	..	2,132	..	8,049	272
	2021	74,116	..	2,256	..	8,518	272
	2022	67,449	..	2,053	..	7,752	272
	2023	67,238	..	2,047	..	7,728	272

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	50,142
..	..	..	..	..	50,142
..	..	..	..	..	50,142
..	..	..	..	..	50,142
..	24,386	31,728	59,684	48,820	898,828
..	29,592	28,465	53,693	51,000	837,446
..	71,312	30,590	45,046	52,400	1,031,251
..	80,309	28,036	54,049	46,580	948,517
..	..	..	..	..	709
..	..	..	..	..	677
..	..	..	..	..	647
..	..	..	..	..	617
38,357	364	1,677	2,774	28,029	157,887
45,337	4,382	2,709	2,297	37,659	187,946
47,488	9,019	2,215	3,749	41,908	212,512
52,717	8,150	2,126	3,856	47,088	239,326
..	..	..	..	..	77
..	..	..	..	..	78
..	..	..	..	..	79
..	..	..	..	..	80
..	30	..	..	*10	40
..	238	..	..	*4	242
..	532	..	..	*134	666
..	7,634	..	..	*198	7,832
..	..	..	..	..	*959
..	..	..	..	..	*1,005
..	..	..	..	..	*621
..	..	..	..	..	*1,044
..	..	2,680	..	..	*317,737
..	..	504	..	..	*411,606
..	..	775	..	..	*399,312
..	..	858	..	..	*396,636
..	..	..	..	..	5,614
..	..	..	..	..	5,736
..	..	..	..	..	5,860
..	..	..	..	..	5,991
561,989	928,085	121,824	519,866	727,860	7,561,261
584,914	941,195	128,400	538,785	768,928	8,040,811
564,385	928,043	131,699	525,941	781,148	7,833,014
575,410	900,889	136,612	535,417	783,310	7,649,478
..	..	..	..	..	6,490
..	..	..	..	..	6,314
..	..	..	..	..	6,155
..	..	..	..	..	5,736
..	270	..	..	..	270
..	241	..	..	..	241
..	268	..	..	..	268
..	220	..	..	..	220
14,420	21,576	4,365	9,647	8,787	259,663
14,653	21,543	5,915	9,531	6,753	280,845
16,272	21,047	5,770	11,686	7,445	273,330
14,573	22,606	5,501	15,021	7,907	272,213
381	..	..	..	2,170	82,766
398	..	..	..	2,053	87,342
379	..	..	..	1,885	79,519
375	..	..	..	1,756	79,144

