

**Production of biofuels and wastes**

Terajoules

**Table Notes**

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

The methodology used for estimating fuel bagasse production for certain countries is derived from the work done by the Economic Commission for Latin America and the Caribbean (ECLAC). Although several different methodologies have been devised, the one selected assumes a yield of 3.26 tons of fuel bagasse at 50% humidity per ton of cane sugar produced. This methodology was used for instances where bagasse production data were derived from

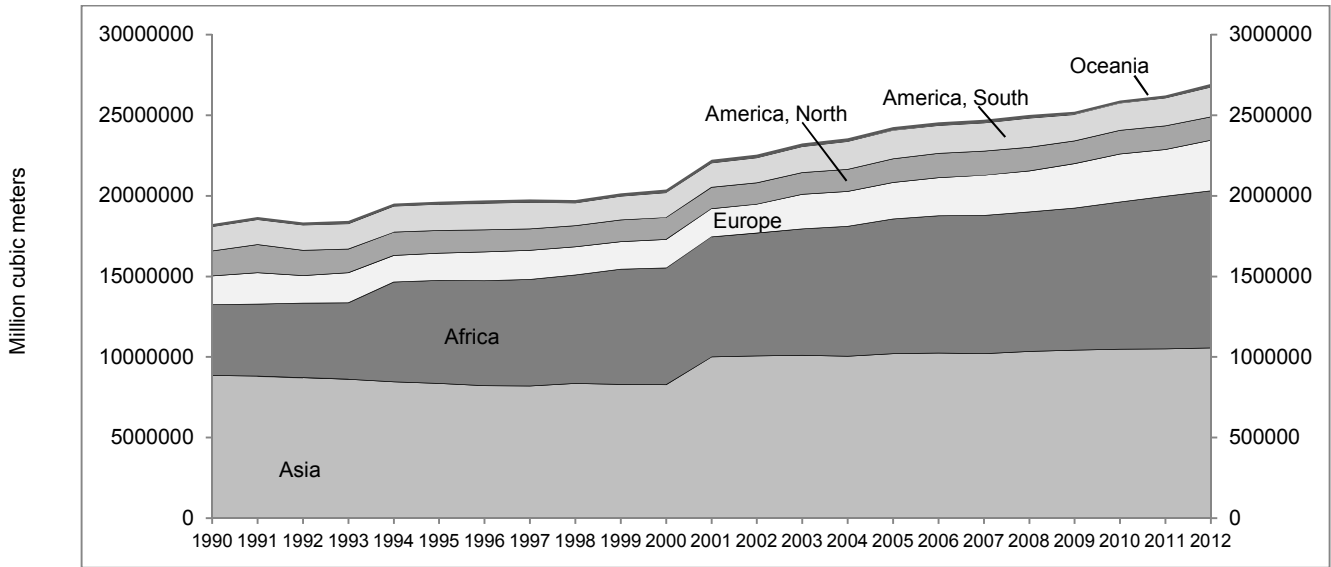
sugar production figures extracted from the Sugar Yearbook of the International Sugar Organization (London).

Biogasoline includes Other liquid biofuels.

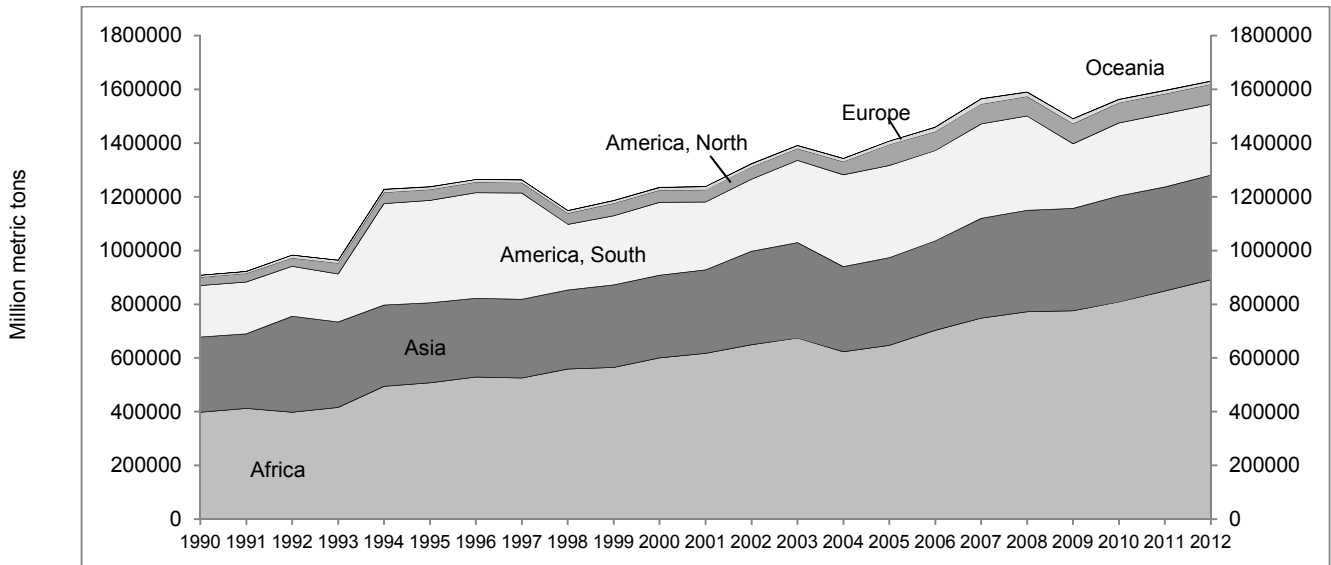
The total column excludes charcoal as it is the only secondary energy product in the table.

Please refer to the Definitions Section on pages ix to xv for the appropriate product description/classification.

