

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.

Figure 32: Production of fuelwood by region, 1990-2021

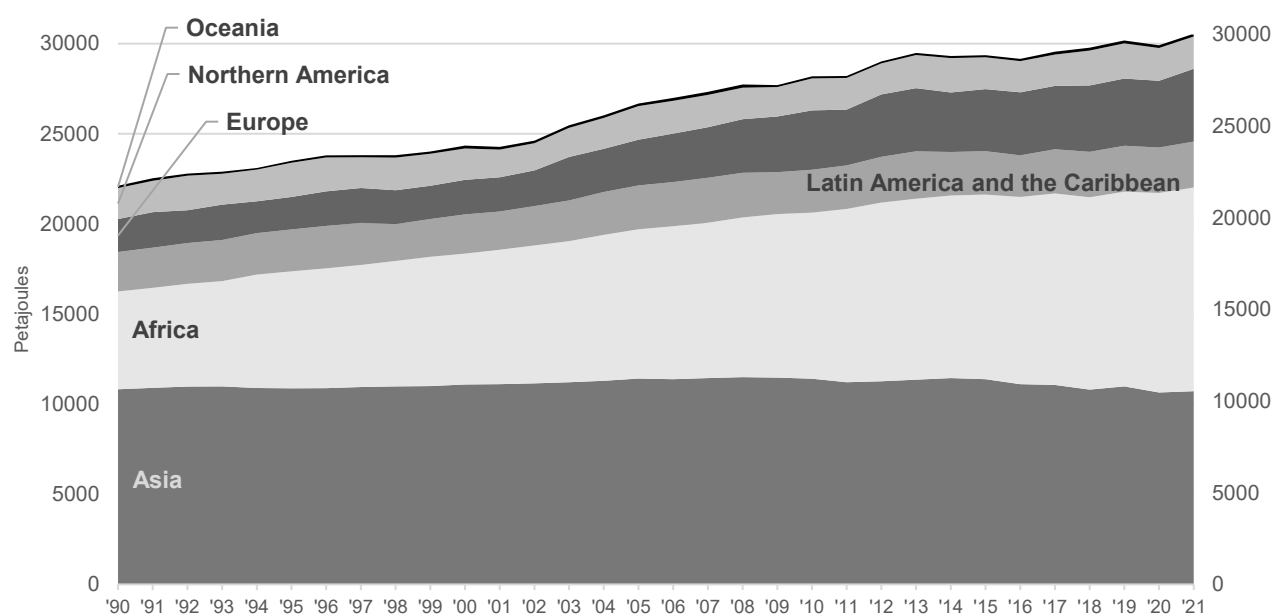


Figure 33: Production of charcoal by region, 1990-2021

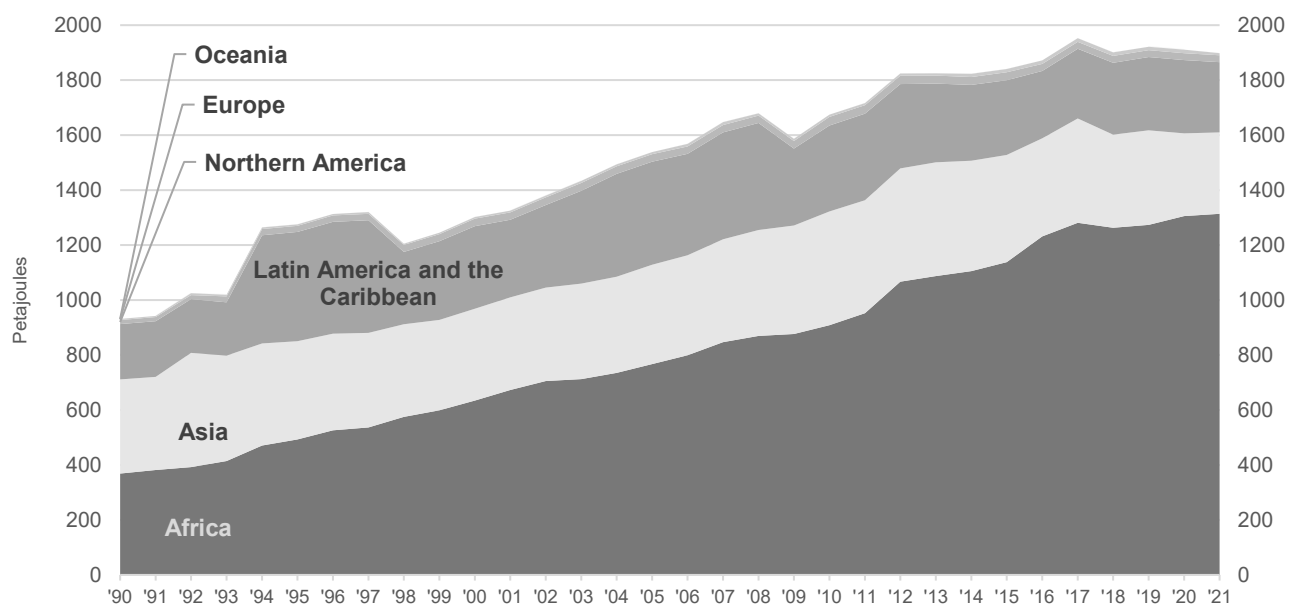


Figure 34: Production of total solid biofuels by region, 2021

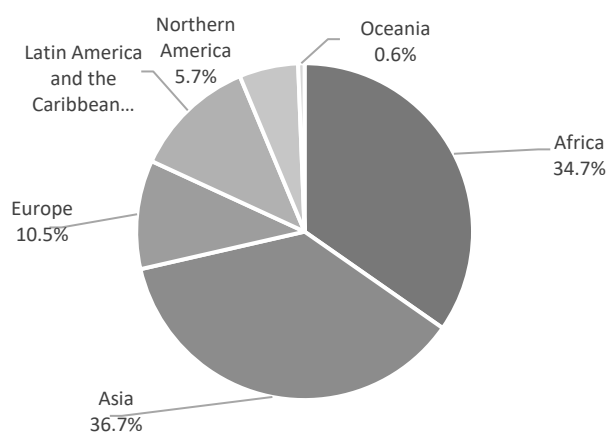


Figure 35: Production of biogases by region, 2021

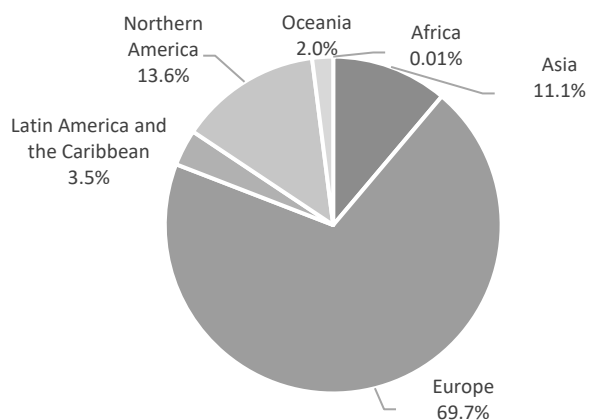


Figure 36: Production of bagasse by region, 2021

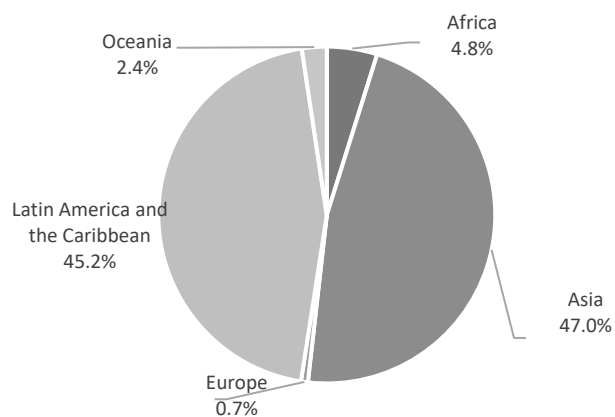


Figure 37: Production of liquids biofuels by region, 2021

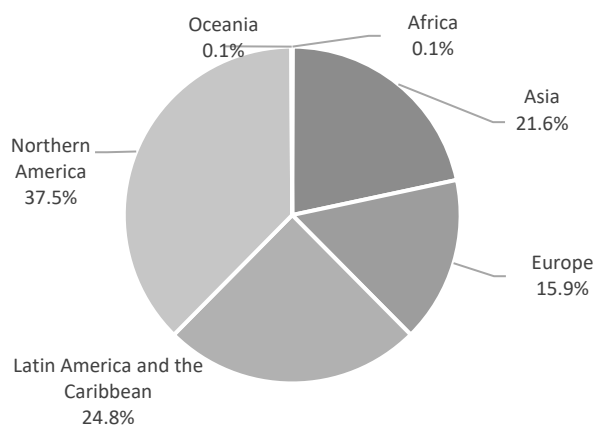


Figure 38: Production of energy from waste by region, 2021

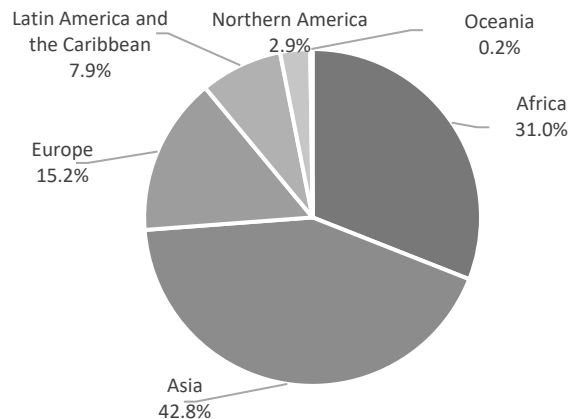


Table 13

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Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
World	2018	29,773,416	322,289	9,145,987	4,039,098	1,790,285	1,901,646
	2019	30,175,630	323,996	9,119,556	3,986,262	1,810,160	1,921,597
	2020	29,907,409	325,761	9,316,416	4,059,535	1,706,782	1,911,100
	2021	30,550,963	327,357	9,771,456	3,899,366	1,795,653	1,898,734
Africa	2018	10,667,505	171,177	3,464,616	196,701	..	1,262,918
	2019	10,800,922	174,605	3,575,589	198,401	..	1,273,227
	2020	11,068,555	177,912	3,669,461	200,349	..	1,305,683
	2021	11,304,113	181,938	3,752,952	188,669	..	1,313,777
Algeria	2018	1,032	..	..	..	..	..
	2019	484	..	..	..	..	..
	2020	475	..	..	..	..	..
	2021	119	..	..	..	..	..
Angola	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
	2021	*167,045	..	*112,666	*1,429	..	35,840
Benin	2018	113,912	..	3,348	..	..	15,258
	2019	117,218	..	3,386	..	..	15,676
	2020	120,634	..	3,595	..	..	16,134
	2021	119,615	..	4,691	..	..	16,603
Botswana	2018	6,389	..	..	..	..	2,216
	2019	6,390	..	..	..	..	2,216
	2020	6,391	..	..	..	..	2,216
	2021	6,391	..	..	..	..	2,216
Burkina Faso	2018	169,684	..	1,613	1,082	..	31,211
	2019	174,888	..	1,650	1,084	..	30,562
	2020	*176,634	..	*1,663	*1,095	..	30,857
	2021	*181,047	..	*1,696	*1,122	..	31,624
Burundi	2018	54,801	..	..	492	..	7,788
	2019	54,801	..	..	468	..	7,788
	2020	54,801	..	..	514	..	7,788
	2021	54,801	..	..	400	..	7,788
Cabo Verde	2018	*1,399	..	..	..	..	*19
	2019	*1,385	..	..	..	..	*20
	2020	*1,370	..	..	..	..	*19
	2021	*1,370	..	..	..	..	*19
Cameroon	2018	277,790	..	5,448	1,487	..	7,394
	2019	285,599	..	5,601	1,538	..	7,602
	2020	293,453	..	5,755	1,546	..	7,811
	2021	301,296	..	5,908	1,603	..	8,020
Central African Rep.	2018	*33,579	..	..	..	..	*434
	2019	*33,831	..	..	..	..	*445
	2020	*34,058	..	..	..	..	*443
	2021	*34,439	..	..	..	..	*440
Chad	2018	72,916	..	..	*949	..	14,485
	2019	73,920	..	..	*985	..	14,839
	2020	74,948	..	..	*927	..	15,200
	2021	75,991	..	..	*942	..	15,606
Comoros	2018	*4,271	..	*160	..	..	*266
	2019	*4,202	..	*160	..	..	*266
	2020	*4,147	..	*160	..	..	*266
	2021	*4,102	..	*160	..	..	*266
Congo	2018	52,483	..	15,862	..	..	7,094
	2019	53,228	..	16,087	..	..	7,194
	2020	53,983	..	16,316	..	..	7,296
	2021	54,771	..	16,554	..	..	7,403

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Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
1,137,551	1,390,034	2,330,306	1,669,520	1,012,543	52,611,028
1,133,220	1,395,067	2,366,839	1,812,849	1,006,915	53,130,494
1,154,790	1,403,274	2,133,332	1,765,385	1,032,851	52,805,535
1,201,131	1,415,913	2,224,190	1,962,955	1,060,527	54,209,510
3,106	2,095	2,297	..	128	14,507,625
3,106	1,393	2,449	..	118	14,756,583
2,881	1,407	2,504	..	134	15,123,202
3,142	1,428	2,575	..	118	15,434,935
..	..	..	..	..	1,032
..	..	..	..	..	484
..	..	..	..	..	475
..	..	..	..	..	119
..	..	..	..	..	268,031
..	..	..	..	..	271,566
..	..	..	..	..	275,064
..	..	..	..	..	*281,140
..	..	..	..	..	117,259
..	..	..	..	..	120,604
..	..	..	..	..	124,229
..	..	..	..	..	124,306
..	..	..	..	..	6,389
..	..	..	..	..	6,390
..	..	..	..	..	6,391
..	..	..	..	..	6,391
..	2,095	..	..	*36	174,510
..	1,393	..	..	*36	179,051
..	*1,407	..	..	*36	*180,835
..	*1,428	..	..	*36	*185,329
..	..	..	..	..	55,293
..	..	..	..	..	55,268
..	..	..	..	..	55,315
..	..	..	..	..	55,201