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Belgium	2020	40,756	639	6,783	..	1,308	..
	2021	45,833	324	7,587	..	1,507	..
	2022	45,095	315	7,596	..	1,460	..
	2023	48,226	315	6,273	..	1,332	..
Bosnia and Herzegovina	2020	62,209	..	..	..	..	885
	2021	62,218	..	..	..	..	944
	2022	63,433	..	..	..	..	885
	2023	60,830	..	..	..	..	708
Bulgaria	2020	53,551	..	12,944	..	3,839	68
	2021	48,511	..	24,544	..	3,202	86
	2022	42,260	..	18,866	..	5,398	68
	2023	32,030	..	19,306	..	3,534	33
Croatia	2020	63,166	43	54	..	..	390
	2021	69,720	30	132	..	..	420
	2022	66,525	31	127	..	..	339
	2023	62,062	19	89	..	..	302
Czechia	2020	122,005	..	5,667	..	19,783	..
	2021	138,192	..	5,974	..	19,670	..
	2022	131,799	..	4,855	..	19,372	..
	2023	118,741	..	4,935	..	17,441	..
Denmark	2020	41,307	..	18,934	..	..	..
	2021	42,203	..	21,582	..	..	..
	2022	43,507	..	21,189	..	..	..
	2023	43,970	..	21,750	..	..	..
Estonia	2020	58,757	..	11,405	..	1,285	..
	2021	63,504	..	10,854	..	1,422	..
	2022	62,268	..	10,506	..	1,162	..
	2023	63,482	..	8,881	..	593	..
Faeroe Islands	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..
Finland	2020	171,942	195	1,942	..	158,132	..
	2021	210,303	95	1,820	..	166,151	..
	2022	210,093	78	1,680	..	142,448	..
	2023	205,906	92	1,626	..	141,793	..
France	2020	360,909	2,543	8,180	6,444	40,131	1,475
	2021	408,398	2,163	6,914	4,869	39,487	1,475
	2022	384,520	1,968	6,112	5,784	39,547	1,475
	2023	389,355	1,781	7,585	6,655	36,212	1,475
Germany	2020	485,548	2,846	13,643	..	27,508	974
	2021	535,538	2,681	19,825	..	23,647	974
	2022	551,412	2,660	20,601	..	27,513	974
	2023	480,420	2,415	16,249	..	27,469	974
Greece	2020	24,110	..	6,918	..	..	30
	2021	27,510	..	5,434	..	..	18
	2022	27,925	..	5,431	..	..	6
	2023	30,141	..	6,221	..	..	10
Hungary	2020	73,063	229	11,563	..	385	..
	2021	78,902	464	11,805	..	405	..
	2022	75,353	406	11,401	..	402	..
	2023	67,359	377	10,588	..	307	..
Iceland	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
9,642	30,586	9,624	7,846	10,250	117,433
10,063	32,504	9,134	7,051	10,280	124,283
8,785	29,548	9,790	5,704	10,807	119,100
9,697	29,551	9,817	9,130	10,936	125,277
..	..	..	..	104	62,313
..	..	..	..	98	62,316
..	..	..	..	91	63,524
..	..	..	..	57	60,887
2,770	1,755	411	5,046	2,232	82,549
3,107	1,779	590	7,445	2,499	91,677
3,246	1,777	782	9,830	2,098	84,258
2,110	1,813	744	11,551	1,892	72,981
1,630	..	..	6	3,481	68,380
1,892	..	..	14	4,154	75,942
1,935	..	..	15	3,799	72,432
2,070	..	..	34	3,381	67,654
12,753	6,688	2,028	9,518	24,840	203,283
12,561	6,694	2,204	9,008	24,737	219,041
12,105	6,641	2,226	8,907	25,054	210,959
10,198	7,558	2,189	9,597	25,016	195,674
..	35,531	58	..	21,152	116,981
..	34,951	115	..	26,176	125,026
..	34,574	65	..	28,948	128,283
..	33,676	117	..	31,739	131,252
14	2,217	..	..	784	74,462
9	2,289	..	..	762	78,841
11	2,370	..	..	761	77,077
24	2,367	..	..	897	76,244
..	..	..	..	*16	*16
..	..	..	..	*77	*77
..	..	..	..	*61	*61
..	..	..	..	*45	*45
2,025	25,808	2,953	10,920	7,080	380,997
2,213	27,210	4,577	21,592	8,138	442,099
2,115	25,245	7,810	17,500	7,361	414,330
1,867	22,666	10,022	17,352	7,752	409,076
16,984	102,929	21,717	65,177	45,638	670,652
20,144	104,003	21,810	55,287	56,566	719,640
20,477	110,385	24,325	51,063	67,976	712,156
21,608	97,019	24,243	48,137	79,131	711,727
45,628	260,696	17,944	115,074	325,115	1,294,002
46,897	263,802	17,937	124,310	343,375	1,378,012
43,459	255,602	19,060	122,765	338,908	1,381,979
46,959	248,832	17,551	129,683	324,188	1,293,767
405	..	629	6,633	5,665	44,359
329	..	434	6,119	5,326	45,152
423	..	434	6,119	6,083	46,414
367	..	434	6,119	6,813	50,095
3,857	4,820	13,320	5,336	3,748	116,321
3,847	4,771	14,016	6,587	3,545	124,343
3,239	4,902	13,373	6,955	4,053	120,084
2,956	4,549	12,489	7,176	3,959	109,759
..	..	..	..	78	78
..	..	..	..	80	80
..	..	..	..	85	85
..	..	..	..	108	108

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Ireland	2020	7,973	1,429	..	..	..	..
	2021	9,612	110	..	..	..	..
	2022	10,440	87	..	..	..	..
	2023	7,824	32	..	..	..	..
Isle of Man	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..
Italy	2020	285,298	..	12,958	..	..	295
	2021	313,680	..	15,016	..	..	295
	2022	290,138	..	14,036	..	..	295
	2023	267,729	..	15,281	..	..	295
Jersey	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..
Kosovo	2020	12,874	..	..	..	..	..
	2021	12,887	..	..	..	..	..
	2022	8,301	..	..	..	..	..
	2023	8,393	..	..	..	..	..
Latvia	2020	95,417	..	233	..	..	244
	2021	96,624	..	249	..	..	250
	2022	105,120	..	187	..	..	201
	2023	114,201	..	108	..	..	192
Liechtenstein	2020	124	..	..	..	..	..
	2021	117	..	..	..	..	..
	2022	119	..	..	..	..	..
	2023	110	..	..	..	..	..
Lithuania	2020	51,852	..	608	..	..	15
	2021	56,892	..	577	..	..	6
	2022	52,650	..	528	..	..	..
	2023	52,081	..	479	..	..	..
Luxembourg	2020	6,899	..	327	..	..	..
	2021	7,420	..	223	..	..	..
	2022	7,265	..	233	..	..	..
	2023	6,356	..	204	..	..	..
Malta	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..
Montenegro	2020	8,205	..	..	..	..	22
	2021	7,892	..	..	..	..	25
	2022	7,897	..	..	..	..	12
	2023	7,434	..	..	..	..	13
Netherlands (Kingd. of the)	2020	54,342	..	14,191	..	..	..
	2021	55,682	..	16,680	..	..	..
	2022	49,092	..	19,937	..	..	..
	2023	48,926	..	16,143	..	..	..
North Macedonia	2020	6,442	..	251	..	..	..
	2021	6,627	..	502	..	..	..
	2022	6,673	..	505	..	..	..
	2023	5,807	..	462	..	..	..
Norway	2020	40,459	..	..	..	334	..
	2021	47,202	..	..	..	339	..
	2022	47,560	..	..	..	360	..
	2023	47,475	..	..	..	469	..