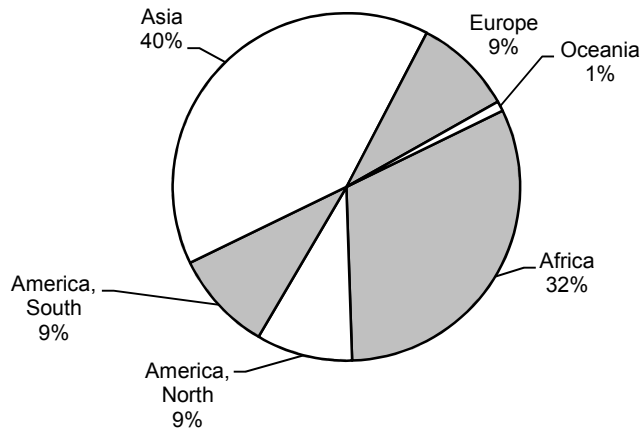
**Figure 29: Fuelwood production by region, 1990-2012**



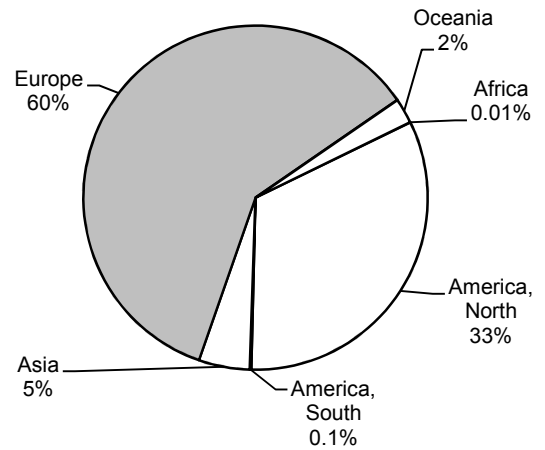
**Figure 30: Charcoal production by region 1990-2012**



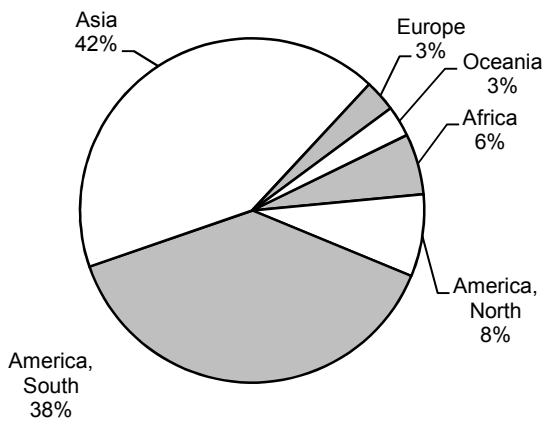
**Figure 31: Primary solid biofuels production by region, 2012**



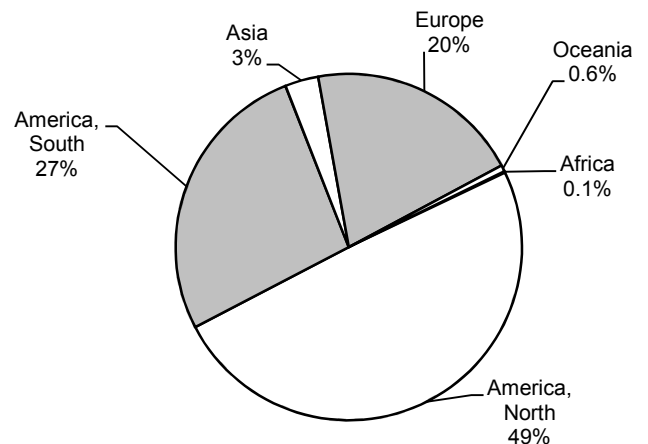
**Figure 32: Biogases production by region, 2012**



**Figure 33: Bagasse production by region, 2012**



**Figure 34: Liquids biofuels production by region, 2012**



**Figure 35: Energy production from wastes by region, 2012**

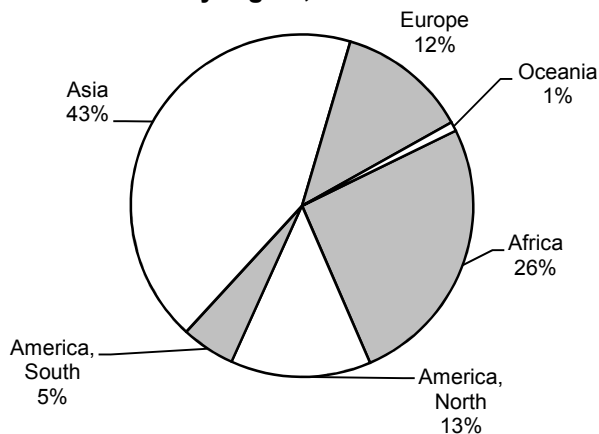


Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
World	2009	25,205,363	605,219	8,648,054	2,874,254	1,463,073	1,490,587
	2010	25,904,432	634,357	9,047,888	3,006,046	1,624,436	1,562,398
	2011	26,220,034	643,929	9,299,622	3,388,785	1,600,279	1,595,769
	2012	26,942,072	680,013	9,554,584	3,542,789	1,677,743	1,630,895
Africa	2009	8,822,993	136,305	2,755,300	200,523	..	775,600
	2010	9,128,474	139,718	2,821,826	188,797	..	808,321
	2011	9,466,513	143,242	2,886,219	193,970	..	849,224
	2012	9,757,418	146,788	2,964,280	202,740	..	890,559
Algeria	2009	2,246	..	..	..	..	..
	2010	2,169	..	..	..	..	..
	2011	674	..	..	..	..	..
	2012	652	..	..	..	..	..
Angola	2009	193,414	..	125,718	..	..	33,778
	2010	199,770	..	129,849	..	..	34,899
	2011	206,218	..	134,040	..	..	36,020
	2012	212,768	..	138,298	..	..	37,170
Benin	2009	83,193	..	375	252	..	6,962
	2010	85,673	..	375	252	..	7,228
	2011	88,105	..	386	252	..	7,434
	2012	90,546	..	397	252	..	7,641
Botswana	2009	6,199	..	..	..	..	2,097
	2010	6,242	..	..	..	..	2,129
	2011	6,270	..	..	..	..	2,146
	2012	6,299	..	..	..	..	2,164
Burkina Faso	2009	115,101	..	..	1,004	..	16,815
	2010	116,791	..	..	1,004	..	17,296
	2011	118,417	..	..	1,004	..	17,777
	2012	120,080	..	..	1,004	..	18,275
Burundi	2009	83,229	..	..	360	..	1,770
	2010	84,581	..	..	477	..	1,770
	2011	85,842	..	..	521	..	1,770
	2012	87,111	..	..	583	..	1,770
Cabo Verde	2009	1,726	..	..	..	..	27
	2010	1,767	..	..	..	..	785
	2011	1,797	..	..	..	..	798
	2012	1,828	..	..	..	..	812
Cameroon	2009	179,342	..	6,282	..	..	6,313
	2010	179,451	..	6,031	..	..	6,313
	2011	183,993	..	6,187	..	..	6,461
	2012	188,147	..	6,347	..	..	6,608
Central African Rep.	2009	18,270	..	..	..	..	5,487
	2010	18,270	..	..	..	..	5,671
	2011	18,270	..	..	..	..	5,774
	2012	18,270	..	..	..	..	5,880
Chad	2009	63,479	..	..	1,007	..	11,582
	2010	64,584	..	..	948	..	11,874
	2011	65,626	..	..	812	..	12,181
	2012	66,686	..	..	881	..	12,493
Comoros	2009	2,364	..	..	..	..	1,138
	2010	2,429	..	..	..	..	1,171
	2011	2,491	..	..	..	..	1,204
	2012	2,556	..	..	..	..	1,236
Congo	2009	20,835	..	10,684	..	..	5,222
	2010	21,445	..	10,997	..	..	5,369
	2011	22,034	..	11,299	..	..	6,166
	2012	22,618	..	11,599	..	..	6,664