..	..	..	..	..	*1,399
..	..	..	..	..	*1,385
..	..	..	..	..	*1,370
..	..	..	..	..	*1,370
..	..	..	..	7	284,731
..	..	..	..	7	292,745
..	..	..	..	7	300,761
..	..	..	..	7	308,814
..	..	..	..	..	*33,579
..	..	..	..	..	*33,831
..	..	..	..	..	*34,058
..	..	..	..	..	*34,439
..	..	..	..	..	73,865
..	..	..	..	..	74,906
..	..	..	..	..	75,874
..	..	..	..	..	76,933
..	..	..	..	..	*4,431
..	..	..	..	..	*4,362
..	..	..	..	..	*4,307
..	..	..	..	..	*4,262
..	..	..	..	..	68,346
..	..	..	..	..	69,315
..	..	..	..	..	70,299
..	..	..	..	..	71,325

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Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Côte d'Ivoire	2018	230,190	..	4,857	..	..	37,674
	2019	249,701	..	3,894	..	..	41,379
	2020	264,606	..	4,647	..	..	42,459
	2021	321,224	..	6,838	..	..	67,319
Dem. Rep. of the Congo	2018	1,191,222	..	..	4,654	..	243,717
	2019	1,219,458	..	..	4,131	..	249,494
	2020	1,270,090	..	..	4,131	..	256,921
	2021	1,311,685	..	..	*4,170	..	265,335
Djibouti	2018	3,650	..	..	..	..	1,595
	2019	3,696	..	..	..	..	1,615
	2020	3,743	..	..	..	..	1,636
	2021	3,790	..	..	..	..	1,658
Egypt	2018	141,672	..	..	*23,915	..	42,950
	2019	142,632	..	..	*23,939	..	43,279
	2020	143,592	..	..	32,247	..	43,610
	2021	144,517	..	..	26,726	..	43,927
Equatorial Guinea	2018	4,083	..	..	..	..	324
	2019	4,083	..	..	..	..	324
	2020	4,083	..	..	..	..	338
	2021	4,083	..	..	..	..	344
Eritrea	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
	2021	26,911	2,852	1,553	..	..	4,985
Eswatini	2018	11,748	..	..	13,401	..	*295
	2019	13,308	..	..	12,304	..	*295
	2020	12,038	..	..	12,452	..	*295
	2021	12,147	..	..	11,387	..	*295
Ethiopia	2018	1,275,594	159,501	156,343	2,798	..	47,043
	2019	1,305,207	162,923	159,697	3,241	..	48,316
	2020	1,334,603	166,332	163,038	2,909	..	49,583
	2021	1,370,236	170,720	167,340	2,529	..	50,891
Gabon	2018	*51,975	..	2,138	631	..	687
	2019	*52,070	..	2,718	619	..	698
	2020	*52,290	..	2,682	623	..	709
	2021	*52,385	..	2,647	624	..	720
Gambia	2018	6,997	..	..	..	..	2,045
	2019	7,074	..	..	..	..	2,083
	2020	7,153	..	..	..	..	2,121
	2021	*7,153	..	..	..	..	2,161
Ghana	2018	176,833	..	..	..	..	52,963
	2019	173,064	..	..	..	..	52,066
	2020	178,994	..	..	..	..	54,453
	2021	174,939	..	..	..	..	45,312
Guinea	2018	112,730	..	..	*638	..	12,140
	2019	113,089	..	..	*647	..	12,377
	2020	113,461	..	..	*649	..	12,619
	2021	113,861	..	..	*653	..	12,863
Guinea-Bissau	2018	26,434	..	..	..	..	2,271
	2019	26,434	..	..	..	..	2,271
	2020	27,073	..	..	..	..	2,374
	2021	27,389	..	..	..	..	2,429
Kenya	2018	*510,000	..	25,879	11,676	..	115,758
	2019	*505,000	..	*26,474	*11,946	..	118,413
	2020	*501,000	..	*22,985	*11,907	..	121,127
	2021	*497,000	..	*23,013	*12,301	..	79,234

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Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	235,047
..	..	..	..	..	253,594
..	..	..	..	..	269,253
..	..	..	..	..	328,062
..	..	..	..	..	1,195,876
..	..	..	..	..	1,223,589
..	..	..	..	..	1,274,221
..	..	..	..	..	1,315,855
..	..	..	..	..	3,650
..	..	..	..	..	3,696
..	..	..	..	..	3,743
..	..	..	..	..	3,790
..	..	..	..	..	165,587
..	..	..	..	..	166,571
..	..	..	..	..	175,839
..	..	..	..	..	171,243
..	..	..	..	..	4,083
..	..	..	..	..	4,083
..	..	..	..	..	4,083
..	..	..	..	..	4,083
..	..	..	..	..	30,019
..	..	..	..	..	30,411
..	..	..	..	..	30,837
..	..	..	..	..	31,315
..	..	..	..	..	25,149
..	..	..	..	..	25,611
..	..	..	..	..	24,490
..	..	..	..	..	23,534
..	..	161	..	..	1,594,396
..	..	170	..	..	1,631,238
..	..	303	..	..	1,667,186
..	..	322	..	..	1,711,147
..	..	..	..	..	*54,744
..	..	..	..	..	*55,406
..	..	..	..	..	*55,595
..	..	..	..	..	*55,655
..	..	..	..	..	6,997
..	..	..	..	..	7,074
..	..	..	..	..	7,153
..	..	..	..	..	*7,153
..	..	..	..	..	176,833
..	..	..	..	..	173,064
..	..	..	..	..	178,994
..	..	..	..	..	174,939
..	..	..	..	..	113,367
..	..	..	..	..	113,736
..	..	..	..	..	114,110
..	..	..	..	..	114,514
..	..	..	..	..	26,434
..	..	..	..	..	26,434
..	..	..	..	..	27,073
..	..	..	..	..	27,389
..	..	..	..	4	*547,559
..	..	..	..	4	*543,424
..	..	..	..	2	*535,894
..	..	..	..	6	*532,320