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	12,215	137	2,242	2,105	26,101
..	12,007	135	3,193	2,179	27,235
..	12,566	208	4,086	2,218	29,605
2	13,510	287	3,746	2,162	27,561
..	*529	..	..	..	*529
..	*562	..	..	..	*562
..	542	..	..	..	542
..	*542	..	..	..	*542
14,524	70,608	10,767	38,175	84,484	516,813
13,061	71,140	8,000	45,522	87,045	553,465
13,297	71,026	4,203	43,148	86,728	522,578
13,806	70,976	6,626	42,015	84,237	500,670
..	*760	..	..	..	*760
..	*760	..	..	..	*760
..	*760	..	..	..	*760
..	*752	..	..	..	*752
..	..	..	..	..	12,874
..	..	..	..	..	12,887
..	..	..	..	..	8,301
..	..	..	..	..	8,393
167	911	..	3,149	3,359	103,235
102	691	..	2,635	2,763	103,064
82	604	..	3,056	2,323	111,371
81	1,104	..	3,770	1,798	121,062
..	463	..	..	25	612
..	483	..	..	25	625
..	447	..	..	21	586
..	460	..	..	20	590
1,010	2,693	847	5,987	1,617	64,614
1,312	4,733	592	5,741	1,682	71,529
1,279	4,611	670	5,851	1,748	67,337
1,265	5,846	375	5,829	1,638	67,513
977	1,441	..	..	755	10,399
861	1,412	..	..	735	10,651
879	1,380	..	..	799	10,556
663	1,132	..	..	567	8,921
..	..	..	..	60	60
..	..	..	..	81	81
..	..	..	..	82	82
..	..	..	..	109	109
..	..	..	..	..	8,205
..	..	..	..	..	7,892
..	..	..	..	..	7,897
..	..	..	..	..	7,434
2,955	63,516	880	71,319	17,405	224,609
2,686	66,912	666	72,617	17,499	232,741
2,331	67,097	1,056	68,339	18,173	226,027
1,877	61,214	403	74,888	18,758	222,210
..	..	..	50	825	7,568
..	..	..	..	775	7,904
..	..	..	..	740	7,917
..	..	..	..	940	7,208
3,573	15,856	..	3,150	2,489	65,861
3,484	15,906	..	3,237	2,636	72,804
3,631	15,660	..	3,033	2,550	72,795
3,230	15,737	..	2,936	2,698	72,545

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Poland	2020	305,482	829	58,211	..	10,794	..
	2021	309,105	489	41,522	..	19,189	..
	2022	299,365	576	35,498	..	19,508	..
	2023	277,044	604	53,540	..	17,714	..
Portugal	2020	71,972	..	5,741	445	43,435	266
	2021	71,068	..	8,785	191	42,299	295
	2022	70,409	..	9,712	215	44,047	260
	2023	70,843	..	8,217	201	41,934	260
Republic of Moldova	2020	*22,421	*193	*5,032	..	..	30
	2021	24,653	165	5,918	..	..	30
	2022	15,663	81	4,804	..	..	30
	2023	17,169	93	5,180	..	..	15
Romania	2020	142,414	..	..	..	..	49
	2021	151,785	..	..	..	..	60
	2022	145,320	..	..	..	..	10
	2023	132,531	..	..	..	..	10
Russian Federation	2020	119,561	..	..	..	..	1,665
	2021	128,998	..	..	..	..	1,696
	2022	111,798	..	..	..	..	1,698
	2023	106,065	..	..	..	..	1,699
Serbia	2020	67,289	..	93	..	..	442
	2021	67,007	..	103	..	..	227
	2022	67,741	..	99	..	..	195
	2023	68,917	..	84	..	..	144
Slovakia	2020	35,384	..	*6,631	..	13,297	..
	2021	38,318	..	8,664	..	15,652	..
	2022	30,716	..	11,133	..	16,057	..
	2023	26,528	..	10,616	..	11,713	..
Slovenia	2020	22,788	..	274	..	..	..
	2021	25,589	..	182	..	..	..
	2022	22,667	..	175	..	..	..
	2023	21,873	..	230	..	..	..
Spain	2020	127,534	1,861	34,569	22,736	24,694	433
	2021	137,345	1,852	36,623	20,823	24,356	433
	2022	135,401	2,195	39,386	19,543	25,269	433
	2023	134,178	2,077	43,176	16,354	33,068	433
Sweden	2020	210,846	84	..	..	186,893	..
	2021	245,938	123	..	..	183,690	..
	2022	237,490	80	..	..	185,097	..
	2023	227,629	15	..	..	179,671	..
Switzerland	2020	43,660	..	2,376	..	..	..
	2021	51,270	..	2,316	..	..	..
	2022	45,680	..	2,149	..	..	..
	2023	48,040	..	2,461	..	..	..
Ukraine	2020	147,860	..	..	..	..	6,136
	2021	*162,778	..	..	..	..	6,159
	2022	*150,660	..	..	..	..	4,628
	2023	147,268	..	..	..	..	4,628
United Kingdom	2020	29,788	8,437	119,557	..	..	..
	2021	34,649	8,756	132,983	..	..	..
	2022	33,011	8,915	134,591	..	..	..
	2023	35,230	8,646	133,704	..	..	..
Latin America & Carib.	2020	2,531,274	5	526,444	1,916,854	155,274	266,856
	2021	2,568,161	24	742,542	1,766,647	156,794	256,021
	2022	2,634,890	66	576,868	1,718,990	146,421	278,308
	2023	2,650,754	38	558,684	1,954,936	181,120	264,558

