

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).

Biogasoline includes Other liquid biofuels.

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

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

Figure 29: Production of fuelwood by region, 1990-2015

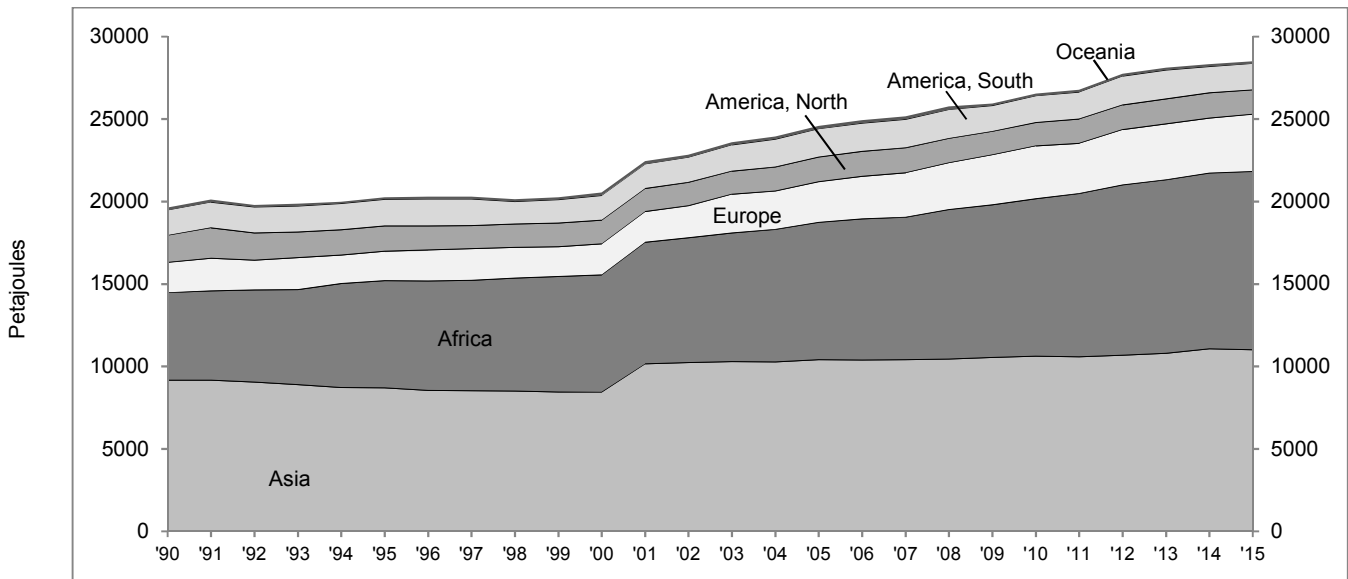


Figure 30: Production of charcoal by region, 1990-2015

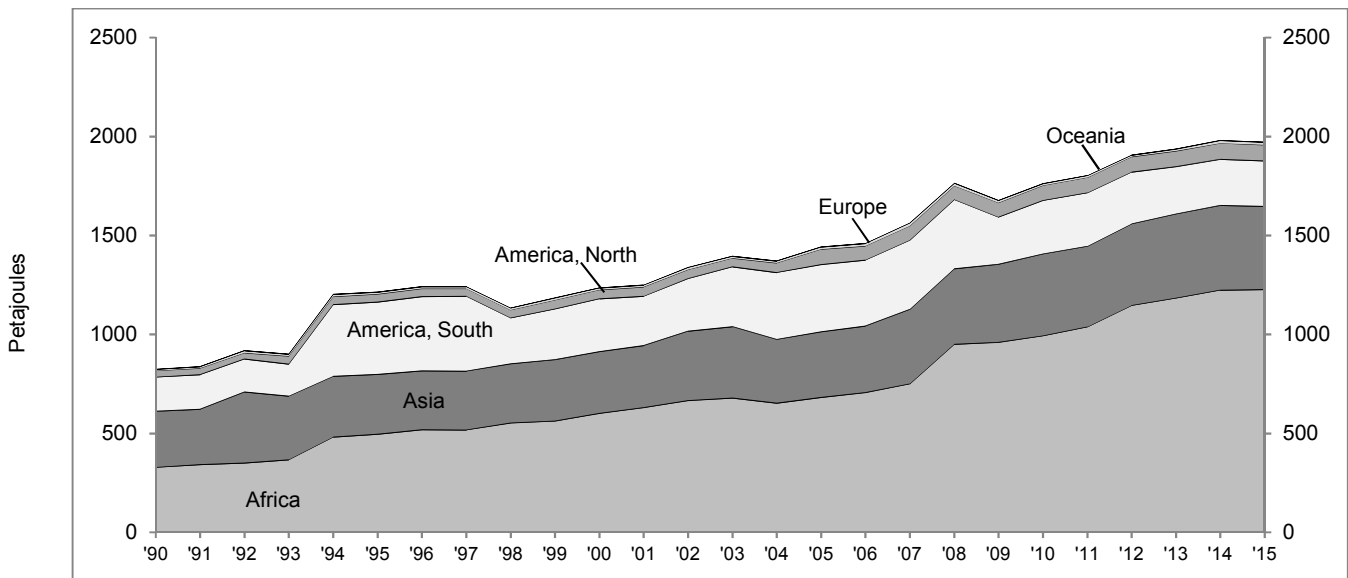


Figure 31: Production of total solid biofuels by region, 2015

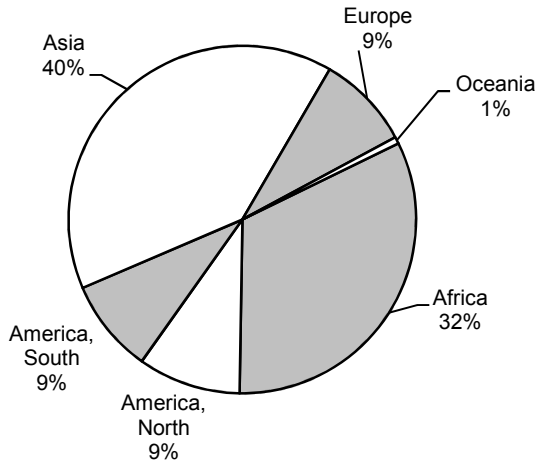


Figure 32: Production of biogases by region, 2015

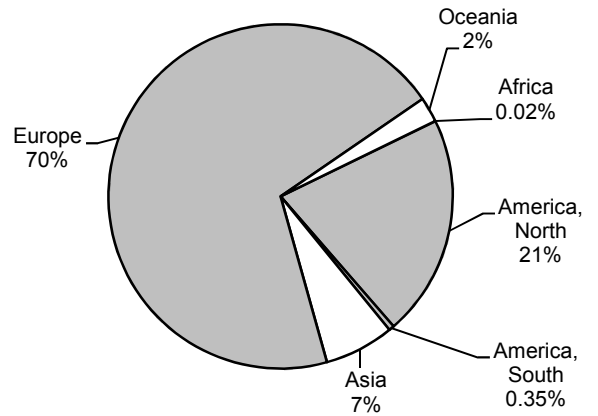


Figure 33: Production of bagasse by region, 2015

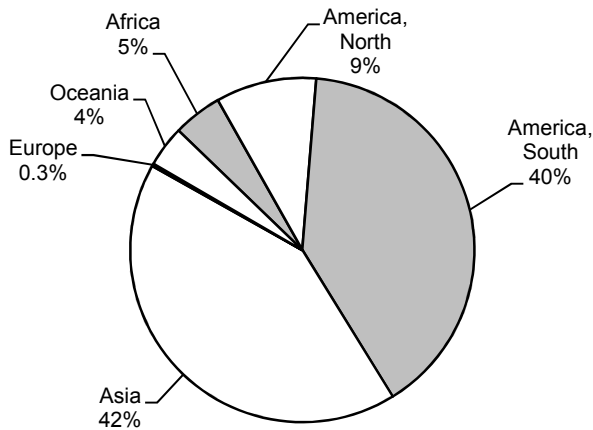


Figure 34: Production of liquids biofuels by region, 2015

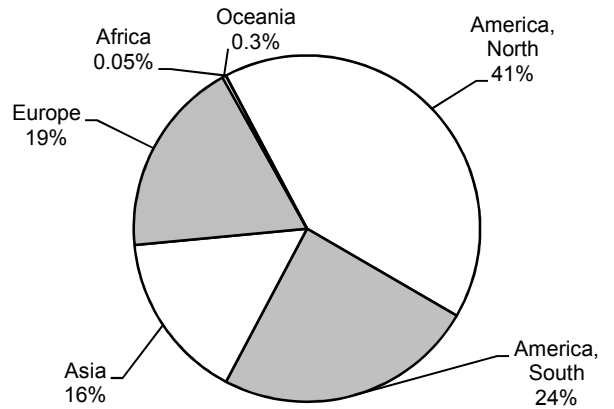


Figure 35: Production of energy from wastes by region, 2015

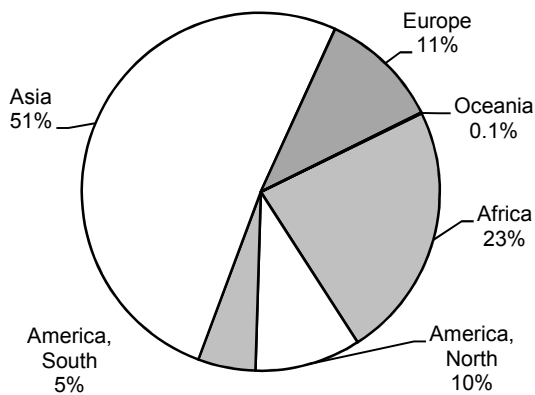


Table 12

Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
World	2012	27,740,316	645,795	9,474,183	3,511,990	1,617,472	1,906,639
	2013	28,104,892	683,300	9,706,599	3,717,896	1,734,934	1,937,308
	2014	28,325,713	709,100	9,921,453	3,749,643	1,852,966	1,980,448
	2015	28,503,598	671,634	10,028,754	3,666,559	1,782,226	1,972,167
Africa	2012	10,329,619	150,944	2,939,603	166,308	3,950	1,145,714
	2013	10,513,999	154,551	3,011,600	184,231	4,000	1,183,105
	2014	10,646,658	158,206	3,088,446	180,048	4,000	1,224,459
	2015	10,818,546	161,953	3,168,890	169,702	4,066	1,227,039
Algeria	2012	652	..	..	..	..	..
	2013	918	..	..	..	..	..
	2014	251	..	..	..	..	..
	2015	292	..	..	..	..	..
Angola	2012	174,762	..	113,594	..	..	33,040
	2013	178,186	..	115,819	..	..	33,689
	2014	181,598	..	118,037	..	..	34,338
	2015	184,987	..	120,240	..	..	34,987
Benin	2012	92,310	..	2,219	226	..	13,128
	2013	98,665	..	2,764	226	..	14,927
	2014	105,118	..	2,847	252	..	15,429
	2015	110,625	..	2,973	252	..	15,783
Botswana	2012	6,299	..	..	..	..	2,164
	2013	6,328	..	..	..	..	2,181
	2014	6,357	..	..	..	..	2,198
	2015	6,387	..	..	..	..	2,216
Burkina Faso	2012	120,080	..	..	934	..	18,275
	2013	121,779	..	..	1,035	..	18,786
	2014	123,505	..	..	633	..	19,311
	2015	125,268	..	..	633	..	19,850
Burundi	2012	52,462	..	..	583	..	1,770
	2013	54,874	..	..	650	..	7,936
	2014	54,801	..	..	542	..	7,788
	2015	54,801	..	..	579	..	7,788
Cabo Verde	2012	1,473	..	..	..	..	24
	2013	1,508	..	..	..	..	26
	2014	1,501	..	..	..	..	19
	2015	*1,516	..	..	..	..	*19
Cameroon	2012	188,698	..	6,344	..	..	6,638
	2013	193,507	..	6,505	..	..	6,785
	2014	198,403	..	6,670	..	..	6,962
	2015	203,378	..	6,838	..	..	7,139
Central African Rep.	2012	18,270	..	..	..	..	5,880
	2013	18,270	..	..	..	..	5,988
	2014	18,270	..	..	..	..	6,097
	2015	18,270	..	..	..	..	6,209
Chad	2012	66,686	..	..	806	..	12,493
	2013	67,769	..	..	770	..	12,812
	2014	68,869	..	..	829	..	13,142
	2015	69,992	..	..	885	..	13,479
Comoros	2012	2,556	..	..	..	..	1,236
	2013	2,621	..	..	..	..	1,271
	2014	2,689	..	..	..	..	1,307
	2015	2,758	..	..	..	..	1,342
Congo	2012	39,381	..	19,691	5,782
	2013	40,389	..	20,187	5,900
	2014	41,393	..	20,697	6,077
	2015	42,450	..	21,225	6,225

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Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
778,455	2,564,192	1,792,921	889,060	733,339	49,747,723
785,870	2,732,428	1,913,096	873,191	841,902	51,094,108
798,332	2,853,491	2,019,643	990,780	913,830	52,134,951
794,625	2,909,604	2,104,030	962,304	947,989	52,371,324
98	..	134	..	186	13,590,842
98	..	161	..	256	13,868,896
98	..	1,367	..	229	14,079,052
98	..	1,394	..	266	14,324,914
..	652
..	918
..	251
..	292
..	288,356
..	294,005
..	299,635
..	305,227
..	94,755
..	101,655
..	108,217
..	113,850
..	6,299
..	6,328
..	6,357
..	6,387
..	121,014
..	122,813
..	124,138
..	125,901
..	53,046
..	55,524
..	55,343
..	55,380
..	1,473
..	1,508
..	1,501
..	*1,516
..	195,042
..	200,012
..	205,073
..	210,216
..	18,270
..	18,270
..	18,270
..	18,270
..	67,491
..	68,539
..	69,697
..	70,877
..	2,556
..	2,621
..	2,689
..	2,758
..	59,072
..	60,576
..	62,090
..	63,675

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Production of biofuels and wastes

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Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Côte d'Ivoire	2012	392,717	..	1,412	..	..	38,911
	2013	411,252	..	1,450	..	..	41,359
	2014	421,878	..	1,489	..	..	42,392
	2015	391,481	..	1,928	..	..	45,666
Dem. Rep. of the Congo	2012	1,023,871	..	10,467	..	..	104,725
	2013	1,060,330	..	10,804	..	..	108,472
	2014	1,096,788	..	5,824	..	..	112,189
	2015	1,135,176	..	6,028	..	..	116,112