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Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Lesotho	2018	*9,994	*6,588	*112	..	..	153
	2019	*9,793	*6,439	*85	..	..	*153
	2020	*9,857	*6,292	*64	..	..	0
	2021	*9,884	*6,149	*49	..	..	0
Liberia	2018	83,734	..	..	..	..	9,197
	2019	86,462	..	..	..	..	9,513
	2020	89,276	..	..	..	..	9,853
	2021	92,181	..	..	..	..	*10,178
Libya	2018	24,942	..	..	..	..	3,371
	2019	25,222	..	..	..	..	3,405
	2020	25,497	..	..	..	..	3,439
	2021	25,768	..	..	..	..	3,474
Madagascar	2018	299,749	..	..	2,497	..	27,199
	2019	312,613	..	..	2,487	..	28,497
	2020	*325,117	..	..	*2,462	..	*29,636
	2021	*338,122	..	..	*2,511	..	*30,822
Malawi	2018	53,936	..	..	*6,772	..	17,429
	2019	54,530	..	..	*6,772	..	17,819
	2020	55,146	..	..	*6,772	..	18,217
	2021	55,790	..	..	*6,772	..	18,633
Mali	2018	191,835	..	..	896	..	16,815
	2019	198,740	..	..	896	..	17,435
	2020	205,897	..	..	896	..	18,054
	2021	*206,640	..	..	*896	..	*18,290
Mauritania	2018	19,814	..	..	..	..	6,682
	2019	20,179	..	..	..	..	6,844
	2020	20,563	..	..	..	..	6,992
	2021	20,947	..	..	..	..	7,139
Mauritius	2018	204	..	..	8,690	..	15
	2019	162	..	..	8,541	..	12
	2020	145	..	..	7,087	..	6
	2021	139	..	..	6,716	..	9
Morocco	2018	61,328	..	..	1,332	..	602
	2019	61,315	..	..	1,122	..	616
	2020	60,685	..	..	1,714	..	622
	2021	59,916	..	..	1,326	..	636
Mozambique	2018	277,340	..	13,343	9,706	..	48,182
	2019	282,243	..	13,145	9,520	..	48,647
	2020	287,166	..	12,966	8,988	..	49,125
	2021	292,143	..	12,761	9,179	..	49,613
Namibia	2018	15,718	..	1,600	..	..	5,404
	2019	18,426	..	1,594	..	..	6,737
	2020	20,161	..	1,496	..	..	7,592
	2021	21,366	..	1,532	..	..	8,186
Niger	2018	*65,932	*803	*647	..	..	1,652
	2019	*68,537	*876	*705	..	..	1,711
	2020	*71,283	*949	*763	..	..	1,800
	2021	*71,481	*942	*765	..	..	*1,859
Nigeria	2018	2,347,336	..	*2,549,355	757	..	120,959
	2019	2,365,022	..	*2,612,528	*541	..	122,991
	2020	2,383,177	..	*2,677,075	*548	..	125,056
	2021	2,401,664	..	*2,742,278	*548	..	127,108
Rwanda	2018	*84,526	..	..	253	..	*18,467
	2019	*84,526	..	..	248	..	*18,467
	2020	*84,800	..	..	*243	..	*18,556
	2021	*84,800	..	..	*243	..	*18,556

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Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	*16,694
..	..	..	..	..	*16,316
..	..	..	..	..	*16,213
..	..	..	..	..	*16,082
..	..	..	..	..	83,734
..	..	..	..	..	86,462
..	..	..	..	..	89,276
..	..	..	..	..	92,181
..	..	..	..	..	24,942
..	..	..	..	..	25,222
..	..	..	..	..	25,497
..	..	..	..	..	25,768
..	..	..	..	..	302,246
..	..	..	..	..	315,100
..	..	..	..	..	*327,579
..	..	..	..	..	*340,634
*98	..	419	..	..	61,224
*98	..	371	..	..	61,772
*98	..	307	..	..	62,323
*98	..	316	..	..	62,976
..	..	..	..	..	192,731
..	..	..	..	..	199,636
..	..	..	..	..	206,792
..	..	..	..	..	*207,536
..	..	..	..	..	19,814
..	..	..	..	..	20,179
..	..	..	..	..	20,563
..	..	..	..	..	20,947
..	..	..	..	81	8,975
..	..	..	..	71	8,775
..	..	..	..	89	7,321
..	..	..	..	69	6,923
3,008	..	..	..	..	65,669
3,008	..	..	..	..	65,445
2,783	..	..	..	..	65,182
3,044	..	..	..	..	64,286
..	..	..	..	..	300,389
..	..	..	..	..	304,908
..	..	..	..	..	309,120
..	..	..	..	..	314,083
..	..	..	..	..	17,318
..	..	..	..	..	20,020
..	..	..	..	..	21,657
..	..	..	..	..	22,898
..	..	..	..	..	*67,382
..	..	..	..	..	*70,118
..	..	..	..	..	*72,995
..	..	..	..	..	*73,188
..	..	..	..	..	*4,897,448
..	..	..	..	..	*4,978,090
..	..	..	..	..	*5,060,800
..	..	..	..	..	*5,144,490
..	..	..	..	..	*84,779
..	..	..	..	..	*84,774
..	..	..	..	..	*85,043
..	..	..	..	..	*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	2018	1,039	..	..	..	..	289
	2019	1,039	..	..	..	..	289
	2020	1,051	..	..	..	..	295
	2021	*1,051	..	..	..	..	*295
Senegal	2018	63,838	..	252	3,536	..	5,387
	2019	65,601	..	1,513	5,880	..	5,476
	2020	75,144	..	1,680	6,003	..	6,728
	2021	76,709	..	1,885	3,642	..	6,918
Seychelles	2018	29	..	..	..	..	..
	2019	29	..	..	..	..	..
	2020	29	..	..	..	..	..
	2021	29	..	..	..	..	..
Sierra Leone	2018	54,143	..	*72	*201	..	13,629
	2019	54,572	..	*72	*201	..	13,924
	2020	55,038	..	*72	*201	..	14,249
	2021	55,519	..	*72	*201	..	14,561
Somalia	2018	142,539	..	..	497	..	38,816
	2019	146,278	..	..	503	..	40,235
	2020	150,132	..	..	460	..	41,704
	2021	154,103	..	..	461	..	43,230
South Africa	2018	176,469	..	..	56,669	..	11,250
	2019	181,711	..	..	56,494	..	11,447
	2020	198,309	..	..	53,494	..	12,750
	2021	191,857	..	..	52,821	..	11,578
South Sudan	2018	8,409	..	..	..	..	345
	2019	8,449	..	..	..	..	347
	2020	8,570	..	..	..	..	352
	2021	8,679	..	..	..	..	357
St. Helena and Depend.	2018	5	..	..	..	..	..
	2019	5	..	..	..	..	..
	2020	5	..	..	..	..	..
	2021	5	..	..	..	..	..
Sudan	2018	244,566	..	*9,513	*16,989	..	59,502
	2019	*180,142	..	*9,588	*17,004	..	*29,500
	2020	*143,034	..	9,658	16,742	..	21,703
	2021	*159,406	..	*9,725	*16,757	..	21,703
Togo	2018	123,097	..	1,367	..	..	22,332
	2019	127,498	..	1,415	..	..	23,128
	2020	135,797	..	1,495	..	..	24,633
	2021	126,387	..	2,150	..	..	25,222
Tunisia	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
	2021	40,285	1,275	*3,100	..	..	7,139
Uganda	2018	529,379	..	186,800	11,898	..	60,960
	2019	550,564	..	193,277	11,892	..	76,954
	2020	631,742	..	215,136	11,589	..	84,054
	2021	651,340	..	219,859	11,609	..	94,571
United Rep. of Tanzania	2018	561,390	..	207,727	6,741	..	49,088
	2019	569,782	..	239,151	7,761	..	48,989
	2020	578,493	..	240,519	7,822	..	51,784
	2021	596,909	..	234,223	7,599	..	53,237
Zambia	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
	2021	*282,336	..	52,770	*3,500	..	*36,875

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	1,039
..	..	..	..	..	1,039
..	..	..	..	..	1,051
..	..	..	..	..	*1,051
..	..	..	..	..	67,626
..	..	..	..	..	72,994
..	..	..	..	..	82,826
..	..	..	..	..	82,236
..	..	..	..	..	29
..	..	..	..	..	29
..	..	..	..	..	29
..	..	..	..	..	29
..	..	..	..	..	54,416
..	..	..	..	..	54,845
..	..	..	..	..	55,311
..	..	..	..	..	55,792
..	..	..	..	..	143,036
..	..	..	..	..	146,782
..	..	..	..	..	150,592
..	..	..	..	..	154,564
..	..	..	..	..	233,138
..	..	..	..	..	238,205
..	..	..	..	..	251,803
..	..	..	..	..	244,679
..	..	..	..	..	8,409
..	..	..	..	..	8,449
..	..	..	..	..	8,570
..	..	..	..	..	8,679
..	..	..	..	..	5
..	..	..	..	..	5
..	..	..	..	..	5
..	..	..	..	..	5
..	..	..	..	..	271,067
..	..	..	..	..	*206,733
..	..	..	..	..	*169,433
..	..	..	..	..	*185,888
..	..	..	..	..	124,464
..	..	..	..	..	128,913
..	..	..	..	..	137,292
..	..	..	..	..	128,537
..	..	..	..	..	45,636
..	..	..	..	..	45,864
..	..	..	..	..	46,063
..	..	..	..	..	44,660
..	..	..	..	..	728,077
..	..	..	..	..	755,734
..	..	..	..	..	858,467
..	..	..	..	..	882,809
..	..	..	..	..	775,859
..	..	..	..	..	816,694
..	..	..	..	..	826,835
..	..	..	..	..	838,731
..	..	..	..	..	319,085
..	..	..	..	..	325,178
..	..	..	..	..	331,299
..	..	..	..	..	*338,606

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Zimbabwe	2018	198,139	..	121,247	2,687	..	277
	2019	202,127	..	123,687	2,741	..	282
	2020	206,274	..	126,225	1,423	..	288
	2021	*210,348	..	*128,718	*3	..	294
Asia	2018	10,810,193	132,322	4,342,272	2,004,023	176,397	338,979
	2019	10,989,663	129,675	4,406,385	1,898,079	172,494	344,476
	2020	10,646,993	128,403	4,455,329	1,836,114	145,834	300,494
	2021	10,718,973	127,525	4,581,652	1,830,998	159,220	296,002
Afghanistan	2018	17,266	..	..	..	..	4,149
	2019	17,578	..	..	..	..	4,265
	2020	17,898	..	..	..	..	4,384
	2021	18,224	..	..	..	..	4,508
Armenia	2018	4,797	2,827	..	..	..	..
	2019	4,976	2,762	..	..	..	..
	2020	5,339	2,863	..	..	..	..
	2021	4,581	2,770	..	..	..	..
Azerbaijan	2018	1,488	..	187	..	..	3
	2019	1,413	..	408	..	..	3
	2020	974	..	397	..	..	2
	2021	838	..	372	..	..	3
Bahrain	2018	66	..	..	..	..	34
	2019	66	..	..	..	..	35
	2020	64	..	..	..	..	35
	2021	68	..	..	..	..	36
Bangladesh	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	100,810	191,878	*1,977	..	10,048
	2021	228,592	99,863	190,075	*1,958	..	10,076
Bhutan	2018	47,831	..	..	..	..	252
	2019	48,209	..	..	..	..	257
	2020	48,591	..	..	..	..	263
	2021	48,976	..	..	..	..	263
Brunei Darussalam	2018	106	..	..	..	..	10
	2019	106	..	..	..	..	10
	2020	106	..	..	..	..	10
	2021	106	..	..	..	..	10
Cambodia	2018	65,130	..	488	..	..	9,794
	2019	63,554	..	1,388	..	..	9,470
	2020	65,015	..	1,505	..	..	*8,791
	2021	63,923	..	*1,510	..	..	*8,644
China	2018	1,488,262	..	1,788,786	294,675	..	47,900
	2019	1,460,521	..	1,788,786	261,810	..	47,510
	2020	1,433,306	..	1,788,786	*270,274	..	47,123
	2021	1,422,611	..	1,788,786	*270,274	..	46,727
China, Macao SAR	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
Cyprus	2018	786	..	162	..	..	48
	2019	798	..	246	..	..	40
	2020	761	..	217	..	..	34
	2021	748	..	257	..	..	39
Georgia	2018	11,233	125	42	..	..	..
	2019	10,101	137	32	..	..	..
	2020	9,454	43	31	..	..	..
	2021	8,368	31	19	..	..	..