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
27,657	22,310	5,510	35,064	13,498	479,356
26,514	20,951	6,828	36,315	13,372	474,284
29,324	18,430	8,346	36,647	14,765	462,459
27,394	17,999	8,667	35,769	15,749	454,480
2,157	8,341	..	12,292	3,464	147,849
2,871	8,867	..	11,870	3,652	149,604
2,716	8,513	..	11,405	3,626	150,643
3,083	7,796	..	12,540	3,991	148,606
..	..	..	..	327	*27,973
..	..	..	..	381	31,117
..	..	..	..	394	20,942
..	..	..	..	355	22,797
11,665	188	1,190	10,759	772	166,988
13,204	193	1,368	8,508	970	176,028
13,720	236	1,145	8,438	1,100	169,958
13,603	268	1,856	8,961	765	157,984
311,158	..	..	..	..	430,719
330,687	..	..	..	..	459,684
321,634	..	..	..	..	433,432
336,466	..	..	..	..	442,531
57	..	..	..	1,624	69,064
58	..	..	..	2,220	69,388
58	..	..	..	2,214	70,112
59	..	..	..	2,258	71,318
8,289	2,523	3,538	4,306	5,479	79,446
7,894	3,003	3,511	4,306	5,472	86,819
8,141	2,576	3,484	4,306	4,305	80,718
6,683	2,971	3,538	4,158	4,461	70,668
2,395	..	..	..	1,129	26,586
2,292	..	..	..	1,044	29,107
2,253	..	..	..	1,025	26,121
2,351	..	..	..	960	25,414
12,713	19,769	11,420	67,909	13,539	336,744
11,732	21,785	11,719	65,111	13,644	344,990
11,599	21,865	10,585	65,467	13,955	345,265
11,011	21,585	11,662	53,193	14,309	340,612
4,132	67,825	7,543	11,482	6,909	495,714
3,888	59,363	11,265	14,462	7,398	526,128
3,948	59,894	8,907	13,506	7,398	516,319
4,292	51,160	9,050	16,118	7,448	495,383
9,624	43,640	..	491	5,742	105,532
10,154	43,580	..	475	5,888	113,683
9,961	41,990	..	488	6,127	106,395
9,329	42,140	..	583	6,241	108,793
34,090	..	..	..	3,862	185,812
34,227	..	..	..	3,862	*200,866
23,179	..	..	..	3,862	*177,701
23,372	..	..	..	4,057	174,697
4,338	101,621	6,941	18,290	97,252	386,224
3,774	109,063	7,584	17,848	100,985	415,642
3,906	107,488	9,460	17,627	101,579	416,578
4,039	114,841	11,042	17,112	104,211	428,825
1,523	1,580	725,544	275,636	22,539	6,156,672
10,211	1,453	725,536	313,731	36,957	6,322,056
32,754	1,530	710,886	302,466	38,345	6,163,215
35,524	1,614	818,938	306,990	41,016	6,549,614