Djibouti	2012	3,355	..	..	..	..	1,460
	2013	3,408	..	..	..	..	1,484
	2014	3,461	..	..	..	..	1,509
	2015	3,516	..	..	..	..	1,534
Egypt	2012	160,781	..	35,000	23,386	..	40,849
	2013	161,199	..	35,798	25,023	..	41,223
	2014	161,625	..	36,601	23,160	..	41,595
	2015	162,058	..	37,389	23,160	..	41,979
Equatorial Guinea	2012	4,083	..	..	..	..	280
	2013	4,083	..	..	..	..	289
	2014	4,083	..	..	..	..	295
	2015	4,083	..	..	..	..	295
Eritrea	2012	21,427	2,519	1,425	..	..	4,160
	2013	21,896	2,574	1,456	..	..	4,248
	2014	22,382	2,631	1,488	..	..	4,307
	2015	23,122	2,720	1,537	..	..	4,455
Ethiopia	2012	949,733	138,376	135,636	6,950	..	115,678
	2013	962,335	141,839	139,031	9,267	..	118,540
	2014	975,143	145,441	142,561	9,946	..	139,172
	2015	988,160	148,963	148,963	10,448	..	124,478
Gabon	2012	48,691	..	2,949	579	..	620
	2013	49,854	..	3,019	612	..	631
	2014	*49,786	..	3,048	598	..	643
	2015	*49,968	..	3,104	592	..	643
Gambia	2012	6,513	..	..	..	..	1,817
	2013	6,595	..	..	..	..	1,856
	2014	6,687	..	..	..	..	1,894
	2015	6,773	..	..	..	..	1,936
Ghana	2012	93,531	..	..	..	..	39,949
	2013	97,555	..	..	..	..	42,707
	2014	99,627	..	..	..	..	43,976
	2015	99,322	..	..	..	..	43,843
Guinea	2012	110,196	..	..	579	..	10,733
	2013	110,689	..	..	579	..	10,969
	2014	111,209	..	..	579	..	11,209
	2015	111,730	..	..	604	..	11,455
Guinea-Bissau	2012	24,438	..	..	..	..	1,981
	2013	24,788	..	..	..	..	2,027
	2014	25,141	..	..	..	..	2,075
	2015	25,499	..	..	..	..	2,124
Kenya	2012	*578,693	..	28,378	14,057	..	183,699
	2013	*600,973	..	22,353	15,057	..	188,664
	2014	593,629	..	23,393	14,640	..	188,422
	2015	545,871	..	24,139	15,393	..	191,316
Lesotho	2012	19,253	*8,160	*1,330	..	..	2,956
	2013	19,326	*8,180	*1,335	3,009
	2014	19,398	*8,190	*1,340	3,065
	2015	19,471	*8,377	*1,371	3,121

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Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	394,129
..	412,702
..	423,367
..	393,409
..	1,034,338
..	1,071,134
..	1,102,612
..	1,141,204
..	3,355
..	3,408
..	3,461
..	3,516
..	219,168
..	222,020
..	221,386
..	222,607
..	4,083
..	4,083
..	4,083
..	4,083
..	25,371
..	25,926
..	26,501
..	27,379
..	..	134	..	..	1,230,829
..	..	161	..	..	1,252,632
..	..	214	..	..	1,273,305
..	..	241	..	..	1,296,776
..	52,219
..	53,485
..	*53,432
..	*53,665
..	6,513
..	6,595
..	6,687
..	6,773
..	93,531
..	97,555
..	99,627
..	99,322
..	110,775
..	111,268
..	111,789
..	112,334
..	24,438
..	24,788
..	25,141
..	25,499
..	*621,128
..	*638,383
..	631,662
..	585,403
..	28,743
..	28,841
..	28,928
..	29,219

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Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Liberia	2012	68,588	..	..	..	..	7,445
	2013	70,992	..	..	..	..	7,722
	2014	73,480	..	..	..	..	8,010
	2015	76,056	..	..	..	..	8,309
Libya	2012	6,466	..	..	..	..	..
	2013	6,395	..	..	..	..	..
	2014	6,333	..	..	..	..	..
	2015	6,352	..	..	..	..	..
Madagascar	2012	119,166	..	..	1,762	..	34,989
	2013	121,733	..	..	1,938	..	46,021
	2014	124,318	..	..	1,440	..	46,021
	2015	126,899	..	..	2,189	..	46,021
Malawi	2012	50,500	..	..	7,628	..	15,167
	2013	51,094	..	..	7,351	..	15,538
	2014	51,711	..	..	7,552	..	15,919
	2015	52,350	..	..	7,300	..	16,309
Mali	2012	49,740	..	..	805	..	4,160
	2013	48,637	..	..	805	..	5,065
	2014	50,860	..	..	1,259	..	5,045
	2015	51,439	..	..	1,259	..	8,113
Mauritania	2012	17,532	..	..	..	..	5,773
	2013	17,925	..	..	..	..	5,927
	2014	18,325	..	..	..	..	6,086
	2015	18,325	..	..	..	..	6,245
Mauritius	2012	183	..	..	9,969	..	18
	2013	174	..	..	9,738	..	18
	2014	164	..	..	9,336	..	18
	2015	155	..	..	11,104	..	18
Mayotte	2012	242	..	..	..	..	..
	2013	242	..	..	..	..	..
	2014	242	..	..	..	..	..
	2015	242	..	..	..	..	..
Morocco	2012	40,662	..	..	780	..	502
	2013	39,716	..	..	741	..	502
	2014	39,302	..	..	703	..	561
	2015	39,335	..	..	718	..	561
Mozambique	2012	338,466	..	17,773	9,676	..	20,503
	2013	348,121	..	18,280	9,645	..	21,093
	2014	357,972	..	18,798	10,572	..	21,063
	2015	367,995	..	19,324	9,313	..	27,730
Namibia	2012	11,580	..	1,415	..	..	4,248
	2013	11,858	..	1,449	..	..	3,983
	2014	12,458	..	1,449	..	..	4,278
	2015	12,939	..	1,449	..	..	4,514
Niger	2012	56,570	434	442	..	..	1,325
	2013	58,776	500	378	..	..	1,376
	2014	*60,071	*500	*405	..	..	*1,420
	2015	63,457	*510	*410	..	..	1,486
Nigeria	2012	2,369,125	..	2,151,823	273	..	118,148
	2013	2,336,770	..	2,210,364	273	..	110,419
	2014	2,280,848	..	2,269,954	158	..	114,077
	2015	2,341,562	..	2,330,400	378	..	117,115
Réunion	2012	923	4,095	..	435
	2013	922	3,920	..	434
	2014	921	4,145	..	434
	2015	920	4,396	..	434