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	1,718	..	..	323,790
..	..	1,908	..	..	330,463
..	..	1,893	..	..	335,815
..	..	1,937	..	..	*341,005
624,174	176,261	137,442	633,491	96,705	19,133,280
555,599	177,496	151,869	746,336	104,976	19,332,572
538,061	172,721	138,292	729,327	106,491	18,897,565
560,004	177,586	131,740	772,328	118,217	19,178,245
..	..	..	..	..	17,266
..	..	..	..	..	17,578
..	..	..	..	..	17,898
..	..	..	..	..	18,224
..	..	..	..	..	7,623
..	..	..	..	..	7,738
..	..	..	..	..	8,202
..	..	..	..	..	7,352
..	2,966	..	..	..	4,641
..	3,075	..	..	..	4,895
..	3,164	..	..	..	4,535
..	3,019	..	..	..	4,229
..	..	..	..	..	66
..	..	..	..	..	66
..	..	..	..	..	64
..	..	..	..	..	68
..	..	..	..	..	536,429
..	..	..	..	..	530,439
..	..	..	..	..	525,476
..	..	..	..	..	520,488
..	..	..	..	..	47,831
..	..	..	..	..	48,209
..	..	..	..	..	48,591
..	..	..	..	..	48,976
..	..	..	..	..	106
..	..	..	..	..	106
..	..	..	..	..	106
..	..	..	..	..	106
..	..	..	..	..	65,617
..	..	..	..	..	64,942
..	..	..	..	..	66,521
..	..	..	..	..	65,433
221,906	..	*80,400	*323,840	..	4,197,869
181,564	..	85,760	*323,840	..	4,102,281
163,570	..	81,027	*312,800	..	4,049,763
172,807	..	78,344	*323,840	..	4,056,662
..	3,386	..	..	..	3,386
..	3,878	..	..	..	3,878
..	3,423	..	..	..	3,423
..	3,554	..	..	..	3,554
158	52	..	..	554	1,711
164	101	..	..	579	1,889
271	148	..	..	556	1,952
251	316	..	..	559	2,130
..	..	..	..	..	11,399
..	..	..	10	..	10,279
..	..	..	4	..	9,532
..	..	..	0	..	8,419

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
India	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
	2021	6,160,345	..	1,107,256	974,946	..	*74,724
Indonesia	2018	901,816	..	409,291	52,464	..	47,053
	2019	947,857	..	419,574	*53,782	..	52,923
	2020	569,187	..	493,729	*63,800	..	23,866
	2021	460,937	..	543,435	*51,159	..	23,069
Iran (Islamic Rep. of)	2018	*73,994	*1,175	8,373	..	..	9
	2019	*73,994	*1,175	8,205	..	..	5
	2020	*73,994	*1,175	8,579	..	..	5
	2021	*73,994	*1,175	8,629	..	..	5
Iraq	2018	2,088	..	..	..	..	597
	2019	2,008	..	..	..	..	574
	2020	2,039	..	..	..	..	583
	2021	2,190	..	..	..	..	626
Israel	2018	183	..	..	..	..	..
	2019	183	..	..	..	..	..
	2020	183	..	..	..	..	..
	2021	183	..	..	..	..	..
Japan	2018	77,642	..	79,576	..	146,898	250
	2019	79,194	..	102,947	..	144,794	235
	2020	89,763	..	89,951	..	120,939	217
	2021	92,238	..	117,225	..	133,195	204
Jordan	2018	3,325	..	..	..	..	1,441
	2019	3,397	..	..	..	..	1,473
	2020	3,469	..	..	..	..	1,506
	2021	3,540	..	..	..	..	1,537
Kazakhstan	2018	2,171	..	..	..	..	47
	2019	2,436	..	..	..	..	41
	2020	1,862	..	11	..	..	50
	2021	936	..	..	..	..	43
Korea, Dem.Ppl's.Rep.	2018	46,576	..	..	..	..	4,930
	2019	46,788	..	..	..	..	4,970
	2020	46,992	..	..	..	..	5,011
	2021	47,182	..	..	..	..	5,050
Korea, Republic of	2018	88,260	..	..	..	8,378	..
	2019	76,104	..	..	..	7,857	..
	2020	71,464	..	..	..	7,666	..
	2021	65,786	..	..	..	6,696	..
Kuwait	2018	187	..	..	..	..	92
	2019	189	..	..	..	..	93
	2020	190	..	..	..	..	94
	2021	193	..	..	..	..	95
Kyrgyzstan	2018	96	..	..	..	..	..
	2019	85	..	..	..	..	..
	2020	69	..	..	..	..	..
	2021	54	..	..	..	..	..
Lao People's Dem. Rep.	2018	52,710	..	..	*3,220	..	*6,136
	2019	52,363	..	..	4,031	..	*6,195
	2020	52,025	..	..	*3,830	..	6,048
	2021	*51,687	..	..	*4,015	..	*6,136
Lebanon	2018	*4,971	..	..	..	..	89
	2019	4,971	..	..	..	..	89
	2020	4,931	..	..	..	..	89
	2021	4,928	..	..	..	..	89

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	7,792,529
..	..	..	..	..	7,855,214
..	..	..	..	..	8,044,599
..	..	..	..	..	8,242,547
..	..	..	199,745	513	1,563,829
..	..	..	271,993	526	1,693,731
..	..	..	278,282	*526	1,405,524
..	..	..	312,658	*526	1,368,714
..	..	..	..	254	*83,796
..	..	..	..	219	*83,592
..	..	..	..	278	*84,025
..	..	..	..	278	*84,075
..	..	..	..	..	2,088
..	..	..	..	..	2,008
..	..	..	..	..	2,039
..	..	..	..	..	2,190
1,548	1,814	..	..	878	4,423
1,807	2,142	..	..	878	5,010
1,855	2,203	..	..	963	5,204
1,803	1,607	..	..	846	4,439
255,285	30,821	4	431	118	590,774
233,292	32,219	4	465	147	593,062
226,358	29,837	4	382	159	557,393
229,337	31,250	4	382	64	603,694
..	..	..	..	41	3,366
..	..	..	..	42	3,439
..	..	..	..	42	3,511
..	..	..	..	*42	3,582
..	..	..	..	19	2,189
..	..	..	..	43	2,479
..	..	..	..	70	1,943
..	..	85	..	37	1,058
..	..	..	..	..	46,576
..	..	..	..	..	46,788
..	..	..	..	..	46,992
..	..	..	..	..	47,182
108,143	40,155	9,037	23,515	7,406	284,893
102,191	37,090	12,841	23,551	8,108	267,743
107,650	36,229	10,731	23,885	8,384	266,010
110,470	35,270	8,089	24,072	8,043	258,426
..	..	..	..	..	187
..	..	..	..	..	189
..	..	..	..	..	190
..	..	..	..	..	193
..	..	..	..	..	96
..	..	..	..	..	85
..	..	..	..	..	69
..	..	..	..	..	54
..	..	..	..	..	55,930
..	..	..	..	..	56,394
..	..	..	..	..	55,855
..	..	..	..	..	*55,702
..	..	..	..	83	*5,054
..	..	..	..	415	5,386
..	..	..	..	257	5,188
..	..	..	..	..	4,928

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Malaysia	2018	22,425	..	*12,581	51	..	867
	2019	22,083	..	12,624	45	..	458
	2020	21,751	..	9,945	51	..	515
	2021	21,438	..	10,886	54	..	..
Maldives	2018	150	..	..	..	..	26
	2019	151	..	..	..	..	26
	2020	152	..	..	..	..	27
	2021	153	..	..	..	..	27
Mongolia	2018	5,481	..	..	..	..	510
	2019	5,481	..	..	..	..	515
	2020	5,772	..	..	..	..	519
	2021	6,686	..	..	..	..	523
Myanmar	2018	311,011	..	36,638	9,545	..	1,394
	2019	334,811	..	33,900	8,842	..	1,310
	2020	335,292	..	30,925	6,479	..	983
	2021	*338,317	..	28,750	6,508	..	*1,394
Nepal	2018	365,990	18,841	18,045	..	..	320
	2019	367,766	17,878	18,254	..	..	324
	2020	378,726	17,967	18,782	..	..	329
	2021	387,578	18,387	19,580	..	..	337
Oman	2018	447	..	..	..	..	216
	2019	458	..	..	..	..	221
	2020	458	..	..	..	..	221
	2021	469	..	..	..	..	232
Other Asia	2018	7,027	..	..	..	..	..
	2019	6,780	..	..	..	..	..
	2020	6,572	..	..	..	..	..
	2021	7,143	..	..	..	..	..
Pakistan	2018	*306,330	*5,671	*252,564	*149,508	..	2,567
	2019	*306,579	*5,387	*252,769	*149,508	..	2,617
	2020	*303,604	*5,118	*250,317	*149,824	..	2,617
	2021	*298,916	*4,862	*246,452	*150,224	..	*2,614
Philippines	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
	2021	*299,781	437	31,794	30,342	..	69,856
Qatar	2018	47	..	..	..	..	23
	2019	47	..	..	..	..	23
	2020	47	..	..	..	..	23
	2021	47	..	..	..	..	23
Singapore	2018	262	..	..	..	..	139
	2019	258	..	..	..	..	137
	2020	258	..	..	..	..	137
	2021	250	..	..	..	..	133
Sri Lanka	2018	126,490	..	..	1,572	..	..
	2019	128,649	..	..	1,651	..	..
	2020	131,422	..	..	1,545	..	..
	2021	*134,051	..	..	*2,008	..	..
State of Palestine	2018	2,022	..	398	..	..	..
	2019	2,074	..	1,190	..	..	..
	2020	2,097	..	510	..	..	..
	2021	2,148	..	453	..	..	..
Syrian Arab Republic	2018	326	..	..	..	..	80
	2019	330	..	..	..	..	80
	2020	333	..	..	..	..	80
	2021	335	..	..	..	..	80