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Anguilla	2020	*2	..	..	..	..	..
	2021	*2	..	..	..	..	..
	2022	*2	..	..	..	..	..
	2023	*2	..	..	..	..	..
Antigua and Barbuda	2020	*15	..	..	..	..	*1
	2021	*15	..	..	..	..	*1
	2022	*15	..	..	..	..	0
	2023	*15	..	..	..	..	..
Argentina	2020	42,007	..	..	49,465	..	12,002
	2021	41,658	..	..	56,750	..	12,154
	2022	51,134	..	..	47,746	..	9,499
	2023	48,406	..	..	51,298	..	8,821
Aruba	2020	23	..	..	..	..	8
	2021	24	..	..	..	..	8
	2022	25	..	..	..	..	9
	2023	25	..	..	..	..	9
Bahamas	2020	*28	..	..	..	..	..
	2021	*28	..	..	..	..	..
	2022	*28	..	..	..	..	..
	2023	*28	..	..	..	..	..
Barbados	2020	43	..	..	391	..	9
	2021	42	..	..	396	..	9
	2022	42	..	..	416	..	*9
	2023	42	..	..	387	..	9
Belize	2020	679	..	..	3,862	..	91
	2021	1,054	..	..	4,958	..	91
	2022	671	..	..	4,874	..	120
	2023	612	..	..	3,998	..	*74
Bolivia (Plur. State of)	2020	7,654	..	..	36,618	..	1,529
	2021	6,401	..	..	*38,269	..	1,489
	2022	7,709	..	..	38,532	..	1,788
	2023	7,697	..	..	39,460	..	1,896
Brazil	2020	1,046,688	..	482,276	1,402,503	..	183,372
	2021	1,060,139	..	694,695	1,234,833	..	179,245
	2022	1,108,195	..	525,965	1,212,709	..	204,527
	2023	1,101,668	..	506,325	1,437,654	..	194,061
British Virgin Islands	2020	15	..	..	..	..	2
	2021	16	..	..	..	..	2
	2022	16	..	..	..	..	3
	2023	16	..	..	..	..	3
Chile	2020	*215,418	..	..	..	101,233	4,490
	2021	226,014	..	1,827	..	101,881	..
	2022	231,883	..	1,827	..	94,228	..
	2023	266,485	..	1,543	..	105,390	..
Colombia	2020	105,517	..	..	92,837	..	13
	2021	101,123	..	..	87,615	..	423
	2022	103,689	..	..	89,838	..	452
	2023	105,144	..	..	91,099	..	483
Costa Rica	2020	5,079	..	3,172	10,428	..	27
	2021	4,951	..	3,221	10,181	..	27
	2022	5,364	..	3,591	8,706	..	71
	2023	5,589	..	3,867	7,719	..	75
Cuba	2020	7,417	..	*88	31,238	..	2,230
	2021	6,723	..	*88	27,857	..	1,746
	2022	6,021	..	*100	19,701	..	1,162
	2023	5,397	..	*90	12,016	..	1,933

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	*2
..	*2
..	*2
..	*2
..	*15
..	*15
..	*15
..	*15
..	..	30,238	43,130	..	164,840
..	..	12,943	63,443	..	174,794
..	..	14,868	70,251	..	183,999
..	..	19,403	30,581	..	149,688
..	23
..	24
..	25
..	25
..	*28
..	*28
..	*28
..	*28
..	433
..	438
..	458
..	429
..	4,541
..	6,012
..	5,546
..	4,610
..	..	1,497	..	..	45,770
..	..	2,113	..	..	*46,783
..	..	2,894	..	..	49,135
..	..	2,793	..	..	49,950
..	..	670,858	208,294	13,011	3,823,630
..	..	685,812	219,105	26,531	3,921,115
29,626	..	670,776	202,690	26,092	3,776,053
32,868	..	774,338	243,776	30,824	4,127,453
..	15
..	16
..	16
..	16
..	3,522	*320,173
..	3,513	333,235
..	4,844	332,781
..	4,295	377,713
..	714	7,056	18,998	1	225,124
..	764	7,416	23,998	20	220,937
..	856	6,780	25,226	17	226,405
..	861	6,143	26,518	14	229,779
..	..	659	..	17	19,356
..	..	634	..	17	19,004
..	17,661
..	17,175
..	..	368	..	*286	39,396
..	..	318	..	*1,944	36,930
..	..	310	..	*2,083	28,215
..	..	253	..	*1,619	19,374