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
536,179	1,101,726	1,613,028	477,885	566,018	43,090,800
608,339	1,129,195	1,803,176	542,409	629,333	44,929,611
741,413	1,185,900	1,739,503	623,491	738,129	46,181,085
734,514	1,211,224	1,726,306	669,517	850,682	47,589,446
20,850	..	2,841	..	72	11,938,883
20,850	..	2,975	..	80	12,302,719
20,850	..	2,975	..	80	12,713,847
20,850	..	3,136	..	121	13,095,332
..	..	..	..	..	2,246
..	..	..	..	..	2,169
..	..	..	..	..	674
..	..	..	..	..	652
..	..	..	..	..	319,132
..	..	..	..	..	329,619
..	..	..	..	..	340,258
..	..	..	..	..	351,066
..	..	..	..	..	83,820
..	..	..	..	..	86,300
..	..	..	..	..	88,743
..	..	..	..	..	91,195
..	..	..	..	..	6,199
..	..	..	..	..	6,242
..	..	..	..	..	6,270
..	..	..	..	..	6,299
..	..	..	..	..	116,105
..	..	..	..	..	117,795
..	..	..	..	..	119,421
..	..	..	..	..	121,083
..	..	..	..	..	83,589
..	..	..	..	..	85,058
..	..	..	..	..	86,362
..	..	..	..	..	87,695
..	..	..	..	..	1,726
..	..	..	..	..	1,767
..	..	..	..	..	1,797
..	..	..	..	..	1,828
..	..	..	..	..	185,624
..	..	..	..	..	185,482
..	..	..	..	..	190,180
..	..	..	..	..	194,494
..	..	..	..	..	18,270
..	..	..	..	..	18,270
..	..	..	..	..	18,270
..	..	..	..	..	18,270
..	..	..	..	..	64,486
..	..	..	..	..	65,533
..	..	..	..	..	66,437
..	..	..	..	..	67,567
..	..	..	..	..	2,364
..	..	..	..	..	2,429
..	..	..	..	..	2,491
..	..	..	..	..	2,556
..	..	..	..	..	31,519
..	..	..	..	..	32,442
..	..	..	..	..	33,333
..	..	..	..	..	34,217

Table 12

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Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Côte d'Ivoire	2009	295,982	..	1,549	..	..	29,707
	2010	320,643	..	1,487	..	..	31,300
	2011	380,476	..	1,364	..	..	37,554
	2012	392,717	..	1,412	..	..	38,911
Dem. Rep. of the Congo	2009	739,108	..	14,982	..	..	20,768
	2010	764,232	..	15,404	..	..	21,476
	2011	806,022	..	15,835	..	..	22,214
	2012	780,461	..	16,274	..	..	23,010
Djibouti	2009	3,193	..	..	..	..	1,387
	2010	3,252	..	..	..	..	1,413
	2011	3,303	..	..	..	..	1,437
	2012	3,355	..	..	..	..	1,460
Egypt	2009	158,918	..	32,412	25,426	..	39,640
	2010	159,967	..	32,961	24,523	..	40,112
	2011	160,370	..	33,517	25,429	..	40,480
	2012	160,781	..	34,078	25,429	..	40,849
Equatorial Guinea	2009	4,083	..	..	..	..	266
	2010	4,083	..	..	..	..	266
	2011	4,083	..	..	..	..	266
	2012	4,083	..	..	..	..	280
Eritrea	2009	19,815	2,370	1,322	..	..	3,776
	2010	20,542	2,413	1,366	..	..	3,983
	2011	21,229	2,495	1,412	..	..	4,130
	2012	21,937	2,579	1,459	..	..	4,278
Ethiopia	2009	912,315	128,001	125,466	..	..	107,495
	2010	925,141	131,419	128,816	..	..	110,162
	2011	937,337	134,928	132,256	..	..	112,885
	2012	949,733	138,454	135,712	..	..	115,678
Gabon	2009	45,292	..	2,743	..	..	581
	2010	46,395	..	2,810	..	..	596
	2011	47,528	..	2,879	..	..	608
	2012	48,691	..	2,949	..	..	620
Gambia	2009	6,924	..	..	..	..	1,702
	2010	6,340	..	..	..	..	1,741
	2011	6,422	..	..	..	..	1,779
	2012	6,513	..	..	..	..	1,817
Ghana	2009	115,471	..	..	..	..	31,609
	2010	114,467	..	..	..	..	31,645
	2011	127,881	..	..	..	..	36,391
	2012	143,472	..	..	..	..	41,790
Guinea	2009	108,719	..	..	629	..	10,048
	2010	109,245	..	..	629	..	10,277
	2011	109,713	..	..	629	..	10,502
	2012	110,196	..	..	629	..	10,733
Guinea-Bissau	2009	23,397	..	..	..	..	1,848
	2010	23,751	..	..	..	..	1,890
	2011	24,092	..	..	..	..	1,935
	2012	24,438	..	..	..	..	1,981
Kenya	2009	226,849	..	42,990	15,297	..	522
	2010	255,990	..	38,035	16,162	..	522
	2011	241,164	..	27,622	13,413	..	*522
	2012	241,164	..	28,378	13,514	..	*522
Lesotho	2009	19,036	..	..	..	..	2,794
	2010	19,109	..	..	..	..	2,850
	2011	19,181	..	..	..	..	2,903
	2012	19,253	..	..	..	..	2,956

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Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	297,531
..	..	..	..	..	322,130
..	..	..	..	..	381,840
..	..	..	..	..	394,129
..	..	..	..	..	754,090
..	..	..	..	..	779,636
..	..	..	..	..	821,857
..	..	..	..	..	796,735
..	..	..	..	..	3,193
..	..	..	..	..	3,252
..	..	..	..	..	3,303
..	..	..	..	..	3,355
..	..	..	..	..	216,755
..	..	..	..	..	217,451
..	..	..	..	..	219,316
..	..	..	..	..	220,288
..	..	..	..	..	4,083
..	..	..	..	..	4,083
..	..	..	..	..	4,083
..	..	..	..	..	4,083
..	..	..	..	..	23,507
..	..	..	..	..	24,321
..	..	..	..	..	25,136
..	..	..	..	..	25,975
..	..	134	..	..	1,165,916
..	..	161	..	..	1,185,537
..	..	161	..	..	1,204,681
..	..	241	..	..	1,224,141
..	..	..	..	..	48,035
..	..	..	..	..	49,205
..	..	..	..	..	50,407
..	..	..	..	..	51,640
..	..	..	..	..	6,924
..	..	..	..	..	6,340
..	..	..	..	..	6,422
..	..	..	..	..	6,513
..	..	..	..	..	115,471
..	..	..	..	..	114,467
..	..	..	..	..	127,881
..	..	..	..	..	143,472
..	..	..	..	..	109,349
..	..	..	..	..	109,874
..	..	..	..	..	110,343
..	..	..	..	..	110,825
..	..	..	..	..	23,397
..	..	..	..	..	23,751
..	..	..	..	..	24,092
..	..	..	..	..	24,438
..	..	..	..	..	285,137
..	..	..	..	..	310,187
..	..	..	..	..	282,199
..	..	..	..	..	283,056
..	..	..	..	..	19,036
..	..	..	..	..	19,109
..	..	..	..	..	19,181
..	..	..	..	..	19,253