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Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	68,588
..	70,992
..	73,480
..	76,056
..	6,466
..	6,395
..	6,333
..	6,352
..	120,928
..	123,671
..	125,758
..	129,088
*98	58,226
*98	58,543
*98	59,361
*98	59,748
..	50,545
..	49,443
..	52,119
..	52,698
..	17,532
..	17,925
..	18,325
..	18,325
..	*65	10,217
..	*68	9,979
..	*70	9,570
..	73	11,333
..	242
..	242
..	242
..	242
..	41,442
..	40,457
..	40,005
..	40,053
..	365,915
..	376,046
..	387,342
..	396,632
..	12,995
..	13,307
..	13,907
..	14,388
..	57,446
..	59,654
..	*60,976
..	64,377
..	4,521,221
..	4,547,407
..	4,550,960
..	4,672,340
..	121	5,140
..	188	5,030
..	159	5,225
..	193	5,508

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Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Rwanda	2012	*79,803	..	..	226	..	*16,968
	2013	*82,368	..	..	151	..	*17,865
	2014	*83,129	..	..	252	..	*17,995
	2015	*83,476	..	..	126	..	*18,113
Sao Tome and Principe	2012	996	..	..	..	..	268
	2013	1,005	..	..	..	..	271
	2014	1,014	..	..	..	..	276
	2015	1,023	..	..	..	..	280
Senegal	2012	85,358	..	611	3,072	..	16,992
	2013	69,442	..	1,021	2,055	..	14,219
	2014	71,649	..	1,053	2,120	..	14,662
	2015	73,876	..	1,085	2,186	..	15,104
Seychelles	2012	29	..	..	..	..	..
	2013	29	..	..	..	..	..
	2014	29	..	..	..	..	..
	2015	29	..	..	..	..	..
Sierra Leone	2012	51,704	..	..	201	..	11,830
	2013	52,097	..	..	201	..	12,125
	2014	52,471	..	..	286	..	12,420
	2015	52,965	..	..	286	..	12,744
Somalia	2012	127,494	..	..	579	..	35,022
	2013	127,495	..	..	579	..	35,022
	2014	128,241	..	..	579	..	35,022
	2015	128,241	..	..	579	..	34,854
South Africa	2012	557,140	..	84,096	49,497	..	20,945
	2013	565,815	..	85,405	59,279	..	21,013
	2014	574,809	..	86,763	53,287	..	21,081
	2015	584,975	..	88,297	41,000	..	5,573
South Sudan	2012	8,064	..	..	..	..	325
	2013	7,826	..	..	..	..	325
	2014	8,138	..	..	..	..	325
	2015	8,431	..	..	..	..	207
St. Helena and Depend.	2012	5	..	..	..	..	..
	2013	6	..	..	..	..	..
	2014	*5	..	..	..	..	..
	2015	*5	..	..	..	..	..
Sudan	2012	339,332	..	39,640	..	..	45,106
	2013	346,699	..	40,634	..	..	46,050
	2014	354,540	..	41,639	..	..	47,082
	2015	362,757	..	42,739	..	..	48,144
Swaziland	2012	9,987	..	..	15,390	*3,950	1,325
	2013	10,131	..	..	17,290	*4,000	1,361
	2014	10,277	..	..	17,336	*4,000	1,397
	2015	10,426	..	..	17,583	*4,066	1,434
Togo	2012	103,262	..	1,225	..	..	18,733
	2013	106,063	..	1,258	..	..	19,234
	2014	108,910	..	1,292	..	..	19,765
	2015	111,818	..	1,327	..	..	20,097
Tunisia	2012	34,058	1,455	4,075	..	..	5,871
	2013	34,214	1,458	4,088	..	..	6,018
	2014	34,384	1,444	4,074	..	..	6,136
	2015	34,558	1,383	3,800	..	..	6,284
Uganda	2012	500,472	..	..	*11,506	..	27,478
	2013	521,640	*14,278	..	29,500
	2014	543,816	*17,375	..	30,604
	2015	567,076	*16,603	..	31,439

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Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	*80,029
..	*82,520
..	*83,380
..	*83,602
..	996
..	1,005
..	1,014
..	1,023
..	89,041
..	72,518
..	74,822
..	77,147
..	29
..	29
..	29
..	29
..	51,905
..	52,298
..	52,757
..	53,250
..	128,074
..	128,074
..	128,820
..	128,820
..	690,733
..	710,499
..	714,859
..	714,272
..	8,064
..	7,826
..	8,138
..	8,431
..	5
..	6
..	*5
..	*5
..	378,972
..	387,333
..	396,179
..	405,496
..	29,327
..	31,421
..	31,613
..	32,075
..	104,487
..	107,321
..	110,202
..	113,145
..	39,588
..	39,759
..	39,902
..	39,741
..	511,978
..	535,918
..	561,191
..	583,678

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Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
United Rep. of Tanzania	2012	665,915	..	126,790	342	..	53,130
	2013	708,344	..	130,691	378	..	54,752
	2014	742,758	..	137,635	396	..	57,142
	2015	770,550	..	142,010	378	..	58,971
Zambia	2012	256,417	..	43,779	..	..	30,503
	2013	264,870	..	45,222	..	..	31,211
	2014	273,675	..	46,218	..	..	31,949
	2015	290,383	..	44,229	..	..	32,686
Zimbabwe	2012	178,927	..	109,489	2,405	..	266
	2013	183,503	..	112,289	2,390	..	266
	2014	188,213	..	115,171	2,074	..	266
	2015	192,976	..	118,085	1,757	..	266
America, North	2012	1,481,756	351,527	651,418	303,664	894,819	77,765
	2013	1,507,445	382,523	726,105	317,370	975,122	80,004
	2014	1,536,215	401,140	735,091	337,367	1,004,349	81,694
	2015	1,474,053	358,073	660,257	346,585	928,313	80,287
Anguilla	2012	*2	..	..	..	..	..
	2013	*2	..	..	..	..	..
	2014	*2	..	..	..	..	..
	2015	*2	..	..	..	..	..
Aruba	2012	17	..	..	..	..	5
	2013	17	..	..	..	..	5
	2014	18	..	..	..	..	6
	2015	19	..	..	..	..	6
Bahamas	2012	304	..	..	..	..	32
	2013	305	..	..	..	..	33
	2014	307	..	..	..	..	33
	2015	308	..	..	..	..	33
Barbados	2012	45	..	..	692	..	9
	2013	45	..	..	518	..	9
	2014	45	..	..	463	..	9
	2015	44	..	..	455	..	9
Belize	2012	1,151	..	..	3,158	..	22
	2013	1,151	..	..	2,587	..	22
	2014	1,151	..	..	3,120	..	22
	2015	1,151	..	..	3,784	..	23
Bermuda	2012	..	..	..	..	..	..
	2013	..	..	..	..	..	..
	2014	..	..	..	..	..	..
	2015	..	..	..	..	..	..
British Virgin Islands	2012	13	..	..	..	..	2
	2013	13	..	..	..	..	2
	2014	14	..	..	..	..	2
	2015	14	..	..	..	..	2
Canada	2012	352,340	..	..	..	175,026	..
	2013	360,069	..	..	..	191,861	..
	2014	379,138	..	..	..	182,966	..
	2015	299,607	..	..	..	195,115	..
Costa Rica	2012	12,304	..	4,965	9,285	..	36
	2013	12,213	..	4,742	11,061	..	38
	2014	11,254	..	4,851	11,447	..	47
	2015	11,053	..	4,279	11,269	..	57
Cuba	2012	11,062	..	88	30,580	..	974
	2013	12,641	..	*88	28,085	..	3,339
	2014	10,931	..	*88	35,554	..	3,685
	2015	9,858	..	*88	38,163	..	3,098