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Dominica	2020	67	..	..	..	..	7
	2021	67	..	..	..	..	7
	2022	66	..	..	..	..	7
	2023	66	..	..	..	..	*7
Dominican Republic	2020	21,160	..	*525	12,990	..	3,786
	2021	21,607	..	*530	13,194	..	3,954
	2022	*21,750	..	*530	10,738	..	3,987
	2023	*21,924	..	*530	11,106	..	4,020
Ecuador	2020	9,466	..	..	12,959	..	..
	2021	9,095	..	..	11,654	..	..
	2022	8,708	..	..	9,113	..	..
	2023	8,750	..	..	12,763	..	..
El Salvador	2020	5,011	5	..	15,321	..	10
	2021	4,888	24	..	15,050	..	7
	2022	4,094	66	..	14,837	..	7
	2023	3,856	38	..	14,490	..	7
Grenada	2020	293	..	..	19	..	61
	2021	304	..	..	20	..	64
	2022	309	..	..	21	..	68
	2023	311	..	..	21	..	68
Guatemala	2020	348,593	..	..	54,054	..	*2,065
	2021	359,101	..	..	88,131	..	..
	2022	369,927	..	..	75,648	..	..
	2023	381,078	..	..	90,271	..	..
Guyana	2020	928	..	..	2,750	..	40
	2021	932	..	..	3,141	..	40
	2022	823	..	..	1,810	..	25
	2023	840	..	..	2,340	..	26
Haiti	2020	140,474	..	..	979	..	37,860
	2021	142,558	..	..	962	..	37,178
	2022	141,631	..	..	942	..	37,207
	2023	140,214	..	..	937	..	35,118
Honduras	2020	54,700	..	7,833	11,102	..	3
	2021	53,032	..	8,109	9,770	..	25
	2022	51,262	..	8,322	11,217	..	4
	2023	49,498	..	8,002	10,953	..	0
Jamaica	2020	*8,076	..	..	1,627	..	752
	2021	8,076	..	..	1,627	..	752
	2022	8,076	..	..	1,200	..	752
	2023	8,094	..	..	1,057	..	752
Mexico	2020	249,125	..	..	113,800	4	..
	2021	244,418	..	..	103,954	4	..
	2022	242,124	..	..	112,610	3	..
	2023	243,307	..	..	110,366	3	..
Nicaragua	2020	46,737	..	1,616	14,177	..	309
	2021	46,721	..	1,851	15,014	..	297
	2022	47,487	..	1,717	15,814	..	305
	2023	52,198	..	1,818	14,872	..	308
Panama	2020	6,929	..	..	4,599	..	28
	2021	6,888	..	..	4,344	..	18
	2022	6,861	..	..	4,226	..	40
	2023	6,818	..	..	4,070	..	39
Paraguay	2020	69,461	..	5,355	11,694	..	12,295
	2021	70,055	..	5,809	9,290	..	12,161
	2022	68,540	..	6,012	8,380	..	12,273
	2023	66,404	..	6,270	10,057	..	10,847

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	67
..	67
..	66
..	66
..	*157	34,833
..	*160	35,491
..	*160	*33,178
..	*160	*33,720
..	..	801	..	929	24,156
..	..	1,297	..	885	22,931
..	..	1,520	..	873	20,213
..	..	724	..	806	23,043
..	419	..	..	423	21,179
..	358	..	..	382	20,702
..	340	..	..	406	19,743
..	738	..	..	104	19,226
..	312
..	324
..	331
..	332
..	281	402,928
..	472	447,704
..	290	445,864
..	357	471,706
..	3,678
..	4,073
..	2,633
..	3,180
..	141,453
..	143,520
..	142,573
..	141,151
..	73,635
..	70,911
..	70,801
..	68,453
..	*9,703
..	9,703
..	9,275
..	106	9,257
1,200	3,000	367,129
9,918	1,767	360,061
2,826	2,358	359,921
2,298	1,598	357,572
..	71	62,601
..	92	63,677
..	92	65,109
..	84	68,972
..	*447	..	..	..	11,975
..	*331	..	..	..	11,563
..	*326	..	..	..	11,413
..	*3	..	..	..	10,891
..	..	12,458	922	..	99,890
..	..	13,080	668	..	98,901
..	..	11,654	402	..	94,988
..	..	13,089	1,124	..	96,944