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	25,502	6,146	66,706
..	..	..	56,557	4,425	95,733
..	..	..	38,182	6,025	75,954
..	..	..	41,910	5,795	80,084
..	..	..	..	..	150
..	..	..	..	..	151
..	..	..	..	..	152
..	..	..	..	..	153
..	..	..	..	..	5,481
..	..	..	..	..	5,481
..	..	..	..	..	5,772
..	..	..	..	..	6,686
..	..	..	..	1	357,194
..	..	..	..	1	377,553
..	..	..	..	*1	372,697
..	..	..	..	*1	*373,576
..	..	..	..	8,175	411,051
..	..	..	..	10,141	414,039
..	..	..	..	9,757	425,233
..	..	..	..	9,986	435,531
..	..	..	..	..	447
..	..	..	..	..	458
..	..	..	..	..	458
..	..	..	..	..	469
..	63,140	8	..	298	70,472
..	63,691	3	..	243	70,717
..	62,641	3	..	827	70,043
..	62,602	2	..	540	70,287
..	..	..	..	..	*714,073
..	..	..	..	..	*714,243
..	..	..	..	..	*708,863
..	..	..	..	..	*700,454
..	543	11,130	6,648	..	*366,709
..	634	13,030	7,044	..	*371,611
..	467	10,141	5,195	..	*361,953
..	274	13,116	6,191	..	*381,934
..	..	..	..	..	47
..	..	..	..	..	47
..	..	..	..	..	47
..	..	..	..	..	47
..	24,811	..	..	..	25,073
..	25,133	..	..	..	25,392
..	23,346	..	..	..	23,604
..	21,888	..	..	..	22,138
..	..	..	..	..	128,062
..	..	..	..	..	130,300
..	..	..	..	..	132,967
..	..	..	..	..	*136,058
..	..	..	..	..	2,420
..	..	..	..	..	3,264
..	..	..	..	..	2,607
..	..	..	..	..	2,600
..	..	..	..	..	326
..	..	..	..	..	330
..	..	..	..	..	333
..	..	..	..	..	335

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Tajikistan	2018	*50,225	..	..	..	..	..
	2019	50,142	..	..	..	..	..
	2020	50,142	..	..	..	..	..
	2021	50,142	..	..	..	..	..
Thailand	2018	233,303	..	310,173	364,892	21,121	43,159
	2019	229,289	..	338,373	389,444	19,843	42,510
	2020	173,875	..	302,230	314,513	17,229	32,568
	2021	143,942	..	287,131	290,729	19,329	27,701
Timor-Leste	2018	776	..	..	..	..	..
	2019	742	..	..	..	..	..
	2020	709	..	..	..	..	..
	2021	677	..	..	..	..	..
Türkiye	2018	40,654	..	30,720	..	..	..
	2019	43,794	..	30,898	..	..	..
	2020	48,232	..	38,454	..	..	..
	2021	49,860	..	45,703	..	..	..
Turkmenistan	2018	77	..	..	..	..	..
	2019	77	..	..	..	..	..
	2020	77	..	..	..	..	..
	2021	77	..	..	..	..	..
United Arab Emirates	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
Uzbekistan	2018	*926	..	..	..	..	..
	2019	*929	..	..	..	..	..
	2020	*959	..	..	..	..	..
	2021	*1,005	..	..	..	..	..
Viet Nam	2018	230,735	..	121,961	35,923	..	9,588
	2019	223,240	..	118,026	37,179	..	10,060
	2020	172,915	..	103,623	38,519	..	8,541
	2021	208,994	..	153,341	48,781	..	9,005
Yemen	2018	5,306	..	..	..	..	2,033
	2019	5,429	..	..	..	..	2,080
	2020	5,553	..	..	..	..	2,127
	2021	5,736	..	..	..	..	2,198
Europe	2018	3,686,056	18,778	343,578	25,831	544,653	12,924
	2019	3,736,093	19,702	356,139	25,911	570,180	12,038
	2020	3,708,072	19,442	367,865	29,626	565,975	12,359
	2021	4,036,048	17,870	379,767	25,883	576,830	7,648
Albania	2018	6,710	..	..	..	..	44
	2019	6,627	..	..	..	..	59
	2020	6,420	..	..	..	..	103
	2021	6,006	..	..	..	..	133
Andorra	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
Austria	2018	151,477	..	8,157	..	33,651	41
	2019	154,653	..	7,327	..	33,643	42
	2020	160,363	..	7,599	..	33,170	43
	2021	*174,682	..	6,422	..	34,393	43
Belarus	2018	63,754	..	2,392	..	1,013	103
	2019	67,665	..	2,161	..	5,759	189
	2020	70,034	..	2,132	..	8,049	272
	2021	70,906	..	2,482	..	9,660	272

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	*50,225
..	..	..	..	..	50,142
..	..	..	..	..	50,142
..	..	..	..	..	50,142
..	8,029	31,578	49,782	51,723	1,070,602
..	9,001	34,664	58,422	54,385	1,133,421
..	10,868	32,029	67,822	50,618	969,184
..	13,188	28,888	60,978	53,842	898,026
..	..	..	..	..	776
..	..	..	..	..	742
..	..	..	..	..	709
..	..	..	..	..	677
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
45,337	4,382	2,709	2,297	37,659	187,946
..	..	..	..	..	77
..	..	..	..	..	77
..	..	..	..	..	77
..	..	..	..	..	77
..	374	..	..	..	374
..	96	..	..	..	96
..	30	..	..	..	30
..	238	..	..	..	238
..	..	..	..	..	*926
..	..	..	..	..	*929
..	..	..	..	..	*959
..	..	..	..	..	*1,005
..	..	3,243	..	..	391,862
..	..	3,350	..	..	381,795
..	..	2,680	..	..	317,736
..	..	504	..	..	411,621
..	..	..	..	..	5,306
..	..	..	..	..	5,429
..	..	..	..	..	5,553
..	..	..	..	..	5,736
458,014	903,440	125,359	514,798	709,725	7,330,231
523,203	920,751	122,068	550,410	700,196	7,524,653
566,030	935,045	120,652	527,298	726,719	7,566,725
586,961	944,804	125,374	541,257	739,378	7,974,172
..	..	..	..	..	6,710
..	..	..	..	..	6,627
..	..	..	..	..	6,420
..	..	..	..	..	6,006
..	268	..	..	..	268
..	291	..	..	..	291
..	270	..	..	..	270
..	241	..	..	..	241
15,332	19,441	5,236	9,639	9,505	252,437
14,476	19,796	5,492	10,969	8,983	255,340
14,420	21,576	4,365	9,647	8,787	259,928
15,492	21,543	5,915	11,241	6,685	*276,373
970	..	..	515	507	69,151
792	..	..	589	465	77,431
381	..	..	..	2,170	82,766
398	..	..	..	2,048	85,494

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Belgium	2018	41,843	741	6,848	..	1,817	..
	2019	40,749	818	6,909	..	1,548	..
	2020	40,756	639	6,783	..	1,308	..
	2021	45,846	324	7,587	..	1,507	..
Bosnia and Herzegovina	2018	60,650	..	..	..	..	885
	2019	60,775	..	..	..	..	944
	2020	62,209	..	..	..	..	885
	2021	62,218	..	..	..	..	944
Bulgaria	2018	51,330	..	8,219	..	4,273	60
	2019	52,470	..	11,043	..	4,331	62
	2020	53,551	..	12,945	..	3,839	68
	2021	48,415	..	24,263	..	3,202	86
Croatia	2018	62,621	14	18	..	..	290
	2019	62,228	23	7	..	..	416
	2020	63,166	43	54	..	..	390
	2021	69,720	30	132	..	..	420
Czechia	2018	108,298	..	5,576	..	14,675	..
	2019	116,959	..	5,331	..	18,803	..
	2020	122,005	..	5,667	..	19,783	..
	2021	138,192	..	5,974	..	19,670	..
Denmark	2018	48,866	..	17,641	..	..	..
	2019	44,503	..	17,984	..	..	..
	2020	41,317	..	18,934	..	..	..
	2021	42,336	..	21,581	..	..	..
Estonia	2018	55,681	..	11,914	..	1,404	..
	2019	58,683	..	13,906	..	1,229	..
	2020	58,757	..	11,405	..	1,285	..
	2021	64,530	..	10,854	..	396	..
Finland	2018	193,497	308	1,773	..	167,032	..
	2019	189,374	249	1,986	..	169,744	..
	2020	171,942	195	1,942	..	158,132	..
	2021	210,435	95	1,820	..	166,151	..
France	2018	384,718	2,340	6,877	5,835	31,967	..
	2019	383,756	2,806	6,953	6,262	33,969	..
	2020	358,609	2,543	8,181	6,444	33,068	..
	2021	404,175	2,162	7,192	4,869	31,474	..
Germany	2018	475,112	3,653	13,404	..	26,710	974
	2019	490,503	3,277	13,321	..	27,299	974
	2020	485,548	2,846	13,643	..	27,508	974
	2021	544,826	2,712	12,934	..	24,446	974
Greece	2018	25,977	..	6,769	..	..	59
	2019	25,746	..	6,532	..	..	30
	2020	24,110	..	6,918	..	..	30
	2021	27,510	..	5,434	..	..	18
Hungary	2018	75,737	241	13,039	..	303	..
	2019	73,931	379	11,253	..	377	..
	2020	73,063	229	11,563	..	385	..
	2021	79,172	464	11,805	..	405	..
Iceland	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
Ireland	2018	9,332	1,091	..	..	..	..
	2019	8,913	1,022	..	..	..	..
	2020	7,973	1,429	..	..	..	..
	2021	9,453	939	..	..	..	..