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	793,047
..	..	..	..	..	839,413
..	..	..	..	..	880,789
..	..	..	..	..	912,938
..	..	..	..	..	300,196
..	..	..	..	..	310,092
..	..	..	..	..	319,893
..	..	..	..	..	334,612
..	..	..	..	..	290,821
..	..	..	..	..	298,182
..	..	1,152	..	..	306,610
..	..	1,152	..	..	313,970
89,331	305,729	1,093,697	130,456	154,241	5,456,637
66,915	305,140	1,083,380	73,195	178,575	5,615,771
64,987	303,957	1,167,273	79,488	202,439	5,832,306
56,941	303,075	1,195,438	65,136	197,371	5,585,243
..	..	..	..	..	*2
..	..	..	..	..	*2
..	..	..	..	..	*2
..	..	..	..	..	*2
..	..	..	..	..	17
..	..	..	..	..	17
..	..	..	..	..	18
..	..	..	..	..	19
..	..	..	..	..	304
..	..	..	..	..	305
..	..	..	..	..	307
..	..	..	..	..	308
..	..	..	..	..	737
..	..	..	..	..	563
..	..	..	..	..	507
..	..	..	..	..	499
..	..	..	..	..	4,309
..	..	..	..	..	3,738
..	..	..	..	..	4,271
..	..	..	..	..	4,935
..	*565	..	..	..	*565
..	*565	..	..	..	*565
..	*605	..	..	..	*605
..	*605	..	..	..	*605
..	..	..	..	..	13
..	..	..	..	..	13
..	..	..	..	..	14
..	..	..	..	..	14
5,252	5,815	36,475	3,754	14,969	593,630
5,429	7,399	36,073	4,048	16,664	621,543
5,606	7,658	37,413	9,826	16,977	639,583
5,783	7,658	36,368	9,973	16,977	571,480
..	..	742	..	4	27,301
..	..	742	..	4	28,762
..	..	705	..	4	28,261
..	..	705	..	4	27,310
..	..	375	..	..	42,104
..	..	374	..	..	41,188
..	..	372	..	..	46,945
..	..	*348	..	..	48,457

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Dominica	2012	69	..	..	..	..	7
	2013	69	..	..	..	..	7
	2014	69	..	..	..	..	7
	2015	69	..	..	..	..	7
Dominican Republic	2012	9,778	..	..	12,771	..	2,088
	2013	9,803	..	..	11,981	..	2,139
	2014	10,009	..	..	12,519	..	2,232
	2015	10,196	..	..	10,632	..	2,324
El Salvador	2012	16,618	..	..	12,347	..	236
	2013	15,712	..	..	7,495	..	236
	2014	16,109	..	..	7,640	..	1,092
	2015	14,411	..	..	11,525	..	1,121
Greenland	2012	..	..	..	..	..	..
	2013	..	..	..	..	..	..
	2014	..	..	..	..	..	..
	2015	..	..	..	..	..	..
Grenada	2012	280	..	..	22	..	58
	2013	273	..	..	22	..	57
	2014	296	..	..	20	..	60
	2015	300	..	..	20	..	62
Guadeloupe	2012	137	..	..	*1,390	..	62
	2013	137	..	..	*1,506	..	62
	2014	137	..	..	*1,622	..	62
	2015	137	..	..	1,737	..	62
Guatemala	2012	183,663	..	..	75,799	..	1,977
	2013	183,663	..	..	80,657	..	2,036
	2014	199,158	..	..	80,657	..	2,095
	2015	188,300	..	..	80,221	..	*2,095
Haiti	2012	137,987	..	..	967	..	36,787
	2013	138,054	..	..	963	..	38,173
	2014	134,364	..	..	931	..	38,232
	2015	137,436	..	..	958	..	37,052
Honduras	2012	81,085	..	..	11,502	..	620
	2013	82,677	..	..	11,864	..	620
	2014	83,904	..	..	10,692	..	620
	2015	90,423	..	..	11,304	..	620
Jamaica	2012	2,773	..	..	3,357	..	1,133
	2013	2,773	..	..	3,687	..	1,133
	2014	2,773	..	..	3,926	..	1,133
	2015	*2,773	..	..	*3,926	..	*1,183
Martinique	2012	91	..	..	*175	..	53
	2013	91	..	..	*175	..	53
	2014	91	..	..	*175	..	53
	2015	91	..	..	*175	..	53
Mexico	2012	252,826	..	40,993	41,468	..	2,360
	2013	255,520	..	61,991	53,758	..	2,419
	2014	254,274	..	37,708	71,125	..	2,655
	2015	253,164	..	37,151	68,415	..	2,803
Nicaragua	2012	42,078	..	2,755	11,670	..	531
	2013	41,933	..	3,531	15,269	..	531
	2014	41,935	..	4,775	15,695	..	561
	2015	42,000	..	4,899	16,735	..	590
Panama	2012	7,282	..	..	4,666	..	41
	2013	7,236	..	..	5,395	..	38
	2014	7,191	..	..	4,901	..	38
	2015	7,146	..	..	4,764	..	36

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	69
..	69
..	69
..	69
..	22,549
..	21,784
..	22,528
..	20,828
..	28,965
..	526	23,733
..	409	24,158
..	588	26,524
..	103	..	..	..	103
..	117	..	..	..	117
..	92	..	..	..	92
..	98	..	..	..	98
..	302
..	295
..	316
..	320
..	*1,527
..	*1,643
..	*1,759
..	1,874
..	259,462
..	264,320
..	279,815
..	268,521
..	138,954
..	139,017
..	135,295
..	138,394
..	92,587
..	94,541
..	94,596
..	101,727
..	6,130
..	6,460
..	6,699
..	*6,699
..	*432	..	..	..	*698
..	*432	..	..	..	*698
..	*432	..	..	..	*698
..	*432	..	..	..	*698
8,922	1,822	346,031
1,690	1,970	374,929
861	1,939	365,907
472	1,961	361,163
..	56,503
..	60,733
..	62,405
..	63,634
..	11,948
..	12,630
..	12,092
..	11,910

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
St. Lucia	2012	90	..	..	..	..	10
	2013	90	..	..	..	..	10
	2014	90	..	..	..	..	10
	2015	90	..	..	..	..	11
St. Pierre-Miquelon	2012	5	..	..	..	..	..
	2013	5	..	..	..	..	..
	2014	5	..	..	..	..	..
	2015	5	..	..	..	..	..
St. Vincent-Grenadines	2012	68	..	..	..	..	11
	2013	67	..	..	..	..	11
	2014	67	..	..	..	..	11
	2015	66	..	..	..	..	11
Trinidad and Tobago	2012	294	..	..	..	..	59
	2013	291	..	..	..	..	59
	2014	289	..	..	..	..	59
	2015	286	..	..	..	..	59
Turks and Caicos Islands	2012	9	..	..	..	..	4
	2013	10	..	..	..	..	4
	2014	10	..	..	..	..	4
	2015	10	..	..	..	..	4
United States	2012	369,383	*351,527	*602,617	83,816	*719,793	30,651
	2013	382,583	*382,523	*655,754	82,348	*783,261	28,969
	2014	382,583	*401,140	*687,669	76,881	*821,383	28,969
	2015	405,092	*358,073	*613,840	82,503	*733,198	28,969
America, South	2012	1,754,923	..	640,842	1,382,907	34,508	260,872
	2013	1,751,423	..	646,244	1,463,305	34,293	238,307
	2014	1,598,552	..	675,478	1,456,205	112,779	232,991
	2015	1,595,113	..	750,316	1,461,173	121,785	230,914
Argentina	2012	28,230	..	29,978	40,220	..	11,977
	2013	29,917	..	16,915	47,313	..	10,679
	2014	36,397	..	27,141	36,259	..	14,573
	2015	38,220	..	24,459	33,673	..	15,222
Bolivia (Plur. State of)	2012	21,798	..	4,431	11,001	..	1,062
	2013	21,970	..	4,606	10,195	..	1,062
	2014	22,145	..	4,815	11,832	..	1,062
	2015	22,145	..	*4,953	11,328	..	708
Brazil	2012	1,039,325	..	534,041	1,189,968	..	217,917
	2013	987,722	..	554,035	1,259,722	..	195,143
	2014	1,005,206	..	574,738	1,244,602	..	191,957
	2015	1,006,403	..	648,338	1,255,521	..	190,098
Chile	2012	392,646	..	..	..	..	7,287
	2013	428,535	..	..	..	..	7,287
	2014	240,937	..	..	..	65,771	2,124
	2015	237,262	..	..	..	64,768	2,154
Colombia	2012	59,414	..	11,023	75,870	10,157	7,139
	2013	57,706	..	10,796	78,565	7,630	8,142
	2014	67,046	..	6,488	94,375	12,095	7,552
	2015	65,155	..	7,075	90,232	12,440	7,759
Ecuador	2012	12,163	..	..	20,196	..	..
	2013	11,695	..	..	19,215	..	..
	2014	11,724	..	..	21,299	..	..
	2015	10,828	..	..	24,847	..	..
Falkland Is. (Malvinas)	2012	7	..	..	..	..	3
	2013	7	..	..	..	..	3
	2014	7	..	..	..	..	3
	2015	7	..	..	..	..	3

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	90
..	90
..	90
..	90
..	5
..	5
..	5
..	5
..	68
..	67
..	67
..	66
..	294
..	291
..	289
..	286
..	9
..	10
..	10
..	10
75,157	298,814	1,056,105	126,702	137,446	3,821,360
59,796	296,627	1,046,192	69,147	159,411	3,917,642
58,520	295,170	1,128,783	69,662	183,110	4,104,902
50,686	294,282	1,158,017	55,163	177,841	3,928,696
..	..	498,090	118,588	1,180	4,431,037
..	..	587,946	93,848	1,394	4,578,453
..	..	612,979	117,145	3,161	4,576,298
..	..	658,616	88,654	4,656	4,680,313
..	..	5,628	97,704	..	201,760
..	..	10,023	73,526	..	177,695
..	..	10,372	95,864	..	206,033
..	..	12,596	67,160	..	176,108
..	37,230
..	36,772
..	38,792
..	38,426
..	..	478,916	..	..	3,242,250
..	..	564,837	..	..	3,366,315
..	..	588,126	..	..	3,412,672
..	..	629,693	..	..	3,539,954
..	303	392,949
..	559	429,094
..	2,325	309,033
..	3,671	305,701
..	..	7,818	19,633	..	183,915
..	..	7,049	19,151	..	180,896
..	..	7,501	19,713	..	207,218
..	..	8,241	19,533	..	202,676
..	..	161	..	..	32,521
..	..	188	..	..	31,097
..	..	*188	..	..	33,210
..	..	*188	..	..	35,863
..	7
..	7
..	7
..	7