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					Charcoal
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	
Peru	2020	109,722	..	4,654	25,258	..	5,624
	2021	120,796	..	4,405	22,774	..	6,054
	2022	114,685	..	4,466	24,210	..	5,665
	2023	93,629	..	4,510	23,370	..	5,676
Puerto Rico	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..
Saint Barthélemy	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..
St. Lucia	2020	*589	..	..	..	..	*89
	2021	*582	..	..	..	..	*87
	2022	*576	..	..	..	..	*87
	2023	*571	..	..	..	..	*86
St. Vincent-Grenadines	2020	64	..	..	..	..	11
	2021	64	..	..	..	..	11
	2022	64	..	..	..	..	11
	2023	63	..	..	..	..	11
Suriname	2020	784	..	642	..	..	..
	2021	782	..	693	..	..	..
	2022	792	..	706	..	..	..
	2023	741	..	758	..	..	..
Trinidad and Tobago	2020	273	..	..	..	..	54
	2021	270	..	..	..	..	53
	2022	268	..	..	..	..	53
	2023	266	..	..	..	..	53
Turks and Caicos Islands	2020	11	..	..	..	..	5
	2021	11	..	..	..	..	5
	2022	11	..	..	..	..	5
	2023	12	..	..	..	..	5
United States Virgin Is.	2020	*30	..	..	..	..	*5
	2021	*30	..	..	..	..	*5
	2022	*30	..	..	..	..	*5
	2023	*30	..	..	..	..	*5
Uruguay	2020	22,885	..	*14,689	969	54,037	..
	2021	23,079	..	*15,664	1,028	54,909	..
	2022	22,489	..	17,530	1,090	*52,191	..
	2023	22,373	..	18,624	1,184	75,727	..
Venezuela (Bolivar. Rep.)	2020	5,312	..	5,594	7,211	..	80
	2021	6,616	..	5,650	5,835	..	108
	2022	9,526	..	6,102	4,612	..	166
	2023	8,584	..	6,347	3,449	..	168
Northern America	2020	1,812,753	..	33,047	..	811,506	25,134
	2021	1,846,486	..	33,563	..	828,264	25,134
	2022	1,758,509	..	37,156	..	856,636	25,134
	2023	1,853,834	..	38,979	..	825,422	25,134
Bermuda	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..
Canada	2020	274,502	..	..	..	159,109	..
	2021	284,194	..	..	..	165,671	..
	2022	294,875	..	..	..	160,659	..
	2023	276,329	..	..	..	149,023	..

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	0	2,813	719	143,166
..	..	130	5,163	1,000	154,269
..	..	155	3,414	952	147,883
..	..	148	4,704	864	127,225
..	..	..	..	*121	*121
..	..	..	..	*175	*175
..	..	..	..	*179	*179
..	..	..	..	*186	*186
..
..
..	*8	..	..	..	*8
..	*12	..	..	..	*12
..	..	..	..	..	*589
..	..	..	..	..	*582
..	..	..	..	..	*576
..	..	..	..	..	*571
..	..	..	..	..	64
..	..	..	..	..	64
..	..	..	..	..	64
..	..	..	..	..	63
..	..	..	..	..	1,426
..	..	..	..	..	1,475
..	..	..	..	..	1,498
..	..	..	..	..	1,499
..	..	..	..	..	273
..	..	..	..	..	270
..	..	..	..	..	268
..	..	..	..	..	266
..	..	..	..	..	11
..	..	..	..	..	11
..	..	..	..	..	11
..	..	..	..	..	12
..	..	..	..	..	*30
..	..	..	..	..	*30
..	..	..	..	..	*30
..	..	..	..	..	*30
*323	..	1,608	1,479	..	95,989
*293	..	1,792	1,354	..	98,119
302	..	1,930	482	..	*96,012
359	..	2,048	287	..	120,601
..	..	..	..	..	18,117
..	..	..	..	..	18,101
..	..	..	..	..	20,240
..	..	..	..	..	18,380
47,502	294,963	1,146,923	237,248	222,157	4,606,099
41,352	292,223	1,231,729	338,988	231,481	4,844,086
38,522	280,871	1,259,685	419,565	233,842	4,884,785
38,487	270,153	1,269,765	580,493	240,529	5,117,661
..	*600	..	..	..	*600
..	*600	..	..	..	*600
..	*600	..	..	..	*600
..	*600	..	..	..	*600
11,626	11,939	34,143	14,867	22,840	529,026
11,148	11,112	34,384	14,205	30,631	551,345
10,475	11,225	35,269	12,181	30,477	555,161
11,987	11,460	36,314	16,450	30,469	532,032