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
12,156	30,222	7,598	9,281	9,547	120,052
12,705	30,138	8,513	9,358	9,698	120,436
11,755	30,586	9,624	7,846	10,261	119,558
11,805	32,504	9,134	7,051	10,292	126,049
..	..	..	..	97	60,747
..	..	..	..	67	60,842
..	..	..	..	104	62,313
..	..	..	..	98	62,316
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
3,107	1,779	590	7,445	2,499	91,300
818	..	..	15	3,081	66,568
1,129	..	..	10	3,442	66,838
1,630	..	..	6	3,481	68,380
1,892	..	..	14	4,154	75,942
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
12,651	6,694	2,204	9,008	24,737	219,130
..	35,566	172	..	13,333	115,579
..	35,707	105	..	16,482	114,781
..	35,531	58	..	21,152	116,991
..	35,487	126	..	26,195	125,726
611	2,117	..	..	571	72,298
614	1,791	..	..	592	76,815
14	2,217	..	..	784	74,462
9	2,289	..	..	762	78,841
2,048	24,865	1,246	10,145	7,804	408,718
1,818	25,214	1,130	12,188	7,851	409,554
2,025	24,105	1,193	10,920	7,080	377,534
2,213	26,626	1,017	21,592	8,138	438,087
18,928	105,337	26,569	81,367	36,609	700,548
20,733	104,651	25,788	74,754	40,717	700,389
16,998	103,175	22,306	72,637	45,640	669,601
19,608	105,270	22,352	56,607	58,793	712,502
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
45,628	260,696	17,944	115,074	325,115	1,294,002
44,922	263,634	17,926	124,310	314,773	1,350,483
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
329	..	434	6,119	5,326	45,152
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	3,748	116,321
3,847	4,771	14,016	6,587	3,518	124,586
..	..	..	..	72	72
..	..	..	..	78	78
..	..	..	..	78	78
..	..	..	..	80	80
..	11,953	113	1,284	2,108	25,882
..	11,812	180	1,713	2,120	25,761
..	12,215	137	2,241	2,105	26,100
..	12,007	135	2,674	2,179	27,386

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Isle of Man	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
Italy	2018	284,621	..	11,211	..	..	295
	2019	291,986	..	12,043	..	..	295
	2020	285,298	..	12,958	..	..	295
	2021	302,775	..	15,016	..	..	295
Jersey	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
Kosovo	2018	15,415	..	..	..	..	..
	2019	13,364	..	..	..	..	..
	2020	12,874	..	..	..	..	..
	2021	12,887	..	..	..	..	..
Latvia	2018	102,172	..	277	..	..	257
	2019	102,427	..	359	..	..	248
	2020	95,417	..	233	..	..	244
	2021	96,624	..	249	..	..	250
Liechtenstein	2018	225	..	..	..	..	..
	2019	207	..	..	..	..	..
	2020	164	..	..	..	..	..
	2021	159	..	..	..	..	..
Lithuania	2018	52,657	..	1,175	..	..	15
	2019	50,969	..	1,265	..	..	15
	2020	51,852	..	1,431	..	..	15
	2021	56,892	..	1,542	..	..	6
Luxembourg	2018	3,603	..	208	..	..	..
	2019	4,545	..	226	..	..	..
	2020	6,899	..	327	..	..	..
	2021	7,420	..	223	..	..	..
Malta	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
Montenegro	2018	7,964	..	..	..	..	18
	2019	8,164	..	..	..	..	22
	2020	8,205	..	..	..	..	22
	2021	7,892	..	..	..	..	25
Netherlands (Kingd. of the)	2018	44,673	..	11,508	..	..	..
	2019	48,425	..	11,877	..	..	..
	2020	51,492	..	12,610	..	..	..
	2021	59,366	..	12,854	..	..	..
North Macedonia	2018	9,428	..	261	..	..	..
	2019	10,358	..	369	..	..	..
	2020	10,225	..	291	..	..	..
	2021	10,518	..	*431	..	..	..
Norway	2018	36,472	..	..	..	369	..
	2019	38,659	..	..	..	408	..
	2020	40,577	..	..	..	334	..
	2021	47,672	..	..	..	339	..
Poland	2018	330,440	377	43,309	..	10,788	..
	2019	318,154	363	48,295	..	10,245	..
	2020	305,484	829	58,211	..	10,794	..
	2021	311,682	489	40,463	..	19,189	..

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	*546	..	..	..	*546
..	*542	..	..	..	*542
..	*543	..	..	..	*543
..	*526	..	..	..	*526
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	38,175	84,484	516,813
13,061	69,488	7,991	45,522	87,007	540,861
..	*760	..	..	..	*760
..	*764	..	..	..	*764
..	*760	..	..	..	*760
..	*760	..	..	..	*760
..	..	..	..	..	15,415
..	..	..	..	..	13,364
..	..	..	..	..	12,874
..	..	..	..	..	12,887
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
102	691	..	2,635	2,763	103,064
..	*759	..	..	24	*1,008
..	*785	..	..	25	*1,016
..	*841	..	..	25	*1,030
..	*878	..	..	25	*1,062
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
1,312	4,733	592	5,741	1,682	72,494
624	1,552	..	..	915	6,902
620	1,567	..	..	753	7,711
977	1,441	..	..	755	10,399
861	1,412	..	..	691	10,607
..	..	..	..	70	70
..	..	..	..	73	73
..	..	..	..	60	60
..	..	..	..	55	55
..	..	..	..	..	7,964
..	..	..	..	..	8,164
..	..	..	..	..	8,205
..	..	..	..	..	7,892
3,575	60,110	1,672	67,666	13,696	202,901
3,238	60,667	1,273	69,979	14,913	210,373
2,955	64,867	880	71,328	17,429	221,560
2,686	67,126	666	72,615	17,927	233,240
..	..	..	0	778	10,467
..	..	..	..	793	11,520
..	..	..	50	825	11,391
..	..	..	..	775	11,724
3,525	16,600	..	3,733	2,226	62,926
3,568	16,262	..	3,175	3,631	65,703
3,601	15,856	..	3,150	2,697	66,214
3,484	16,101	..	3,237	2,711	73,544
27,023	19,412	5,055	32,629	12,068	481,101
28,437	20,415	5,468	35,341	12,498	479,215
27,657	23,113	5,510	35,064	13,498	480,159
26,133	20,951	6,828	36,315	13,372	475,421

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Portugal	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
	2021	71,068	..	8,785	191	42,299	295
Republic of Moldova	2018	*23,264	*157	*9,172	..	..	12
	2019	*19,424	*101	*7,566	..	..	15
	2020	*22,421	*193	*5,032	..	..	30
	2021	24,653	165	5,918	..	..	30
Romania	2018	144,164	..	..	..	..	33
	2019	144,700	..	..	..	..	30
	2020	142,414	..	..	..	..	49
	2021	151,785	..	..	..	..	60
Russian Federation	2018	119,089	..	..	..	..	2,328
	2019	126,553	..	..	..	..	1,963
	2020	119,561	..	..	..	..	1,665
	2021	128,998	..	..	..	..	1,696
Serbia	2018	46,936	..	105	..	..	418
	2019	49,151	..	99	..	..	347
	2020	67,335	..	93	..	..	442
	2021	66,938	..	103	..	..	227
Slovakia	2018	22,518	..	2,620	..	12,861	..
	2019	38,456	..	7,309	..	12,797	..
	2020	35,384	..	*6,631	..	13,297	..
	2021	38,318	..	8,664	..	15,652	..
Slovenia	2018	23,193	..	338	..	..	..
	2019	22,610	..	317	..	..	..
	2020	22,563	..	274	..	..	..
	2021	25,104	..	182	..	..	..
Spain	2018	117,794	1,887	39,947	19,590	27,690	433
	2019	118,607	2,033	39,590	19,160	31,331	433
	2020	127,534	1,861	34,569	22,736	24,695	433
	2021	137,345	1,852	36,623	20,823	24,356	433
Sweden	2018	219,212	106	..	..	166,828	..
	2019	220,661	64	..	..	175,245	..
	2020	210,846	84	..	..	186,893	..
	2021	245,938	123	..	..	183,690	..
Switzerland	2018	39,990	..	..	..	..	..
	2019	42,330	..	..	..	..	..
	2020	42,930	..	..	..	..	..
	2021	50,750	..	..	..	..	..
Ukraine	2018	141,044	..	..	..	..	6,402
	2019	133,765	..	..	..	..	5,691
	2020	147,860	..	..	..	..	6,136
	2021	147,860	..	..	..	..	1,443
United Kingdom	2018	28,062	7,862	111,167	..	..	..
	2019	27,540	8,568	115,088	..	..	..
	2020	28,943	8,551	121,699	..	..	..
	2021	34,982	8,516	130,231	..	..	..
Latin America & Carib.	2018	2,522,964	12	935,716	1,707,354	165,667	261,181
	2019	2,541,193	13	724,127	1,767,355	151,574	266,208
	2020	2,518,979	5	766,862	1,904,817	155,274	266,906
	2021	2,545,153	24	994,165	1,760,997	156,794	255,647
Anguilla	2018	*2	..	..	..	..	..
	2019	*2	..	..	..	..	..
	2020	*2	..	..	..	..	..
	2021	*2	..	..	..	..	..