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
French Guiana	2012	1,255	..	..	18	..	232
	2013	1,299	..	..	6	..	242
	2014	1,346	..	..	22	..	254
	2015	1,394	..	..	11	..	263
Guyana	2012	1,213	..	..	6,960	..	48
	2013	1,096	..	..	6,014	..	46
	2014	1,277	..	..	5,540	..	50
	2015	1,228	..	..	5,998	..	47
Paraguay	2012	96,611	..	23,412	3,605	..	12,966
	2013	90,272	..	23,627	5,236	..	13,610
	2014	92,418	..	23,412	5,035	..	13,381
	2015	94,953	..	23,530	5,035	..	12,686
Peru	2012	61,904	..	8,285	21,043	..	2,006
	2013	80,895	..	8,242	22,301	..	*1,859
	2014	81,302	..	7,701	23,128	..	1,829
	2015	79,377	..	7,419	20,726	..	1,770
Suriname	2012	1,028	..	*784	0	..	..
	2013	1,066	..	*816	0	..	..
	2014	1,028	..	*823	0	..	..
	2015	1,220	..	*823	..	..	..
Uruguay	2012	26,530	..	10,258	1,062	24,351	..
	2013	27,038	..	8,316	1,421	26,663	..
	2014	26,080	..	11,207	1,149	34,913	..
	2015	25,245	..	*14,309	*1,467	*44,577	..
Venezuela (Bolivar. Rep.)	2012	12,798	..	18,629	12,965	..	236
	2013	12,205	..	18,892	13,317	..	236
	2014	11,639	..	19,153	12,965	..	207
	2015	11,675	..	19,411	12,335	..	207
Asia	2012	10,681,254	136,141	4,926,409	1,519,394	184,005	413,331
	2013	10,806,723	136,653	5,014,103	1,601,010	203,345	426,284
	2014	11,071,165	138,353	5,124,945	1,631,268	211,714	427,708
	2015	11,012,075	141,111	5,105,340	1,538,788	202,695	420,068
Afghanistan	2012	15,474	..	..	..	..	3,510
	2013	15,765	..	..	..	..	3,610
	2014	16,063	..	..	..	..	3,714
	2015	16,368	..	..	..	..	3,821
Armenia	2012	18,946	..	..	..	..	..
	2013	14,123	..	..	..	..	..
	2014	16,279	..	..	..	..	..
	2015	6,360	1,068	..	..	..	..
Azerbaijan	2012	3,700	..	..	..	..	..
	2013	3,855	..	..	..	..	148
	2014	3,289	..	..	..	..	177
	2015	3,088	..	..	..	..	177
Bahrain	2012	62	..	..	..	..	32
	2013	63	..	..	..	..	33
	2014	63	..	..	..	..	33
	2015	64	..	..	..	..	33
Bangladesh	2012	246,378	115,710	220,240	2,190	..	9,708
	2013	244,961	117,126	222,935	2,769	..	9,779
	2014	243,561	118,558	225,660	2,769	..	9,850
	2015	242,179	119,987	228,381	1,762	..	9,922
Bhutan	2012	45,222	..	..	..	..	207
	2013	45,715	..	..	..	..	207
	2014	46,216	..	..	..	..	207
	2015	46,722	..	..	..	..	207

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	1,272
..	1,306
..	1,367
..	1,405
..	8,173
..	7,110
..	6,817
..	7,226
..	..	3,265	..	..	126,894
..	..	3,853	..	..	122,987
..	..	4,279	..	..	125,144
..	..	5,069	..	..	128,586
..	..	1,876	589	877	94,574
..	..	1,394	37	835	113,704
..	..	1,608	110	836	114,685
..	..	1,313	110	985	109,931
..	1,812
..	1,881
..	1,850
..	2,043
..	..	426	662	..	63,289
..	..	603	1,133	..	65,174
..	..	906	1,457	..	75,712
..	..	1,517	1,851	..	*88,965
..	44,392
..	44,414
..	43,757
..	43,421
340,192	1,509,751	94,450	259,877	43,809	19,695,282
385,308	1,644,213	112,720	300,355	54,812	20,259,242
381,303	1,735,426	124,614	321,287	55,504	20,795,579
361,933	1,757,298	137,420	345,122	62,013	20,663,795
..	15,474
..	15,765
..	16,063
..	16,368
..	18,946
..	14,123
..	16,279
..	7,428
..	3,700
..	2,104	..	..	..	5,959
..	2,628	..	..	..	5,917
..	3,037	..	..	..	6,125
..	62
..	63
..	63
..	64
..	584,518
..	587,791
..	590,548
..	592,309
..	45,222
..	45,715
..	46,216
..	46,722

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Brunei Darussalam	2012	107	..	..	..	..	9
	2013	107	..	..	..	..	9
	2014	107	..	..	..	..	9
	2015	106	..	..	..	..	9
Cambodia	2012	162,658	..	288	..	..	25,547
	2013	167,311	..	158	..	..	25,960
	2014	171,447	..	201	..	..	26,403
	2015	176,140	..	545	..	..	26,845
China	2012	1,663,483	..	..	299,316	..	50,328
	2013	1,633,621	..	..	330,599	..	50,050
	2014	1,604,309	..	..	315,409	..	49,773
	2015	1,574,744	..	..	258,327	..	49,090
China, Macao SAR	2012	..	..	..	..	..	..
	2013	..	..	..	..	..	..
	2014	..	..	..	..	..	..
	2015	..	..	..	..	..	..
Cyprus	2012	208	..	28	..	..	30
	2013	181	..	28	..	..	30
	2014	105	..	198	..	..	30
	2015	150	..	121	..	..	30
Georgia	2012	12,840	..	..	..	..	..
	2013	23,231	..	..	..	..	..
	2014	22,607	..	1	..	..	..
	2015	19,408	..	..	..	..	..
India	2012	3,874,672	..	3,614,237	734,928	..	84,960
	2013	3,923,089	..	3,682,785	*749,044	..	92,601
	2014	4,005,976	..	3,771,228	*749,044	..	94,017
	2015	*4,054,715	..	*3,823,148	*749,044	..	*94,636
Indonesia	2012	1,768,546	..	469,995	64,848	..	19,913
	2013	1,795,239	..	475,710	64,269	..	17,671
	2014	1,884,621	..	481,657	65,411	..	21,624
	2015	1,920,460	..	386,296	*65,638	..	14,131
Iran (Islamic Rep. of)	2012	73,994	1,175	7,500	..	..	32
	2013	73,994	1,175	7,500	..	..	35
	2014	73,994	1,175	7,500	..	..	30
	2015	73,994	1,175	7,500	..	..	27
Iraq	2012	1,758	..	..	..	..	708
	2013	1,807	..	..	..	..	738
	2014	1,856	..	..	..	..	738
	2015	1,935	..	..	..	..	767
Israel	2012	*183	..	..	..	..	..
	2013	*183	..	..	..	..	..
	2014	*183	..	..	..	..	..
	2015	*183	..	..	..	..	..
Japan	2012	39,054	..	123,311	3,247	165,523	354
	2013	42,856	..	129,642	3,121	181,750	354
	2014	44,525	..	128,546	3,147	185,782	354
	2015	45,915	..	142,507	3,147	183,076	354
Jordan	2012	2,905	..	..	..	..	1,248
	2013	2,978	..	..	..	..	1,281
	2014	3,051	..	..	..	..	1,315
	2015	3,133	..	..	..	..	1,350
Kazakhstan	2012	2,441	..	49	..	..	14
	2013	2,762	..	..	..	..	14
	2014	2,202	..	..	..	..	14
	2015	2,202	..	..	..	..	14

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	107
..	..	..	..	..	107
..	..	..	..	..	107
..	..	..	..	..	106
..	..	..	..	..	162,946
..	..	..	..	..	167,469
..	..	..	..	..	171,648
..	..	..	..	..	176,685
198,687	1,355,330	74,555	204,750	..	3,796,122
220,786	1,484,547	84,294	231,494	..	3,985,341
233,878	1,572,324	87,920	241,445	..	4,055,285
200,666	1,580,328	93,543	256,893	..	3,964,501
..	*1,627	..	..	..	*1,627
..	*1,842	..	..	..	*1,842
..	*2,058	..	..	..	*2,058
..	*2,274	..	..	..	*2,274
0	..	..	258	476	970
0	..	..	74	466	749
273	13	..	0	475	1,064
124	24	..	37	471	927
..	..	..	..	3	12,843
..	..	..	..	0	23,231
..	..	..	..	0	22,608
..	..	..	..	0	19,408
..	..	..	..	..	8,223,837
..	..	..	..	..	8,354,918
..	..	..	..	..	8,526,248
..	..	..	..	..	*8,626,907
..	..	..	..	..	2,303,389
..	..	..	..	..	2,335,218
..	..	..	..	..	2,431,689
..	..	..	..	..	2,372,394
..	..	..	..	127	82,796
..	..	..	..	127	82,796
..	..	..	..	127	82,796
..	..	..	..	127	82,796
..	..	..	..	..	1,758
..	..	..	..	..	1,807
..	..	..	..	..	1,856
..	..	..	..	..	1,935
..	..	..	..	777	960
..	..	..	..	442	625
..	..	..	..	638	821
..	..	..	..	700	883
51,858	28,672	..	..	..	411,665
67,381	31,368	..	..	..	456,118
67,303	32,520	..	..	..	461,823
69,952	35,618	..	..	..	480,215
..	..	..	..	72	2,977
..	..	..	..	72	3,050
..	..	..	..	72	3,123
..	..	..	..	23	3,156
..	..	..	..	..	2,490
..	..	..	..	..	2,762
..	..	..	..	..	2,202
..	..	..	..	..	2,202