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Greenland	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
	2022	..	..	..	..	..	..
	2023	..	..	..	..	..	..
St. Pierre-Miquelon	2020	5	..	..	..	..	..
	2021	5	..	..	..	..	..
	2022	5	..	..	..	..	..
	2023	5	..	..	..	..	..
United States	2020	*1,538,246	..	*33,047	..	*652,397	25,134
	2021	*1,562,287	..	*33,563	..	*662,593	25,134
	2022	*1,463,629	..	*37,156	..	*695,977	25,134
	2023	*1,577,499	..	*38,979	..	*676,399	25,134
Oceania	2020	150,119	..	20,245	88,629	28,087	433
	2021	154,112	..	21,509	92,819	26,752	439
	2022	152,406	..	21,961	89,714	28,536	445
	2023	148,924	..	23,157	97,601	25,151	447
Australia	2020	*69,643	..	*4,633	83,844	*14,777	..
	2021	*70,585	..	*5,374	87,968	*13,760	..
	2022	*68,925	..	*5,341	84,442	*15,947	..
	2023	*70,408	..	*6,008	92,273	*12,755	..
Cook Islands	2020	..	..	*57	..	..	..
	2021	..	..	*57	..	..	..
	2022	..	..	*57	..	..	..
	2023	..	..	*57	..	..	..
Fiji	2020	*914	..	..	3,830	..	74
	2021	*1,188	..	..	*3,822	..	74
	2022	*1,416	..	..	*4,193	..	75
	2023	1,688	..	..	*4,247	..	75
French Polynesia	2020	43	..	..	..	..	16
	2021	43	..	..	..	..	16
	2022	43	..	..	..	..	16
	2023	43	..	..	..	..	16
Kiribati	2020	*70	..	*512	..	..	13
	2021	*69	..	*510	..	..	13
	2022	*70	..	*511	..	..	13
	2023	*72	..	*512	..	..	13
Marshall Islands	2020	..	..	*192	..	..	..
	2021	..	..	*193	..	..	..
	2022	..	..	*195	..	..	..
	2023	..	..	*196	..	..	..
Micronesia (Fed. States of)	2020	25	..	..	..	..	11
	2021	25	..	..	..	..	12
	2022	25	..	..	..	..	12
	2023	26	..	..	..	..	12
New Caledonia	2020	119	..	..	..	..	19
	2021	120	..	..	..	..	20
	2022	121	..	..	..	..	20
	2023	122	..	..	..	..	20
New Zealand	2020	25,682	..	..	..	13,310	..
	2021	28,593	..	..	..	12,992	..
	2022	28,297	..	..	..	12,590	..
	2023	23,098	..	..	..	12,396	..
Niue	2020	1	..	..	..	..	0
	2021	1	..	..	..	..	0
	2022	1	..	..	..	..	0
	2023	*1	..	..	..	..	0

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	103	..	..	..	103
..	102	..	..	..	102
..	88	..	..	..	88
..	76	..	..	..	76
..	5
..	5
..	5
..	5
35,876	282,321	1,112,780	222,381	199,317	*4,076,364
30,204	280,409	1,197,345	324,783	200,850	*4,292,033
28,047	268,958	1,224,416	407,384	203,365	*4,328,931
26,500	258,017	1,233,451	564,043	210,060	*4,584,948
3,685	..	4,422	74	20,347	315,607
3,772	..	3,705	51	21,233	323,954
3,620	..	3,998	38	22,118	322,392
3,354	..	4,582	25	21,783	324,577
3,685	..	4,342	74	16,661	197,659
3,772	..	3,618	51	17,601	202,729
3,620	..	3,966	38	18,478	200,758
3,354	..	4,568	25	18,025	207,418
..	*57
..	*57
..	*57
..	*57
..	4,744
..	*5,010
..	*5,609
..	*5,935
..	43
..	43
..	43
..	43
..	*582
..	*579
..	*581
..	*584
..	*192
..	*193
..	*195
..	*196
..	25
..	25
..	25
..	26
..	..	4	..	..	123
..	..	4	..	..	123
..	..	3	..	..	123
..	..	6	..	..	127
..	..	68	..	3,410	42,470
..	..	84	..	3,347	45,015
..	..	29	..	3,354	44,270
..	..	8	..	3,472	38,974
..	1
..	1
..	1
..	*1

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					Charcoal
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	
Papua New Guinea	2020	50,544	..	*12,400	955	..	209
	2021	50,544	..	*13,000	*1,028	..	212
	2022	50,544	..	*13,500	*1,078	..	215
	2023	*50,544	..	*14,000	*1,081	..	*215
Samoa	2020	984	..	351	..	..	17
	2021	846	..	296	..	..	17
	2022	861	..	291	..	..	18
	2023	*815	..	*284	..	..	18
Solomon Islands	2020	1,239	..	*2,100	..	..	46
	2021	1,243	..	*2,080	..	..	47
	2022	1,246	..	*2,066	..	..	47
	2023	1,250	..	*2,100	..	..	47
Tonga	2020	19	..	..	..	..	7
	2021	19	..	..	..	..	7
	2022	19	..	..	..	..	7
	2023	18	..	..	..	..	7
Vanuatu	2020	831	..	..	..	..	20
	2021	831	..	..	..	..	21
	2022	831	..	..	..	..	*21
	2023	831	..	..	..	..	22
Wallis and Futuna Is.	2020	*7	..	..	..	..	..
	2021	*7	..	..	..	..	..
	2022	*7	..	..	..	..	..
	2023	*8	..	..	..	..	..

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	*275	64,173
..	*285	64,857
..	*285	65,407
..	*285	*65,910
..	0	1,335
..	0	1,142
..	0	1,153
..	0	*1,099
..	*3,339
..	*3,323
..	*3,312
..	*3,350
..	19
..	19
..	19
..	18
..	..	8	..	..	840
..	..	0	..	..	831
..	..	0	..	..	831
..	..	0	..	..	831
..	*7
..	*7
..	*7
..	*8