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
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
2,871	8,867	..	11,870	3,652	149,604
..	..	..	..	313	*32,906
..	..	..	..	292	*27,383
..	..	..	..	327	*27,973
..	..	..	..	381	31,117
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
13,204	193	1,368	8,508	970	176,028
244,991	..	..	..	..	364,080
305,868	..	..	..	..	432,421
311,158	..	..	..	..	430,719
330,687	..	..	..	..	459,685
49	..	..	..	958	48,049
51	..	..	..	1,190	50,491
57	..	..	..	1,624	69,110
58	..	..	..	2,220	69,320
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
7,894	3,003	3,511	4,306	5,472	86,819
2,409	..	..	..	1,018	26,958
2,597	..	..	..	930	26,453
2,395	..	..	..	1,129	26,361
2,292	..	..	..	1,044	28,622
12,275	21,280	11,075	63,252	12,374	327,164
11,308	21,412	11,504	73,065	12,184	340,194
12,713	19,769	11,420	67,909	13,539	336,745
11,732	21,785	11,719	65,111	13,644	344,990
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	496,585
3,888	59,363	11,265	14,462	8,154	526,884
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
12,030	47,900	..	475	5,888	117,043
..	..	107	..	1,995	143,147
..	..	1,874	..	2,028	137,667
34,090	..	..	..	3,862	185,812
34,090	..	..	..	3,862	185,812
5,247	91,269	10,988	17,517	117,802	389,914
4,077	99,052	5,574	18,768	94,379	373,046
4,337	102,172	6,941	18,253	94,962	385,858
4,303	108,183	7,584	17,811	96,807	408,418
1,375	489	733,038	283,484	18,710	6,368,808
1,427	1,047	778,363	293,073	21,342	6,279,514
1,590	1,133	720,359	271,901	22,706	6,363,626
10,211	1,122	728,712	311,046	36,942	6,545,167
..	..	..	..	..	*2
..	..	..	..	..	*2
..	..	..	..	..	*2
..	..	..	..	..	*2

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Argentina	2018	32,886	..	..	54,974	..	11,918
	2019	42,551	..	..	53,476	..	12,125
	2020	42,007	..	..	49,465	..	12,002
	2021	41,658	..	..	56,750	..	12,154
Aruba	2018	21	..	..	..	..	7
	2019	22	..	..	..	..	8
	2020	23	..	..	..	..	8
	2021	24	..	..	..	..	8
Bahamas	2018	309	..	..	..	..	34
	2019	309	..	..	..	..	34
	2020	310	..	..	..	..	34
	2021	310	..	..	..	..	34
Barbados	2018	43	..	..	539	..	9
	2019	43	..	..	342	..	9
	2020	43	..	..	391	..	9
	2021	42	..	..	396	..	9
Belize	2018	1,021	..	..	4,295	..	91
	2019	1,048	..	..	4,416	..	91
	2020	679	..	..	3,862	..	91
	2021	1,054	..	..	4,958	..	91
Bolivia (Plur. State of)	2018	8,045	..	..	34,924	..	1,454
	2019	6,799	..	..	36,806	..	1,488
	2020	7,654	..	..	36,618	..	1,529
	2021	6,401	..	..	*38,269	..	1,489
Brazil	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
	2021	1,060,139	..	928,500	1,234,833	..	179,245
British Virgin Islands	2018	15	..	..	..	..	2
	2019	15	..	..	..	..	2
	2020	15	..	..	..	..	2
	2021	16	..	..	..	..	2
Chile	2018	240,328	..	..	..	100,675	4,165
	2019	237,692	..	..	..	98,853	3,704
	2020	*215,418	..	..	..	101,233	4,490
	2021	226,014	..	1,827	..	101,881	..
Colombia	2018	106,426	..	..	56,019	13,190	383
	2019	109,935	..	..	84,032	..	350
	2020	105,517	..	..	92,837	..	13
	2021	101,123	..	..	87,615	..	423
Costa Rica	2018	3,010	..	2,979	10,442	..	28
	2019	4,651	..	3,750	10,258	..	28
	2020	5,079	..	3,172	10,428	..	27
	2021	4,951	..	3,221	10,181	..	27
Cuba	2018	8,805	..	*88	48,463	..	1,894
	2019	7,525	..	*88	40,119	..	2,245
	2020	7,417	..	*88	31,238	..	2,230
	2021	6,723	..	*88	27,857	..	1,746
Dominica	2018	68	..	..	..	..	7
	2019	67	..	..	..	..	7
	2020	67	..	..	..	..	7
	2021	67	..	..	..	..	7
Dominican Republic	2018	20,289	..	516	11,514	..	3,480
	2019	20,722	..	*525	*10,800	..	3,629
	2020	21,160	..	*525	12,646	..	3,786
	2021	21,607	..	*530	13,194	..	3,954

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	23,638	89,350	..	200,848
..	..	22,780	79,010	..	197,816
..	..	30,238	43,130	..	164,840
..	..	21,386	63,443	..	183,237
..	..	..	..	..	21
..	..	..	..	..	22
..	..	..	..	..	23
..	..	..	..	..	24
..	..	..	..	..	309
..	..	..	..	..	309
..	..	..	..	..	310
..	..	..	..	..	310
..	..	..	..	..	582
..	..	..	..	..	385
..	..	..	..	..	433
..	..	..	..	..	438
..	..	..	..	..	5,316
..	..	..	..	..	5,464
..	..	..	..	..	4,541
..	..	..	..	..	6,012
..	..	25	..	..	42,994
..	..	945	..	..	44,550
..	..	1,497	..	..	45,770
..	..	2,113	..	..	*46,783
..	..	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
..	..	685,812	219,105	26,531	4,154,920
..	..	..	..	..	15
..	..	..	..	..	15
..	..	..	..	..	15
..	..	..	..	..	16
..	..	..	..	4,484	345,487
..	..	..	..	4,235	340,780
..	..	..	..	3,522	*320,173
..	..	..	..	3,513	333,235
..	..	6,337	18,384	..	200,355
..	489	8,122	19,497	5	222,080
..	714	7,056	18,998	1	225,124
..	764	7,416	23,998	20	220,937
..	..	608	..	16	17,055
..	..	670	..	18	19,348
..	..	659	..	17	19,356
..	..	634	..	17	19,004
..	..	431	..	..	57,787
..	..	373	..	*45	48,150
..	..	368	..	*286	39,396
..	..	318	..	*1,944	36,930
..	..	..	..	..	68
..	..	..	..	..	67
..	..	..	..	..	67
..	..	..	..	..	67
..	..	..	..	*157	32,476
..	..	..	..	*157	32,204
..	..	..	..	*157	34,489
..	..	..	..	*160	35,491

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Ecuador	2018	10,127	..	..	12,170	..	..
	2019	9,815	..	..	13,524	..	..
	2020	9,466	..	..	12,959	..	..
	2021	9,095	..	..	11,654	..	..
El Salvador	2018	4,755	12	..	14,379	..	1
	2019	4,140	13	..	14,927	..	3
	2020	3,633	5	..	15,321	..	10
	2021	3,544	24	..	15,050	..	7
Falkland Is. (Malvinas)	2018	8	..	..	..	..	4
	2019	9	..	..	..	..	4
	2020	9	..	..	..	..	4
	2021	9	..	..	..	..	4
Grenada	2018	327	..	..	22	..	69
	2019	340	..	..	22	..	72
	2020	293	..	..	19	..	62
	2021	304	..	..	20	..	65
Guatemala	2018	332,010	..	..	51,340	..	1,896
	2019	338,392	..	..	53,779	..	1,994
	2020	348,593	..	..	54,054	..	*2,065
	2021	359,101	..	..	88,131	..	..
Guyana	2018	1,129	..	..	3,913	..	40
	2019	1,153	..	..	2,408	..	41
	2020	998	..	..	2,750	..	40
	2021	1,003	..	..	3,141	..	40
Haiti	2018	143,143	..	..	998	..	38,580
	2019	145,267	..	..	1,013	..	39,152
	2020	140,474	..	..	979	..	37,860
	2021	142,558	..	..	962	..	37,178
Honduras	2018	55,298	..	9,520	21,848	..	6
	2019	53,793	..	10,858	15,940	..	5
	2020	54,700	..	7,833	11,102	..	3
	2021	53,032	..	8,109	9,770	..	25
Jamaica	2018	*5,006	..	..	1,544	..	1,121
	2019	*8,681	..	..	1,988	..	753
	2020	*8,076	..	..	1,627	..	753
	2021	8,076	..	..	1,627	..	753
Mexico	2018	249,084	..	0	107,146	0	..
	2019	247,919	..	0	113,249	0	..
	2020	249,125	..	..	113,800	4	..
	2021	244,418	..	..	103,954	4	..
Nicaragua	2018	46,147	..	1,712	15,717	..	309
	2019	46,373	..	1,641	16,287	..	297
	2020	46,737	..	1,616	14,177	..	309
	2021	46,700	..	1,838	15,022	..	293
Panama	2018	7,016	..	..	4,660	..	39
	2019	6,972	..	..	4,660	..	38
	2020	6,929	..	..	4,599	..	43
	2021	6,888	..	..	4,344	..	42
Paraguay	2018	101,548	..	23,931	..	..	12,801
	2019	98,604	..	23,692	..	..	11,871
	2020	95,738	..	23,355	..	..	12,295
	2021	96,134	..	23,438	..	..	12,161
Peru	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
	2021	72,705	..	*4,660	*25,290	..	5,620

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	1,107	..	925	24,329
..	..	1,458	..	867	25,664
..	..	740	..	929	24,094
..	..	1,195	..	885	22,830
..	489	..	..	495	20,129
..	557	..	..	570	20,207
..	419	..	..	591	19,969
..	358	..	..	794	19,770
..	..	..	..	..	8
..	..	..	..	..	9
..	..	..	..	..	9
..	..	..	..	..	9
..	..	..	..	..	349
..	..	..	..	..	362
..	..	..	..	..	312
..	..	..	..	..	324
..	..	..	..	430	383,779
..	..	..	..	308	392,479
..	..	..	..	281	402,928
..	..	..	..	472	447,704
..	..	..	..	..	5,043
..	..	..	..	..	3,561
..	..	..	..	..	3,748
..	..	..	..	..	4,144
..	..	238	..	..	144,379
..	..	241	..	..	146,521
..	..	241	..	..	141,694
..	..	233	..	..	143,752
..	..	..	..	..	86,666
..	..	..	..	..	80,592
..	..	..	..	..	73,635
..	..	..	..	..	70,911
..	..	..	..	..	*6,550
..	..	..	..	..	*10,670
..	..	..	..	..	*9,703
..	..	..	..	..	9,703
1,010	..	..	..	2,844	360,084
1,067	..	..	..	2,799	365,034
1,200	..	..	..	3,000	367,129
9,918	..	..	..	1,767	360,061
..	..	..	..	..	63,577
..	..	..	..	75	64,376
..	..	..	..	71	62,601
..	..	..	..	92	63,652
..	..	..	..	..	11,675
..	..	..	..	..	11,632
..	..	..	..	..	11,528
..	..	..	..	..	11,232
..	..	7,071	..	..	132,550
..	..	8,366	..	..	130,662
..	..	7,093	..	..	126,186
..	..	7,812	..	..	127,384
..	..	0	2,867	691	100,697
..	..	271	3,231	823	107,276
..	..	..	..	719	102,826
..	..	..	3,146	572	106,372