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Korea, Dem.Ppl's.Rep.	2012	45,444	..	..	..	..	4,691
	2013	45,686	..	..	..	..	4,750
	2014	45,928	..	..	..	..	4,779
	2015	46,163	..	..	..	..	4,809
Korea, Republic of	2012	21,178	..	718	..	9,560	..
	2013	28,710	..	1,573	..	9,598	..
	2014	74,353	..	..	..	13,494	..
	2015	69,022	..	..	..	9,672	..
Kuwait	2012	173	..	..	..	..	85
	2013	176	..	..	..	..	86
	2014	176	..	..	..	..	87
	2015	176	..	..	..	..	87
Kyrgyzstan	2012	160	..	..	..	..	..
	2013	140	..	..	..	..	..
	2014	130	..	..	..	..	..
	2015	130	..	..	..	..	..
Lao People's Dem. Rep.	2012	*67,599	..	..	1,359	..	*5,517
	2013	*64,859	..	..	2,165	..	*5,605
	2014	63,114	..	..	2,392	..	5,694
	2015	*61,506	..	..	3,147	..	*5,664
Lebanon	2012	4,997	..	..	..	..	325
	2013	4,988	..	..	..	..	325
	2014	4,979	..	..	..	..	295
	2015	4,971	..	..	..	..	295
Malaysia	2012	24,768	..	11,405	579	..	856
	2013	24,339	..	15,955	226	..	858
	2014	23,925	..	9,346	226	..	861
	2015	23,526	..	9,878	226	..	864
Maldives	2012	144	..	..	..	..	24
	2013	145	..	..	..	..	24
	2014	147	..	..	..	..	25
	2015	148	..	..	..	..	25
Mongolia	2012	5,481	..	..	..	..	..
	2013	5,481	..	..	..	..	..
	2014	5,481	..	..	..	..	..
	2015	5,481	..	..	..	..	..
Myanmar	2012	425,015	..	26,098	*2,355	..	826
	2013	428,574	..	26,317	*2,355	..	826
	2014	432,238	..	26,542	*2,355	..	826
	2015	399,487	..	23,948	2,494	..	826
Nepal	2012	299,482	18,757	14,811	14,779	..	2,390
	2013	341,392	17,836	*14,811	16,873	..	2,419
	2014	381,166	18,087	14,811	17,082	..	2,419
	2015	351,623	18,338	17,333	*17,719	..	325
Oman	2012	378	..	..	..	..	182
	2013	390	..	..	..	..	199
	2014	402	..	..	..	..	194
	2015	414	..	..	..	..	200
Other Asia	2012	10,274	..	..	..	..	..
	2013	8,839	..	..	..	..	..
	2014	10,383	..	..	..	..	..
	2015	16,624	..	..	..	..	..
Pakistan	2012	270,944	..	*163,428	118,920	..	2,243
	2013	270,944	..	*165,000	130,959	..	2,300
	2014	269,784	..	*168,500	134,936	..	2,358
	2015	269,784	..	*172,034	153,562	..	2,418

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	45,444
..	45,686
..	45,928
..	46,163
88,080	37,499	..	12,218	9,358	178,611
95,926	36,341	..	12,806	9,917	194,871
78,446	36,953	5,261	13,579	9,330	231,416
88,702	40,708	8,686	15,198	7,726	239,714
..	173
..	176
..	176
..	176
..	160
..	140
..	130
..	130
..	*68,958
..	*67,024
..	65,505
..	*64,653
..	4,997
..	4,988
..	4,979
..	4,971
..	9,163	..	45,915
..	17,370	..	57,890
..	22,522	..	56,019
..	24,766	..	58,396
..	144
..	145
..	147
..	148
..	5,481
..	5,481
..	5,481
..	5,481
..	453,468
..	457,246
..	461,135
..	425,929
..	4,296	352,125
..	6,711	397,623
..	6,711	437,857
..	11,688	416,701
..	378
..	390
..	402
..	414
..	55,210	4,372	..	283	70,139
..	55,412	4,750	..	254	69,255
..	55,156	3,091	..	224	68,854
..	57,016	2,273	..	200	76,113
..	553,292
..	566,903
..	573,220
..	595,380

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Philippines	2012	171,650	499	37,965	18,372	..	49,442
	2013	175,173	516	39,169	19,003	..	52,065
	2014	177,028	533	39,662	19,243	..	54,481
	2015	175,999	543	39,317	22,365	..	55,976
Qatar	2012	46	..	..	..	..	23
	2013	47	..	..	..	..	23
	2014	47	..	..	..	..	23
	2015	47	..	..	..	..	23
Singapore	2012	290	..	..	..	..	153
	2013	285	..	..	..	..	150
	2014	280	..	..	..	..	*148
	2015	276	..	..	..	..	146
Sri Lanka	2012	159,638	..	..	1,004	..	..
	2013	156,526	..	..	1,475	..	..
	2014	159,976	..	..	1,148	..	..
	2015	156,317	..	..	1,517	..	..
State of Palestine	2012	2,762	..	702	..	..	..
	2013	3,013	..	436	..	..	..
	2014	3,332	..	726	..	..	..
	2015	3,135	..	*625	..	..	..
Syrian Arab Republic	2012	275	..	..	..	..	30
	2013	280	..	..	..	..	30
	2014	285	..	..	..	..	30
	2015	238	..	..	..	..	30
Tajikistan	2012	822	..	..	..	..	..
	2013	822	..	..	..	..	..
	2014	822	..	..	..	..	..
	2015	822	..	..	..	..	..
Thailand	2012	503,666	..	188,938	221,809	8,922	130,243
	2013	518,371	..	187,957	238,965	11,997	134,166
	2014	537,420	..	208,908	278,054	12,438	127,027
	2015	504,764	..	212,555	225,232	9,947	126,526
Timor-Leste	2012	1,009	..	..	..	..	..
	2013	966	..	..	..	..	..
	2014	925	..	..	..	..	..
	2015	886	..	..	..	..	..
Turkey	2012	98,396	..	46,696	..	..	..
	2013	93,848	..	44,128	..	..	..
	2014	90,519	..	41,459	..	..	..
	2015	77,791	..	41,152	..	..	..
Turkmenistan	2012	91	..	..	..	..	..
	2013	*91	..	..	..	..	..
	2014	*91	..	..	..	..	..
	2015	*91	..	..	..	..	..
Uzbekistan	2012	238	..	..	..	..	..
	2013	238	..	..	..	..	..
	2014	238	..	..	..	..	..
	2015	219	..	..	..	..	..
Viet Nam	2012	629,175	..	..	35,687	..	17,553
	2013	635,912	..	..	39,186	..	17,730
	2014	642,777	..	..	40,053	..	17,907
	2015	649,684	..	..	34,609	..	18,113
Yemen	2012	4,531	..	..	..	..	2,154
	2013	4,649	..	..	..	..	2,213
	2014	4,768	..	..	..	..	2,272
	2015	4,886	..	..	..	..	2,331

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	925	1,399	4,453	..	235,264
..	1,499	2,316	4,939	..	242,615
..	1,640	4,357	5,285	..	247,747
..	955	6,172	6,496	..	251,848
..	..	..	..	..	46
..	..	..	..	..	47
..	..	..	..	..	47
..	..	..	..	..	47
..	26,008	..	..	..	26,298
..	26,917	..	..	..	27,202
..	27,063	..	..	..	27,344
..	27,830	..	..	..	28,105
..	..	..	..	..	160,642
..	..	..	..	..	158,001
..	..	..	..	..	161,123
..	..	..	..	..	157,833
..	..	..	..	..	3,463
..	..	..	..	..	3,448
..	..	..	..	..	4,058
..	..	..	..	..	3,760
..	..	..	..	..	275
..	..	..	..	..	280
..	..	..	..	..	285
..	..	..	..	..	238
..	..	..	..	..	822
..	..	..	..	..	822
..	..	..	..	..	822
..	..	..	..	..	822
..	4,479	13,909	28,373	23,030	993,126
..	4,183	20,395	32,862	28,312	1,043,042
..	5,071	22,512	37,131	28,186	1,129,720
..	9,508	24,951	39,192	29,749	1,055,898
..	..	..	..	..	1,009
..	..	..	..	..	966
..	..	..	..	..	925
..	..	..	..	..	886
1,567	..	214	662	5,387	152,923
1,215	..	965	810	8,511	149,476
1,403	..	1,474	1,325	9,741	145,921
2,489	..	1,796	2,539	11,329	137,096
..	..	..	..	..	91
..	..	..	..	..	*91
..	..	..	..	..	*91
..	..	..	..	..	*91
..	..	..	..	..	238
..	..	..	..	..	238
..	..	..	..	..	238
..	..	..	..	..	219
..	..	..	..	..	664,862
..	..	..	..	..	675,098
..	..	..	..	..	682,830
..	..	..	..	..	684,293
..	..	..	..	..	4,531
..	..	..	..	..	4,649
..	..	..	..	..	4,768
..	..	..	..	..	4,886