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Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Liberia	2009	61,667	..	..	..	..	6,647
	2010	64,021	..	..	..	..	6,919
	2011	66,265	..	..	..	..	7,177
	2012	68,588	..	..	..	..	7,445
Libya	2009	6,779	..	..	..	..	..
	2010	6,867	..	..	..	..	..
	2011	6,937	..	..	..	..	..
	2012	6,996	..	..	..	..	..
Madagascar	2009	119,669	..	..	1,510	..	31,502
	2010	119,669	..	..	2,014	..	35,252
	2011	119,669	..	..	1,762	..	35,252
	2012	119,166	..	..	1,888	..	34,989
Malawi	2009	48,855	..	..	7,552	..	14,115
	2010	49,378	..	..	7,016	..	14,450
	2011	49,928	..	..	7,678	..	14,804
	2012	50,500	..	..	8,056	..	15,167
Mali	2009	48,087	..	..	881	..	3,806
	2010	48,653	..	..	881	..	3,929
	2011	49,192	..	..	881	..	4,160
	2012	49,740	..	..	881	..	3,894
Mauritania	2009	16,362	..	..	..	..	5,301
	2010	16,775	..	..	..	..	5,475
	2011	17,148	..	..	..	..	5,623
	2012	17,532	..	..	..	..	5,773
Mauritius	2009	183	..	..	10,518	..	..
	2010	183	..	..	10,857	..	..
	2011	183	..	..	10,525	..	..
	2012	183	..	..	9,969	..	..
Morocco	2009	62,134	..	..	1,835	..	3,095
	2010	61,987	..	..	1,617	..	3,142
	2011	61,769	..	..	1,690	..	3,180
	2012	61,579	..	..	809	..	3,221
Mozambique	2009	309,417	..	16,248	6,355	..	13,187
	2010	317,443	..	16,669	7,089	..	13,423
	2011	325,576	..	17,096	9,807	..	13,688
	2012	333,814	..	17,529	9,985	..	20,503
Namibia	2009	3,570	..	4,626	..	..	..
	2010	3,630	..	4,704	..	..	..
	2011	3,695	..	4,788	..	..	..
	2012	3,763	..	4,877	..	..	..
Niger	2009	53,069	352	585	..	..	1,108
	2010	54,882	367	447	..	..	1,145
	2011	56,750	*350	*450	..	..	*1,183
	2012	56,700	*350	*450	..	..	*1,222
Nigeria	2009	1,922,295	..	1,987,353	944	..	77,261
	2010	2,053,167	..	2,042,696	755	..	89,356
	2011	2,184,881	..	2,100,060	755	..	102,749
	2012	2,369,125	..	2,159,419	1,133	..	118,148
Réunion	2009	283	..	..	4,161	..	434
	2010	283	..	..	4,191	..	434
	2011	283	..	..	4,082	..	435
	2012	283	..	..	4,095	..	435
Rwanda	2009	72,431	..	..	252	..	14,912
	2010	75,096	..	..	176	..	15,774
	2011	*77,355	..	..	252	..	*16,449
	2012	*79,803	..	..	252	..	*16,968



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Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	61,667
..	..	..	..	..	64,021
..	..	..	..	..	66,265
..	..	..	..	..	68,588
..	..	..	..	..	6,779
..	..	..	..	..	6,867
..	..	..	..	..	6,937
..	..	..	..	..	6,996
..	..	..	..	..	121,179
..	..	..	..	..	121,682
..	..	..	..	..	121,431
..	..	..	..	..	121,054
*20,850	..	..	..	..	77,257
*20,850	..	..	..	..	77,243
*20,850	..	..	..	..	78,456
*20,850	..	..	..	..	79,406
..	..	..	..	..	48,968
..	..	..	..	..	49,534
..	..	..	..	..	50,073
..	..	..	..	..	50,621
..	..	..	..	..	16,362
..	..	..	..	..	16,775
..	..	..	..	..	17,148
..	..	..	..	..	17,532
..	..	..	..	..	10,700
..	..	..	..	..	11,040
..	..	..	..	..	10,708
..	..	..	..	..	10,152
..	..	..	..	..	63,968
..	..	..	..	..	63,604
..	..	..	..	..	63,459
..	..	..	..	..	62,388
..	..	..	..	..	332,020
..	..	..	..	..	341,201
..	..	..	..	..	352,479
..	..	..	..	..	361,328
..	..	..	..	..	8,196
..	..	..	..	..	8,334
..	..	..	..	..	8,483
..	..	..	..	..	8,640
..	..	..	..	..	54,006
..	..	..	..	..	55,696
..	..	..	..	..	57,550
..	..	..	..	..	57,500
..	..	..	..	..	3,910,592
..	..	..	..	..	4,096,618
..	..	..	..	..	4,285,696
..	..	..	..	..	4,529,677
..	..	..	..	72	4,517
..	..	..	..	80	4,554
..	..	..	..	80	4,445
..	..	..	..	121	4,500
..	..	..	..	..	72,683
..	..	..	..	..	75,272
..	..	..	..	..	*77,607
..	..	..	..	..	*80,055