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Puerto Rico	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
St. Kitts-Nevis	2018	0	..	..	..	..	0
	2019	*1	..	..	..	..	0
	2020	0	..	..	..	..	0
	2021	0	..	..	..	..	0
St. Lucia	2018	*617	..	..	..	..	106
	2019	*595	..	..	..	..	*91
	2020	*575	..	..	..	..	*86
	2021	*603	..	..	..	..	*89
St. Vincent-Grenadines	2018	65	..	..	..	..	11
	2019	65	..	..	..	..	11
	2020	64	..	..	..	..	11
	2021	*64	..	..	..	..	11
Suriname	2018	916	..	737	..	..	..
	2019	916	..	751	..	..	..
	2020	784	..	642	..	..	..
	2021	782	..	693	..	..	..
Trinidad and Tobago	2018	279	..	..	..	..	54
	2019	276	..	..	..	..	54
	2020	273	..	..	..	..	54
	2021	270	..	..	..	..	53
Turks and Caicos Islands	2018	11	..	..	..	..	4
	2019	11	..	..	..	..	4
	2020	11	..	..	..	..	5
	2021	11	..	..	..	..	5
United States Virgin Is.	2018	*30	..	..	..	..	*5
	2019	*30	..	..	..	..	*5
	2020	*31	..	..	..	..	*5
	2021	*31	..	..	..	..	*5
Uruguay	2018	25,794	..	12,873	858	51,802	..
	2019	24,286	..	12,238	829	52,720	..
	2020	22,885	..	14,626	969	54,037	..
	2021	23,079	..	15,639	1,028	54,909	..
Venezuela (Bolivar. Rep.)	2018	10,185	..	11,049	9,375	..	180
	2019	6,862	..	7,992	6,711	..	102
	2020	5,312	..	5,598	7,212	..	80
	2021	6,616	..	5,623	6,950	..	108
Northern America	2018	1,927,964	..	34,967	..	874,954	25,134
	2019	1,950,827	..	35,673	..	887,080	25,134
	2020	1,812,753	..	33,047	..	811,612	25,134
	2021	1,793,525	..	38,199	..	877,026	25,134
Bermuda	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..
Canada	2018	309,684	..	..	..	175,307	..
	2019	294,008	..	..	..	179,153	..
	2020	274,502	..	..	..	159,215	..
	2021	288,795	..	..	..	161,507	..
Greenland	2018	..	..	..	..	..	..
	2019	..	..	..	..	..	..
	2020	..	..	..	..	..	..
	2021	..	..	..	..	..	..

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	*136	*136
..	..	..	..	*195	*195
..	..	..	..	*121	*121
..	..	..	..	*175	*175
..	..	..	..	..	0
..	..	..	..	..	*1
..	..	..	..	..	0
..	..	..	..	..	0
..	..	..	..	..	*617
..	..	..	..	..	*595
..	..	..	..	..	*575
..	..	..	..	..	*603
..	..	..	..	..	65
..	..	..	..	..	65
..	..	..	..	..	64
..	..	..	..	..	*64
..	..	..	..	..	1,652
..	..	..	..	..	1,667
..	..	..	..	..	1,426
..	..	..	..	..	1,475
..	..	..	..	..	279
..	..	..	..	..	276
..	..	..	..	..	273
..	..	..	..	..	270
..	..	..	..	..	11
..	..	..	..	..	11
..	..	..	..	..	11
..	..	..	..	..	11
..	..	..	..	..	*30
..	..	..	..	..	*30
..	..	..	..	..	*31
..	..	..	..	..	*31
365	..	1,688	1,535	..	94,915
360	..	1,729	1,601	..	93,764
390	..	1,608	1,479	..	95,994
293	..	1,792	1,354	..	98,094
..	..	..	..	..	30,608
..	..	..	..	..	21,564
..	..	..	..	..	18,122
..	..	..	..	..	19,189
47,097	307,749	1,327,068	237,710	167,871	4,925,380
46,274	294,381	1,306,629	222,994	160,601	4,904,459
42,544	292,967	1,147,103	236,676	156,728	4,533,430
37,049	290,972	1,232,075	338,218	144,541	4,751,605
..	*600	..	..	..	*600
..	*600	..	..	..	*600
..	*600	..	..	..	*600
..	*600	..	..	..	*600
6,314	9,922	37,011	10,010	14,857	563,104
6,491	9,858	41,084	11,666	14,713	556,973
6,668	9,943	34,323	14,296	14,275	513,222
6,845	9,861	34,730	13,435	14,273	529,446
..	98	..	..	..	98
..	110	..	..	..	110
..	103	..	..	..	103
..	102	..	..	..	102

Table 13

Production of biofuels and wastes

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
St. Pierre-Miquelon	2018	5	..	..	..	..	..
	2019	5	..	..	..	..	..
	2020	5	..	..	..	..	..
	2021	5	..	..	..	..	..
United States	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
	2021	*1,504,725	..	*38,199	..	*715,519	25,134
Oceania	2018	158,733	..	24,840	105,189	28,615	511
	2019	156,932	..	21,644	96,517	28,832	514
	2020	152,057	..	23,852	88,629	28,087	523
	2021	153,150	..	24,720	92,818	25,783	525
Australia	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	..
	2021	69,262	..	5,461	87,968	12,791	..
Cook Islands	2018	..	..	*57	..	..	..
	2019	..	..	*57	..	..	..
	2020	..	..	*57	..	..	..
	2021	..	..	*57	..	..	..
Fiji	2018	338	..	..	4,023	..	73
	2019	338	..	..	4,255	..	74
	2020	338	..	..	3,830	..	74
	2021	338	..	..	*3,822	..	74
French Polynesia	2018	..	..	..	..	..	16
	2019	..	..	..	..	..	16
	2020	..	..	..	..	..	16
	2021	..	..	..	..	..	16
Kiribati	2018	*70	..	*512	..	..	12
	2019	*70	..	*514	..	..	12
	2020	*70	..	*512	..	..	13
	2021	*69	..	*510	..	..	13
Marshall Islands	2018	..	..	*195	..	..	..
	2019	..	..	*197	..	..	..
	2020	..	..	*192	..	..	..
	2021	..	..	*193	..	..	..
Micronesia (Fed. States of)	2018	24	..	..	..	..	11
	2019	25	..	..	..	..	11
	2020	25	..	..	..	..	11
	2021	25	..	..	..	..	12
New Caledonia	2018	117	..	..	..	..	19
	2019	118	..	..	..	..	19
	2020	119	..	..	..	..	19
	2021	120	..	..	..	..	20
New Zealand	2018	25,521	..	4,536	..	13,395	..
	2019	24,957	..	3,927	..	13,394	..
	2020	21,754	..	3,944	..	13,310	..
	2021	23,146	..	3,987	..	12,992	..
Niue	2018	1	..	..	..	..	0
	2019	1	..	..	..	..	0
	2020	1	..	..	..	..	0
	2021	*1	..	..	..	..	0
Papua New Guinea	2018	55,936	..	*11,832	938	..	293
	2019	56,103	..	*11,832	938	..	293
	2020	57,029	..	*12,063	955	..	299
	2021	*57,086	..	*12,075	*1,028	..	*299

Table 13

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	5
..	..	..	..	..	5
..	..	..	..	..	5
..	..	..	..	..	5
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
30,204	280,409	1,197,345	324,783	130,268	*4,221,451
3,785	..	5,102	37	19,404	345,704
3,609	..	5,462	37	19,681	332,713
3,685	..	4,422	183	20,072	320,987
3,764	..	3,714	106	21,331	325,386
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
3,764	..	3,618	51	17,984	200,899
..	..	..	..	..	*57
..	..	..	..	..	*57
..	..	..	..	..	*57
..	..	..	..	..	*57
..	..	..	..	..	4,361
..	..	..	..	..	4,593
..	..	..	..	..	4,168
..	..	..	..	..	*4,160
..	..	..	..	..	..
..	..	..	..	..	..
..	..	..	..	..	..
..	..	..	..	..	..
..	..	..	..	..	*582
..	..	..	..	..	*584
..	..	..	..	..	*582
..	..	..	..	..	*579
..	..	..	..	..	*195
..	..	..	..	..	*197
..	..	..	..	..	*192
..	..	..	..	..	*193
..	..	..	..	..	24
..	..	..	..	..	25
..	..	..	..	..	25
..	..	..	..	..	25
..	..	5	..	..	122
..	..	4	..	..	123
..	..	4	..	..	123
..	..	4	..	..	123
..	..	107	..	3,301	46,861
..	..	116	..	3,356	45,750
..	..	68	109	3,410	42,595
..	..	84	55	3,347	43,610
..	..	..	..	..	1
..	..	..	..	..	1
..	..	..	..	..	1
..	..	..	..	..	*1
..	..	..	..	..	68,706
..	..	..	..	..	68,873
..	..	..	..	..	70,047
..	..	..	..	..	*70,190

Table 13**Production of biofuels and wastes**

Terajoules

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Samoa	2018	*1,089	..	*377	..	..	16
	2019	*1,087	..	*377	..	..	17
	2020	983	..	351	..	..	17
	2021	*1,003	..	*358	..	..	*17
Solomon Islands	2018	1,231	..	*2,074	..	..	44
	2019	1,235	..	*2,075	..	..	45
	2020	1,239	..	*2,100	..	..	46
	2021	1,243	..	*2,080	..	..	47
Tonga	2018	19	..	..	..	..	7
	2019	19	..	..	..	..	7
	2020	19	..	..	..	..	7
	2021	19	..	..	..	..	7
Vanuatu	2018	831	..	..	..	..	19
	2019	831	..	..	..	..	20
	2020	831	..	..	..	..	20
	2021	831	..	..	..	..	21
Wallis and Futuna Is.	2018	*7	..	..	..	..	..
	2019	*7	..	..	..	..	..
	2020	*7	..	..	..	..	..
	2021	*7	..	..	..	..	..

Production of biofuels and wastes

Terajoules

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	0	*1,466
..	..	..	..	0	*1,464
..	..	..	..	0	1,334
..	..	..	..	0	*1,361
..	..	..	..	..	*3,305
..	..	..	..	..	*3,310
..	..	..	..	..	*3,339
..	..	..	..	..	*3,323
..	..	..	..	..	19
..	..	..	..	..	19
..	..	..	..	..	19
..	..	..	..	..	19
..	..	5	..	..	837
..	..	8	..	..	840
..	..	8	..	..	840
..	..	*9	..	..	840
..	..	..	..	..	*7
..	..	..	..	..	*7
..	..	..	..	..	*7
..	..	..	..	..	*7