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Europe	2012	3,362,283	7,183	307,338	13,218	478,454	8,596
	2013	3,395,955	9,573	299,588	13,645	497,228	9,234
	2014	3,339,868	11,401	288,394	12,591	498,133	13,215
	2015	3,472,009	10,496	334,858	9,497	504,638	13,471
Albania	2012	8,642	..	..	..	..	..
	2013	8,433	..	..	..	..	..
	2014	8,161	..	..	..	..	..
	2015	8,960	..	..	..	..	..
Andorra	2012	..	..	..	..	..	..
	2013	..	..	..	..	..	..
	2014	..	..	..	..	..	..
	2015	..	..	..	..	..	..
Austria	2012	159,802	..	9,742	..	27,689	30
	2013	157,289	..	8,326	..	30,088	30
	2014	144,124	..	8,806	..	30,329	30
	2015	148,195	..	10,555	..	28,545	30
Belarus	2012	61,644	..	3,256	..	..	118
	2013	59,946	..	3,071	..	..	118
	2014	55,795	..	3,790	..	..	89
	2015	55,842	..	..	..	..	89
Belgium	2012	51,678	263	5,838	..	1,400	..
	2013	53,947	133	3,150	..	1,735	..
	2014	38,570	97	5,826	..	1,733	..
	2015	41,304	266	5,800	..	1,666	..
Bosnia and Herzegovina	2012	6,458	..	..	..	..	561
	2013	*6,458	..	..	..	..	679
	2014	72,578	..	..	..	..	2,596
	2015	73,043	..	..	..	..	2,596
Bulgaria	2012	41,388	..	772	..	4,265	118
	2013	40,906	..	850	..	5,235	148
	2014	40,501	..	..	..	4,987	177
	2015	45,681	..	..	..	2,898	177
Croatia	2012	60,238	..	21	..	..	148
	2013	61,312	..	12	..	..	177
	2014	57,543	..	12	..	..	236
	2015	64,129	..	19	..	..	236
Czechia	2012	92,286	..	5,208	..	12,749	..
	2013	96,966	..	4,761	..	14,218	..
	2014	98,604	..	5,096	..	15,281	..
	2015	102,917	..	5,581	..	15,196	..
Denmark	2012	40,830	..	19,241	..	..	..
	2013	38,795	..	21,125	..	..	..
	2014	35,481	..	19,134	..	..	..
	2015	46,757	..	19,824	..	..	..
Estonia	2012	32,115	..	9,220	..	1,056	..
	2013	35,807	..	7,471	..	1,408	..
	2014	38,208	..	7,398	..	1,374	..
	2015	41,571	..	7,721	..	1,340	..
Finland	2012	195,228	271	1,537	..	135,768	..
	2013	195,269	256	2,133	..	140,701	..
	2014	196,230	204	1,499	..	141,905	..
	2015	187,269	244	1,230	..	142,056	..
France	2012	346,541	97	10,980	0	33,188	*1,328
	2013	385,629	97	13,223	0	34,821	*1,328
	2014	335,170	177	11,493	0	33,248	*1,180
	2015	357,670	340	12,265	0	34,217	*1,033

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
344,805	748,713	100,438	377,269	516,165	6,255,866
329,527	783,074	122,241	402,739	589,985	6,443,556
347,646	814,108	107,459	468,886	633,195	6,521,682
371,618	849,231	105,775	458,313	661,326	6,777,762
..	..	..	..	..	8,642
..	..	..	..	..	8,433
..	..	..	..	..	8,161
..	..	..	..	..	8,960
..	*211	..	..	..	*211
..	*232	..	..	..	*232
..	*241	..	..	..	*241
..	*248	..	..	..	*248
19,728	15,554	2,975	7,654	8,640	251,784
17,915	15,722	2,680	6,440	8,442	246,902
17,651	18,705	5,575	9,642	12,418	247,250
18,655	19,346	5,655	12,622	12,563	256,137
1,135	..	..	1,214	182	67,431
1,037	..	..	957	381	65,392
1,156	..	..	1,030	373	62,144
1,157	..	..	810	398	58,207
14,575	29,194	7,359	11,334	6,680	128,322
13,607	28,829	7,278	11,040	7,913	127,632
13,526	30,133	6,808	16,413	8,672	121,778
13,479	30,394	6,516	9,126	9,492	118,043
..	..	..	..	..	6,458
..	..	..	..	..	*6,458
..	..	..	..	..	72,578
..	..	..	..	..	73,043
276	871	0	294	5	47,871
322	644	322	1,582	93	49,954
951	272	563	2,208	435	49,917
1,073	489	670	1,766	820	53,397
341	..	..	1,435	479	62,514
366	..	..	1,214	693	63,597
425	..	..	1,288	1,096	60,364
390	..	..	626	1,507	66,671
7,093	5,840	2,734	6,366	15,698	147,974
6,742	5,786	2,787	6,698	23,910	161,868
8,194	5,755	2,787	8,059	25,457	169,233
9,382	5,570	2,814	6,182	25,681	173,323
..	35,616	685	..	4,399	100,771
..	35,060	603	..	4,588	100,171
..	35,271	575	..	5,519	95,980
..	35,545	411	..	6,347	108,884
..	..	..	..	122	42,513
..	4,411	..	..	302	49,399
..	2,851	..	..	403	50,234
..	2,819	..	..	550	54,001
2,741	13,039	786	9,090	2,425	360,885
2,120	15,933	1,384	11,261	3,725	372,782
2,219	17,949	1,413	12,586	4,173	378,178
1,792	19,622	999	15,382	4,321	372,915
..	104,926	17,554	81,438	16,511	611,235
2,149	100,632	21,065	80,187	18,279	656,082
3,058	98,076	19,537	86,848	19,783	607,390
5,584	101,482	15,892	89,571	22,549	639,571

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Germany	2012	425,016	..	..	..	32,642	59
	2013	417,169	..	5,614	..	33,674	59
	2014	436,947	..	5,905	..	35,478	59
	2015	462,327	..	6,483	..	36,183	59
Greece	2012	32,894	..	8,985	..	..	30
	2013	28,171	..	5,985	..	..	59
	2014	29,663	..	6,633	..	..	30
	2015	30,583	..	9,293	..	..	30
Hungary	2012	92,960	106	13,525	..	290	0
	2013	98,212	230	13,796	..	82	0
	2014	86,037	87	12,474	..	330	0
	2015	91,350	291	13,222	..	265	0
Iceland	2012	..	..	..	..	..	..
	2013	..	..	..	..	..	..
	2014	..	..	..	..	..	..
	2015	..	..	..	..	..	..
Ireland	2012	6,851	623	..	..	..	..
	2013	7,046	628	..	..	..	..
	2014	7,386	1,423	..	..	..	..
	2015	7,233	1,203	..	..	..	..
Isle of Man	2012	..	..	..	..	..	..
	2013	..	..	..	..	..	..
	2014	..	..	..	..	..	..
	2015	..	..	..	..	..	..
Italy	2012	294,361	..	9,136	..	..	295
	2013	303,913	..	7,918	..	..	295
	2014	264,871	..	8,921	..	..	295
	2015	297,890	..	9,433	..	..	295
Jersey	2012	..	..	..	..	..	..
	2013	..	..	..	..	..	..
	2014	..	..	..	..	..	..
	2015	..	..	..	..	..	..
Latvia	2012	89,779	..	38	..	..	325
	2013	81,950	..	58	..	..	295
	2014	94,319	..	99	..	..	384
	2015	83,986	..	135	..	..	325
Liechtenstein	2012	*203	..	..	..	..	..
	2013	172	..	..	..	..	..
	2014	187	..	..	..	..	..
	2015	209	..	..	..	..	..
Lithuania	2012	41,291	..	242	..	..	30
	2013	43,355	..	238	..	..	30
	2014	46,749	..	457	..	..	30
	2015	49,852	..	585	..	..	30
Luxembourg	2012	1,561	..	269	..	..	..
	2013	1,752	..	265	..	..	..
	2014	2,513	..	243	..	..	..
	2015	2,085	..	217	..	..	..
Malta	2012	..	..	..	..	..	..
	2013	..	..	..	..	..	..
	2014	..	..	..	..	..	..
	2015	..	..	..	..	..	..
Montenegro	2012	7,838	..	..	..	..	*15
	2013	7,427	..	..	..	..	*15
	2014	7,509	..	..	..	..	*20
	2015	8,432	..	..	..	..	*246

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
59,464	217,346	25,109	100,611	268,856	1,129,045
49,437	245,060	21,481	107,125	287,845	1,167,405
52,968	254,310	23,878	123,354	311,259	1,244,099
52,659	250,720	23,781	113,528	328,840	1,274,521
625	..	..	5,042	3,710	51,256
883	..	..	5,594	3,704	44,337
868	..	..	5,741	3,640	46,545
3,732	..	..	5,410	3,826	52,844
1,804	3,766	6,432	5,299	2,218	126,400
1,680	3,475	7,584	5,152	3,336	133,547
2,255	3,709	7,906	4,894	3,323	121,015
2,510	4,728	10,613	5,373	3,335	131,687
..	0	..	..	73	73
..	0	..	..	71	71
..	0	..	..	101	101
..	0	..	..	69	69
13	3,680	..	994	2,341	14,502
4	4,455	..	920	2,062	15,115
0	4,799	..	994	2,187	16,789
0	4,798	..	994	2,287	16,515
..	*436	..	..	..	*436
..	*440	..	..	..	*440
..	*440	..	..	..	*440
..	*440	..	..	..	*440
13,626	67,560	3,686	10,562	49,352	448,282
12,994	69,302	4,485	16,891	76,013	491,516
12,532	71,882	3,178	21,344	82,105	464,833
12,696	70,840	5,392	21,234	78,355	495,839
..	*780	..	..	..	*780
..	*616	..	..	..	*616
..	*658	..	..	..	*658
..	*732	..	..	..	*732
84	51	54	3,312	2,175	95,492
84	85	80	2,429	2,695	87,381
168	171	0	2,760	3,136	100,653
84	256	80	2,429	3,674	90,644
..	328	..	..	..	531
..	356	..	..	..	529
..	378	..	..	..	565
..	380	..	..	..	589
..	..	563	3,938	484	46,517
155	943	616	4,306	649	50,262
258	970	268	4,416	876	53,994
303	1,337	429	4,342	981	57,829
603	1,203	..	..	658	4,294
641	1,225	..	..	653	4,536
640	1,171	..	..	701	5,268
569	1,365	..	..	739	4,975
..	..	..	37	93	130
..	..	..	37	59	96
..	..	..	37	65	102
..	..	..	37	69	106
..	..	..	..	..	7,838
..	..	..	..	..	7,427
..	..	..	..	..	7,509
..	..	..	..	..	8,432