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Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Sao Tome and Principe	2009	968	..	..	..	..	257
	2010	977	..	..	..	..	260
	2011	987	..	..	..	..	266
	2012	996	..	..	..	..	268
Senegal	2009	48,023	..	333	2,643	..	16,579
	2010	44,095	..	870	2,643	..	16,107
	2011	45,319	..	1,195	2,643	..	16,550
	2012	46,561	..	611	2,769	..	16,992
Seychelles	2009	29	..	..	..	..	..
	2010	29	..	..	..	..	..
	2011	29	..	..	..	..	..
	2012	29	..	..	..	..	..
Sierra Leone	2009	50,644	..	..	154	..	11,004
	2010	50,992	..	..	201	..	11,269
	2011	51,330	..	..	201	..	11,564
	2012	51,704	..	..	201	..	11,830
Somalia	2009	119,608	..	..	503	..	32,117
	2010	123,333	..	..	503	..	33,406
	2011	127,494	..	..	629	..	35,022
	2012	127,494	..	..	629	..	35,022
South Africa	2009	534,585	..	80,691	58,661	..	20,750
	2010	541,748	..	81,773	52,095	..	20,809
	2011	549,029	..	82,871	49,874	..	20,877
	2012	556,427	..	83,988	53,334	..	20,945
St. Helena and Depend.	2009	6	..	..	..	..	..
	2010	5	..	..	..	..	..
	2011	5	..	..	..	..	..
	2012	5	..	..	..	..	..
Sudan	2009	406,077	..	46,430	20,618	..	53,484
	2010	413,492	..	46,642	12,803	..	54,929
	2011	421,711	..	46,833	18,101	..	56,552
	2012	430,015	..	46,700	18,579	..	57,850
Swaziland	2009	9,550	*4,100	..	15,807	..	1,218
	2010	9,708	*4,050	..	15,444	..	1,257
	2011	9,847	*4,000	..	16,240	..	1,292
	2012	9,987	*3,950	..	15,691	..	1,325
Togo	2009	94,964	..	915	..	..	17,228
	2010	97,714	..	935	..	..	17,730
	2011	100,480	..	955	..	..	18,231
	2012	103,262	..	1,225	..	..	18,733
Tunisia	2009	33,617	1,482	3,925	..	..	5,487
	2010	33,755	1,469	3,900	..	..	5,635
	2011	33,907	1,469	3,888	..	..	5,753
	2012	34,058	1,455	3,863	..	..	5,871
Uganda	2009	356,685	..	..	*10,811	..	26,757
	2010	362,078	..	..	*10,811	..	27,478
	2011	367,008	..	..	*10,270	..	28,228
	2012	372,030	..	..	*11,506	..	28,999
United Rep. of Tanzania	2009	607,113	..	115,436	6,778	..	45,843
	2010	626,112	..	118,926	7,271	..	46,315
	2011	645,439	..	122,578	7,151	..	46,787
	2012	665,915	..	126,790	8,056	..	47,259
Zambia	2009	233,645	..	39,891	..	..	29,854
	2010	240,786	..	41,110	..	..	30,769
	2011	248,383	..	42,407	..	..	31,742
	2012	256,417	..	43,779	..	..	32,775

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	968
..	..	..	..	..	977
..	..	..	..	..	987
..	..	..	..	..	996
..	..	..	..	..	50,999
..	..	..	..	..	47,608
..	..	..	..	..	49,157
..	..	..	..	..	49,941
..	..	..	..	..	29
..	..	..	..	..	29
..	..	..	..	..	29
..	..	..	..	..	29
..	..	..	..	..	50,799
..	..	..	..	..	51,192
..	..	..	..	..	51,530
..	..	..	..	..	51,905
..	..	..	..	..	120,112
..	..	..	..	..	123,836
..	..	..	..	..	128,124
..	..	..	..	..	128,124
..	..	2,707	..	..	676,644
..	..	*2,814	..	..	678,430
..	..	*2,814	..	..	684,588
..	..	*2,894	..	..	696,644
..	..	..	..	..	6
..	..	..	..	..	5
..	..	..	..	..	5
..	..	..	..	..	5
..	..	..	..	..	473,125
..	..	..	..	..	472,937
..	..	..	..	..	486,645
..	..	..	..	..	495,294
..	..	..	..	..	29,457
..	..	..	..	..	29,202
..	..	..	..	..	30,086
..	..	..	..	..	29,629
..	..	..	..	..	95,879
..	..	..	..	..	98,649
..	..	..	..	..	101,435
..	..	..	..	..	104,487
..	..	..	..	..	39,024
..	..	..	..	..	39,124
..	..	..	..	..	39,263
..	..	..	..	..	39,375
..	..	..	..	..	367,496
..	..	..	..	..	372,889
..	..	..	..	..	377,278
..	..	..	..	..	383,536
..	..	..	..	..	729,327
..	..	..	..	..	752,309
..	..	..	..	..	775,168
..	..	..	..	..	800,761
..	..	..	..	..	273,536
..	..	..	..	..	281,896
..	..	..	..	..	290,790
..	..	..	..	..	300,196

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Zimbabwe	2009	154,178	..	94,344	6,562	..	324
	2010	155,288	..	95,023	8,434	..	327
	2011	157,376	..	96,301	9,369	..	330
	2012	160,390	..	98,146	12,615	..	333
<b>America, North</b>	<b>2009</b>	<b>1,423,190</b>	<b>331,572</b>	<b>662,937</b>	<b>225,966</b>	<b>845,337</b>	<b>75,314</b>
	<b>2010</b>	<b>1,457,017</b>	<b>355,942</b>	<b>704,085</b>	<b>223,538</b>	<b>900,942</b>	<b>75,291</b>
	<b>2011</b>	<b>1,460,272</b>	<b>358,288</b>	<b>709,763</b>	<b>241,983</b>	<b>904,055</b>	<b>73,759</b>
	<b>2012</b>	<b>1,450,445</b>	<b>391,970</b>	<b>775,023</b>	<b>273,604</b>	<b>975,357</b>	<b>74,567</b>
Anguilla	2009	*2	..	..	..	..	..
	2010	*2	..	..	..	..	..
	2011	*2	..	..	..	..	..
	2012	*2	..	..	..	..	..
Aruba	2009	16	..	..	..	..	5
	2010	16	..	..	..	..	5
	2011	17	..	..	..	..	5
	2012	17	..	..	..	..	5
Bahamas	2009	301	..	..	..	..	30
	2010	301	..	..	..	..	31
	2011	303	..	..	..	..	32
	2012	304	..	..	..	..	32
Barbados	2009	46	..	..	1,375	..	9
	2010	46	..	..	1,387	..	9
	2011	45	..	..	857	..	9
	2012	45	..	..	769	..	9
Belize	2009	1,151	..	..	2,216	..	21
	2010	830	..	..	2,095	..	21
	2011	830	..	..	*2,443	..	21
	2012	*1,151	..	..	*3,205	..	22
Bermuda	2009	..	..	..	..	..	..
	2010	..	..	..	..	..	..
	2011	..	..	..	..	..	..
	2012	..	..	..	..	..	..
British Virgin Islands	2009	12	..	..	..	..	2
	2010	12	..	..	..	..	2
	2011	13	..	..	..	..	2
	2012	13	..	..	..	..	2
Canada	2009	293,626	..	..	..	166,404	..
	2010	279,281	..	..	..	172,107	..
	2011	285,010	..	..	..	170,419	..
	2012	274,913	..	..	..	172,751	..
Costa Rica	2009	15,917	..	5,740	10,416	..	36
	2010	17,913	..	4,878	10,772	..	42
	2011	17,163	..	4,965	8,613	..	32
	2012	12,350	..	4,965	9,285	..	36
Cuba	2009	15,922	..	63	28,718	..	2,154
	2010	10,423	..	50	23,375	..	2,006
	2011	11,921	..	13	30,502	..	1,564
	2012	11,062	..	88	30,580	..	974
Dominica	2009	69	..	..	..	..	7
	2010	69	..	..	..	..	7
	2011	69	..	..	..	..	7
	2012	69	..	..	..	..	7
Dominican Republic	2009	19,589	..	..	11,434	..	2,808
	2010	19,781	..	..	11,385	..	2,902
	2011	19,709	..	..	10,816	..	2,953
	2012	19,570	..	..	11,908	..	2,995

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	255,084
..	..	..	..	..	258,745
..	..	..	..	..	263,046
..	..	..	..	..	271,151
<b>124,772</b>	<b>305,751</b>	<b>912,256</b>	<b>62,118</b>	<b>221,706</b>	<b>5,115,606</b>
<b>143,593</b>	<b>299,584</b>	<b>1,055,178</b>	<b>52,072</b>	<b>234,592</b>	<b>5,426,543</b>
<b>145,235</b>	<b>302,408</b>	<b>1,118,743</b>	<b>108,118</b>	<b>242,521</b>	<b>5,591,387</b>
<b>143,003</b>	<b>305,145</b>	<b>1,071,007</b>	<b>113,270</b>	<b>277,410</b>	<b>5,776,234</b>
..	..	..	..	..	*2
..	..	..	..	..	*2
..	..	..	..	..	*2
..	..	..	..	..	*2
..	..	..	..	..	16
..	..	..	..	..	16
..	..	..	..	..	17
..	..	..	..	..	17
..	..	..	..	..	301
..	..	..	..	..	301
..	..	..	..	..	303
..	..	..	..	..	304
..	..	..	..	..	1,421
..	..	..	..	..	1,433
..	..	..	..	..	902
..	..	..	..	..	814
..	..	..	..	..	3,367
..	..	..	..	..	2,925
..	..	..	..	..	*3,273
..	..	..	..	..	*4,356
..	*612	..	..	..	*612
..	*584	..	..	..	*584
..	*560	..	..	..	*560
..	*565	..	..	..	*565
..	..	..	..	..	12
..	..	..	..	..	12
..	..	..	..	..	13
..	..	..	..	..	13
4,555	5,229	27,470	0	6,982	504,266
4,748	5,229	29,292	4,526	9,920	505,104
5,080	5,229	35,108	5,115	9,921	515,882
5,252	5,231	36,475	5,115	9,921	509,658
..	..	725	..	..	32,797
..	..	597	..	..	34,161
..	..	632	..	..	31,373
..	..	742	..	..	27,343
..	..	390	..	..	45,093
..	..	393	..	..	34,241
..	..	399	..	..	42,835
..	..	375	..	..	42,104
..	..	..	..	..	69
..	..	..	..	..	69
..	..	..	..	..	69
..	..	..	..	..	69
..	..	..	..	..	31,023
..	..	..	..	..	31,166
..	..	..	..	..	30,525
..	..	..	..	..	31,478

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
El Salvador	2009	21,235	..	..	11,114	..	1,475
	2010	21,338	..	..	11,250	..	1,475
	2011	21,450	..	..	10,224	..	1,505
	2012	21,458	..	..	12,819	..	1,505
Greenland	2009	..	..	..	..	..	..
	2010	..	..	..	..	..	..
	2011	..	..	..	..	..	..
	2012	..	..	..	..	..	..
Grenada	2009	229	..	..	21	..	51
	2010	234	..	..	22	..	54
	2011	240	..	..	22	..	57
	2012	235	..	..	22	..	58
Guadeloupe	2009	137	..	..	..	..	61
	2010	137	..	..	..	..	62
	2011	137	..	..	..	..	62
	2012	137	..	..	..	..	62
Guatemala	2009	164,279	..	..	50,288	..	1,829
	2010	216,456	..	..	46,597	..	1,888
	2011	218,080	..	..	72,189	..	1,918
	2012	219,700	..	..	75,799	..	1,977
Haiti	2009	125,793	..	..	1,077	..	32,952
	2010	129,170	..	..	919	..	34,073
	2011	133,606	..	..	970	..	35,430
	2012	137,987	..	..	967	..	36,787
Honduras	2009	68,147	..	..	13,692	..	798
	2010	69,686	..	..	12,448	..	817
	2011	71,240	..	..	15,260	..	537
	2012	72,678	..	..	18,707	..	620
Jamaica	2009	2,773	..	..	6,178	..	1,133
	2010	2,773	..	..	2,461	..	1,133
	2011	2,773	..	..	3,409	..	1,133
	2012	2,773	..	..	3,357	..	1,133
Martinique	2009	91	..	..	*174	..	53
	2010	91	..	..	*175	..	53
	2011	91	..	..	*175	..	53
	2012	91	..	..	*175	..	53
Mexico	2009	260,678	..	88,726	..	..	4,160
	2010	259,311	..	88,970	..	..	2,242
	2011	253,496	..	90,579	..	..	2,508
	2012	252,826	..	98,021	..	..	2,360
Netherlands Antilles	2009	30	..	..	..	..	8
	2010	30	..	..	..	..	8
	2011	*31	..	..	..	..	*8
	2012	*31	..	..	..	..	*8
Nicaragua	2009	45,668	..	..	11,659	..	236
	2010	46,084	..	..	13,269	..	531
	2011	42,048	..	..	12,826	..	502
	2012	42,078	..	..	11,670	..	561
Panama	2009	17,618	..	..	3,633	..	148
	2010	13,173	..	..	3,854	..	148
	2011	12,141	..	..	4,433	..	148
	2012	11,109	..	..	4,666	..	148
St. Lucia	2009	90	..	..	..	..	10
	2010	90	..	..	..	..	10
	2011	90	..	..	..	..	10
	2012	90	..	..	..	..	10