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Netherlands	2012	34,388	..	11,291	..	..	177
	2013	34,153	..	12,994	..	..	177
	2014	40,875	..	13,139	..	..	..
	2015	42,811	..	14,281	..	..	..
Norway	2012	48,183	..	..	..	..	..
	2013	44,138	..	..	..	..	..
	2014	35,322	..	..	..	..	..
	2015	38,307	..	..	..	..	..
Poland	2012	201,106	..	91,456	..	..	..
	2013	211,876	..	74,367	..	..	..
	2014	201,369	..	57,354	..	..	..
	2015	204,512	..	57,919	..	..	..
Portugal	2012	44,191	..	23,808	..	38,563	561
	2013	42,767	..	27,424	..	41,266	590
	2014	44,040	..	26,779	..	40,995	236
	2015	44,700	..	23,105	..	41,179	236
Republic of Moldova	2012	9,007	..	455	..	..	..
	2013	10,231	..	490	..	..	30
	2014	12,953	..	888	..	..	30
	2015	13,438	..	650	..	..	30
Romania	2012	158,895	..	..	..	..	528
	2013	153,097	..	..	..	..	628
	2014	152,640	..	..	..	..	487
	2015	147,416	..	..	..	..	177
Russian Federation	2012	144,541	..	..	..	..	1,564
	2013	126,851	..	..	..	..	1,510
	2014	115,921	..	..	..	..	1,552
	2015	118,109	..	..	..	..	1,543
Serbia	2012	44,187	..	..	..	..	266
	2013	46,823	..	..	..	..	325
	2014	46,518	..	..	..	..	354
	2015	46,240	..	..	..	..	354
Slovakia	2012	17,202	..	861	..	15,465	118
	2013	15,140	..	1,425	..	15,615	118
	2014	15,618	..	1,737	..	14,443	124
	2015	17,277	..	6,813	..	13,164	118
Slovenia	2012	24,352	..	290	..	..	..
	2013	25,527	..	269	..	..	..
	2014	22,037	..	263	..	..	..
	2015	24,436	..	273	..	..	..
Spain	2012	146,908	549	32,756	13,218	19,890	1,062
	2013	148,981	567	34,189	13,645	20,532	1,062
	2014	156,406	560	26,234	12,591	20,275	1,062
	2015	142,420	449	43,829	9,497	24,039	1,062
Sweden	2012	244,757	153	..	..	155,489	..
	2013	227,662	149	..	..	157,853	..
	2014	215,728	110	..	..	157,755	..
	2015	218,230	76	..	..	163,890	..
Switzerland	2012	39,500	..	..	..	..	..
	2013	42,460	..	..	..	..	..
	2014	37,020	..	..	..	..	..
	2015	38,060	..	..	..	..	..
T.F.Yug.Rep. Macedonia	2012	14,262	..	203	..	..	..
	2013	15,106	..	176	..	..	..
	2014	14,617	..	164	..	..	..
	2015	13,960	..	205	..	..	..

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	63,855	..	43,314	12,165	165,013
..	60,809	11,095	50,600	12,777	182,428
..	61,576	..	63,296	13,094	191,980
..	64,014	..	59,947	13,693	194,746
295	15,062	0	2,613	1,187	67,340
112	16,907	192	1,214	1,105	63,668
103	18,586	110	0	1,032	55,153
410	19,164	110	0	1,866	59,857
13,250	5,672	4,636	22,264	7,033	345,417
14,761	5,513	5,119	23,626	7,593	342,854
16,993	6,099	3,832	27,195	8,685	321,528
16,997	6,593	4,718	34,224	9,581	334,544
2,424	7,197	137	11,187	2,383	129,890
1,963	8,097	137	11,003	2,763	135,420
2,680	6,845	164	12,328	3,432	137,263
1,011	8,155	110	13,211	3,457	134,928
374	..	27	..	0	9,864
130	..	274	..	36	11,161
207	..	..	..	178	14,226
73	..	..	..	401	14,562
1,131	4	1,769	3,717	1,143	166,659
1,695	14	1,099	5,042	822	161,768
2,738	189	322	4,048	810	160,747
2,968	159	1,045	5,520	767	157,875
177,809	..	..	..	..	322,350
177,615	..	..	..	..	304,466
179,858	..	..	..	..	295,779
198,890	..	..	..	..	316,999
50	..	..	..	39	44,276
38	..	..	..	184	47,045
34	..	..	..	215	46,767
29	..	..	..	242	46,511
1,175	1,407	2,734	4,048	2,594	45,486
5,165	1,099	2,787	3,864	2,300	47,395
5,072	1,720	2,841	3,717	4,025	49,173
6,905	1,668	3,002	3,901	6,223	58,952
1,333	..	..	37	1,597	27,609
1,453	..	..	74	1,454	28,777
1,809	..	..	0	1,290	25,399
1,802	..	..	0	1,242	27,753
..	14,710	8,120	18,253	12,177	266,581
..	16,724	9,702	26,496	20,072	290,908
..	17,098	10,291	44,602	14,791	302,848
..	21,102	10,479	40,958	10,954	303,727
1,283	53,698	11,809	13,763	5,303	486,255
1,580	57,233	8,366	8,979	6,070	467,892
863	59,853	5,564	6,514	6,422	452,809
749	63,387	5,501	5,336	7,009	464,178
10,260	46,060	..	258	3,745	99,823
10,500	44,220	..	184	4,087	101,451
11,864	45,050	..	184	4,354	98,472
10,234	46,430	..	221	4,585	99,530
..	..	..	33	..	14,497
..	..	..	0	..	15,282
..	..	..	128	..	14,909
..	..	..	80	..	14,245

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Ukraine	2012	52,234	..	..	..	..	1,269
	2013	58,254	..	..	..	..	1,564
	2014	71,938	..	..	..	..	4,248
	2015	87,769	..	..	..	..	4,809
United Kingdom	2012	48,966	5,121	48,208	..	..	..
	2013	62,964	7,513	50,258	..	..	..
	2014	59,720	8,743	64,050	..	..	..
	2015	67,039	7,627	85,420	..	..	..
Oceania	2012	130,481	..	8,574	126,500	21,737	361
	2013	129,346	..	8,960	138,335	20,946	374
	2014	133,256	..	9,100	132,164	21,991	381
	2015	131,802	..	9,093	140,815	20,729	387
Australia	2012	29,677	..	417	121,740	21,737	..
	2013	30,797	..	708	132,171	20,946	..
	2014	34,467	..	828	125,219	21,991	..
	2015	31,968	..	1,016	133,994	20,729	..
Fiji	2012	338	..	..	3,762	..	71
	2013	338	..	..	5,297	..	71
	2014	338	..	..	6,001	..	72
	2015	338	..	..	5,877	..	72
French Polynesia	2012	41	..	..	..	..	15
	2013	41	..	..	..	..	15
	2014	42	..	..	..	..	15
	2015	42	..	..	..	..	16
Kiribati	2012	28	..	..	..	..	11
	2013	28	..	..	..	..	11
	2014	29	..	..	..	..	11
	2015	29	..	..	..	..	11
Marshall Islands	2012	..	..	*195	..	..	..
	2013	..	..	*195	..	..	..
	2014	..	..	*190	..	..	..
	2015	..	..	*185	..	..	..
Micronesia (Fed. States of)	2012	23	..	..	..	..	10
	2013	23	..	..	..	..	11
	2014	23	..	..	..	..	11
	2015	24	..	..	..	..	11
New Zealand	2012	47,149	..	..	..	..	..
	2013	44,884	..	..	..	..	..
	2014	45,113	..	..	..	..	..
	2015	46,147	..	..	..	..	..
Niue	2012	1	..	..	..	..	0
	2013	1	..	..	..	..	0
	2014	1	..	..	..	..	0
	2015	1	..	..	..	..	0
Papua New Guinea	2012	50,544	..	*5,263	934	..	177
	2013	50,544	..	*5,263	803	..	188
	2014	50,544	..	*5,263	880	..	192
	2015	50,544	..	*5,263	880	..	195
Samoa	2012	639	..	*679	*64	..	14
	2013	639	..	*774	*64	..	14
	2014	639	..	*796	*64	..	15
	2015	639	..	*605	*64	..	15
Solomon Islands	2012	1,191	..	*2,020	..	..	39
	2013	1,200	..	*2,020	..	..	40
	2014	1,209	..	*2,023	..	..	41
	2015	1,220	..	*2,024	..	..	42

Table 12

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	52,234
..	..	1,956	..	..	60,210
..	..	858	..	..	72,796
..	..	482	..	600	88,851
13,313	40,647	3,270	9,163	81,698	250,386
4,379	39,252	11,149	9,826	85,309	270,649
8,556	49,351	10,988	5,262	89,145	295,815
7,485	67,448	7,075	5,483	94,303	341,880
4,029	..	6,112	2,870	17,757	318,059
4,022	..	6,648	3,054	16,879	328,190
4,298	..	5,951	3,974	19,301	330,034
4,035	..	5,388	5,078	22,357	339,297
4,029	..	5,950	2,834	14,851	201,234
4,022	..	6,486	3,054	13,992	212,176
4,298	..	5,816	3,938	16,366	212,922
4,035	..	5,226	5,078	19,417	221,463
..	4,100
..	5,635
..	6,339
..	6,215
..	41
..	41
..	42
..	42
..	28
..	28
..	29
..	29
..	*195
..	*195
..	*190
..	*185
..	23
..	23
..	23
..	24
..	..	107	37	2,906	50,199
..	..	107	0	2,887	47,878
..	..	80	37	2,935	48,165
..	..	107	..	2,940	49,194
..	1
..	1
..	1
..	1
..	56,741
..	56,610
..	56,687
..	56,687
..	*1,382
..	*1,477
..	*1,499
..	*1,309
..	*3,211
..	*3,220
..	*3,232
..	*3,244

Table 12**Production of biofuels and wastes**

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Tonga	2012	19	..	..	..	..	7
	2013	19	..	..	..	..	7
	2014	19	..	..	..	..	7
	2015	19	..	..	..	..	7
Vanuatu	2012	831	..	..	..	..	16
	2013	831	..	..	..	..	17
	2014	831	..	..	..	..	17
	2015	831	..	..	..	..	18

Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	19
..	19
..	19
..	19
..	*55	..	886
..	*55	..	886
..	*55	..	886
..	*55	..	886