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	32,349
..	..	..	..	..	32,588
..	..	..	..	..	31,674
..	..	..	..	..	34,276
..	80	..	..	..	80
..	90	..	..	..	90
..	91	..	..	..	91
..	103	..	..	..	103
..	..	..	..	..	250
..	..	..	..	..	256
..	..	..	..	..	262
..	..	..	..	..	257
..	..	..	..	..	137
..	..	..	..	..	137
..	..	..	..	..	137
..	..	..	..	..	137
..	..	..	..	..	214,567
..	..	..	..	..	263,053
..	..	..	..	..	290,269
..	..	..	..	..	295,499
..	..	..	..	..	126,870
..	..	..	..	..	130,089
..	..	..	..	..	134,576
..	..	..	..	..	138,954
..	..	..	..	..	81,839
..	..	..	..	..	82,134
..	..	..	..	..	86,500
..	..	..	..	..	91,385
..	..	..	..	..	8,951
..	..	..	..	..	5,234
..	..	..	..	..	6,183
..	..	..	..	..	6,130
..	*432	..	..	..	*697
..	*432	..	..	..	*698
..	*432	..	..	..	*698
..	*432	..	..	..	*698
..	..	..	..	1,633	351,037
..	..	..	..	1,900	350,181
..	..	..	..	2,154	346,229
..	..	..	..	1,822	352,669
..	..	..	..	..	30
..	..	..	..	..	30
..	..	..	..	..	*31
..	..	..	..	..	*31
..	..	..	..	..	57,327
..	..	..	..	..	59,353
..	..	..	..	..	54,874
..	..	..	..	..	53,748
..	..	..	..	..	21,251
..	..	..	..	..	17,027
..	..	..	..	..	16,574
..	..	..	..	..	15,776
..	..	..	..	..	90
..	..	..	..	..	90
..	..	..	..	..	90
..	..	..	..	..	90

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. Vincent-Grenadines	2009	69	..	..	..	..	11
	2010	68	..	..	..	..	11
	2011	68	..	..	..	..	11
	2012	68	..	..	..	..	11
Trinidad and Tobago	2009	302	..	..	487	..	59
	2010	300	..	..	0	..	59
	2011	297	..	..	0	..	59
	2012	294	..	..	0	..	59
Turks and Caicos Islands	2009	9	..	..	..	..	3
	2010	9	..	..	..	..	4
	2011	9	..	..	..	..	4
	2012	9	..	..	..	..	4
United States	2009	369,392	*331,572	*568,409	73,484	*678,933	27,258
	2010	369,392	*355,942	*610,187	83,530	*728,835	27,701
	2011	369,392	*358,288	*614,207	69,244	*733,636	25,193
	2012	369,383	*391,970	*671,949	89,677	*802,606	25,134
<b>America, South</b>	<b>2009</b>	<b>1,628,393</b>	<b>..</b>	<b>457,001</b>	<b>1,306,618</b>	<b>37,440</b>	<b>239,673</b>
	<b>2010</b>	<b>1,679,407</b>	<b>..</b>	<b>506,182</b>	<b>1,405,217</b>	<b>35,892</b>	<b>271,182</b>
	<b>2011</b>	<b>1,717,812</b>	<b>..</b>	<b>590,256</b>	<b>1,310,586</b>	<b>35,291</b>	<b>272,653</b>
	<b>2012</b>	<b>1,845,113</b>	<b>..</b>	<b>619,085</b>	<b>1,363,530</b>	<b>33,035</b>	<b>263,158</b>
Argentina	2009	26,209	..	24,922	42,053	..	10,797
	2010	26,214	..	27,997	38,437	..	11,535
	2011	26,987	..	27,586	40,303	..	11,210
	2012	28,230	..	29,978	40,220	..	11,977
Bolivia (Plur. State of)	2009	21,277	..	2,679	8,937	..	1,062
	2010	21,466	..	2,606	10,070	..	1,062
	2011	21,630	..	2,537	8,685	..	1,062
	2012	21,798	..	2,537	11,958	..	1,062
Brazil	2009	1,008,961	..	378,638	1,128,786	..	187,119
	2010	1,058,235	..	424,400	1,238,107	..	217,681
	2011	1,049,520	..	511,647	1,134,709	..	225,262
	2012	1,039,325	..	534,041	1,189,968	..	217,917
Chile	2009	230,956	..	..	..	..	7,346
	2010	205,583	..	..	..	..	7,316
	2011	248,100	..	..	..	..	7,316
	2012	393,699	..	..	..	..	7,316
Colombia	2009	74,857	..	15,967	74,997	15,968	14,190
	2010	74,857	..	11,941	65,468	11,941	14,190
	2011	84,240	..	10,158	69,684	10,158	9,352
	2012	94,173	..	11,023	64,171	*8,641	7,139
Ecuador	2009	44,990	..	..	12,842	..	2,510
	2010	45,127	..	..	12,579	..	2,434
	2011	45,237	..	..	14,502	..	2,345
	2012	45,355	..	..	14,811	..	2,257
Falkland Is. (Malvinas)	2009	6	..	..	..	..	3
	2010	6	..	..	..	..	3
	2011	6	..	..	..	..	3
	2012	7	..	..	..	..	3
French Guiana	2009	1,114	..	..	..	..	201
	2010	1,170	..	..	..	..	213
	2011	1,211	..	..	..	..	222
	2012	1,255	..	..	..	..	232
Guyana	2009	1,419	..	..	7,077	..	26
	2010	1,382	..	..	6,822	..	58
	2011	1,329	..	..	8,320	..	49
	2012	1,213	..	..	6,960	..	48



Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	69
..	..	..	..	..	68
..	..	..	..	..	68
..	..	..	..	..	68
..	..	..	..	..	789
..	..	..	..	..	300
..	..	..	..	..	297
..	..	..	..	..	294
..	..	..	..	..	9
..	..	..	..	..	9
..	..	..	..	..	9
..	..	..	..	..	9
120,217	299,398	883,671	62,118	213,091	3,600,285
138,845	293,249	1,024,895	47,546	222,772	3,875,192
140,155	296,096	1,082,605	103,003	230,446	3,997,072
137,751	298,814	1,033,416	108,155	265,667	4,169,388
..	..	<b>570,208</b>	<b>52,819</b>	<b>288</b>	<b>4,052,767</b>
..	..	<b>611,434</b>	<b>85,181</b>	<b>362</b>	<b>4,323,675</b>
..	..	<b>504,704</b>	<b>115,387</b>	<b>418</b>	<b>4,274,455</b>
..	..	<b>521,158</b>	<b>118,699</b>	<b>1,150</b>	<b>4,501,769</b>
..	..	..	42,982	..	136,166
..	..	2,707	72,238	..	167,593
..	..	3,779	96,600	..	195,255
..	..	5,628	97,704	..	201,760
..	..	..	..	..	32,893
..	..	..	..	..	34,141
..	..	..	..	..	32,852
..	..	..	..	..	36,293
..	..	562,559	..	..	3,078,943
..	..	601,392	..	..	3,322,134
..	..	492,477	..	..	3,188,352
..	..	504,376	..	..	3,267,710
..	..	..	..	288	231,244
..	..	..	..	362	205,945
..	..	..	..	418	248,518
..	..	..	..	273	393,972
..	..	7,048	8,769	..	197,606
..	..	6,164	12,586	..	182,956
..	..	7,141	18,202	..	199,583
..	..	7,818	19,633	..	205,459
..	..	0	..	..	57,832
..	..	107	..	..	57,813
..	..	134	..	..	59,873
..	..	161	..	..	60,327
..	..	..	..	..	6
..	..	..	..	..	6
..	..	..	..	..	6
..	..	..	..	..	7
..	..	..	..	..	1,114
..	..	..	..	..	1,170
..	..	..	..	..	1,211
..	..	..	..	..	1,255
..	..	..	..	..	8,496
..	..	..	..	..	8,205
..	..	..	..	..	9,649
..	..	..	..	..	8,173

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Paraguay	2009	101,774	..	23,657	3,021	..	13,972
	2010	102,296	..	24,485	3,021	..	14,155
	2011	99,660	..	23,362	3,021	..	13,561
	2012	96,611	..	23,412	3,021	..	12,966
Peru	2009	80,149	..	10,299	11,710	..	2,183
	2010	102,774	..	8,661	15,940	..	2,272
	2011	98,525	..	8,585	16,310	..	2,036
	2012	83,431	..	8,285	17,104	..	2,006
Suriname	2009	938	..	..	176	..	..
	2010	963	..	..	176	..	..
	2011	963	..	..	176	..	..
	2012	1,028	..	..	176	..	..
Uruguay	2009	20,988	..	839	656	21,472	..
	2010	25,263	..	6,092	751	23,951	..
	2011	26,983	..	6,381	779	25,133	..
	2012	26,190	..	9,808	1,044	24,394	..
Venezuela(Bolivar. Rep.)	2009	14,756	..	..	16,363	..	266
	2010	14,072	..	..	13,846	..	266
	2011	13,420	..	..	14,097	..	236
	2012	12,798	..	..	14,097	..	236
<b>Asia</b>	<b>2009</b>	<b>10,422,457</b>	<b>135,459</b>	<b>4,413,406</b>	<b>1,022,323</b>	<b>164,765</b>	<b>381,444</b>
	<b>2010</b>	<b>10,490,844</b>	<b>136,971</b>	<b>4,602,444</b>	<b>1,092,090</b>	<b>183,521</b>	<b>395,154</b>
	<b>2011</b>	<b>10,497,531</b>	<b>138,757</b>	<b>4,703,410</b>	<b>1,434,523</b>	<b>172,761</b>	<b>387,656</b>
	<b>2012</b>	<b>10,557,988</b>	<b>137,455</b>	<b>4,782,924</b>	<b>1,495,148</b>	<b>175,785</b>	<b>390,442</b>
Afghanistan	2009	14,594	..	..	..	..	3,217
	2010	14,993	..	..	..	..	3,316
	2011	15,118	..	..	..	..	3,410
	2012	15,475	..	..	..	..	3,511
Armenia	2009	13,703	..	..	..	..	..
	2010	15,986	..	..	..	..	..
	2011	18,946	..	..	..	..	..
	2012	18,946	..	..	..	..	..
Azerbaijan	2009	2,755	..	..	..	..	..
	2010	3,416	..	..	..	..	..
	2011	3,672	..	..	..	..	..
	2012	3,700	..	..	..	..	..
Bahrain	2009	59	..	..	..	..	31
	2010	60	..	..	..	..	31
	2011	61	..	..	..	..	32
	2012	62	..	..	..	..	32
Bangladesh	2009	249,927	110,376	210,086	2,014	..	9,467
	2010	249,265	111,574	212,365	2,392	..	9,567
	2011	247,812	112,856	214,806	2,769	..	9,638
	2012	246,378	114,209	217,382	2,392	..	9,708
Bhutan	2009	43,693	..	..	..	..	207
	2010	44,259	..	..	..	..	207
	2011	44,734	..	..	..	..	826
	2012	45,218	..	..	..	..	826
Brunei Darussalam	2009	107	..	..	..	..	9
	2010	107	..	..	..	..	9
	2011	107	..	..	..	..	9
	2012	107	..	..	..	..	9
Cambodia	2009	150,453	..	268	..	..	22,420
	2010	151,245	..	288	..	..	23,158
	2011	158,385	..	288	..	..	25,134
	2012	162,646	..	288	..	..	25,577

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	601	..	..	129,053
..	..	783	..	..	130,585
..	..	831	..	..	126,874
..	..	873	..	..	123,917
..	..	0	1,067	0	103,225
..	..	0	0	0	127,375
..	..	0	0	0	123,420
..	..	1,876	699	877	112,272
..	..	..	..	..	1,115
..	..	..	..	..	1,139
..	..	..	..	..	1,139
..	..	..	..	..	1,204
..	..	..	..	..	43,955
..	..	281	357	..	56,695
..	..	343	585	..	60,204
..	..	426	662	..	62,524
..	..	..	..	..	31,119
..	..	..	..	..	27,918
..	..	..	..	..	27,517
..	..	..	..	..	26,895
<b>81,537</b>	<b>127,815</b>	<b>9,643</b>	<b>30,512</b>	<b>14,198</b>	<b>16,422,116</b>
<b>103,166</b>	<b>124,921</b>	<b>9,448</b>	<b>34,985</b>	<b>17,209</b>	<b>16,795,599</b>
<b>132,711</b>	<b>145,788</b>	<b>15,077</b>	<b>42,270</b>	<b>39,631</b>	<b>17,322,458</b>
<b>139,594</b>	<b>144,472</b>	<b>20,030</b>	<b>55,126</b>	<b>40,824</b>	<b>17,549,345</b>
..	..	..	..	..	14,594
..	..	..	..	..	14,993
..	..	..	..	..	15,118
..	..	..	..	..	15,475
..	..	..	..	..	13,703
..	..	..	..	..	15,986
..	..	..	..	..	18,946
..	..	..	..	..	18,946
..	..	..	..	..	2,755
..	..	..	..	..	3,416
..	..	..	..	..	3,672
..	..	..	..	..	3,700
..	..	..	..	..	59
..	..	..	..	..	60
..	..	..	..	..	61
..	..	..	..	..	62
..	..	..	..	..	572,403
..	..	..	..	..	575,595
..	..	..	..	..	578,244
..	..	..	..	..	580,361
..	..	..	..	..	43,693
..	..	..	..	..	44,259
..	..	..	..	..	44,734
..	..	..	..	..	45,218
..	..	..	..	..	107
..	..	..	..	..	107
..	..	..	..	..	107
..	..	..	..	..	107
..	..	..	..	..	150,721
..	..	..	..	..	151,533
..	..	..	..	..	158,673
..	..	..	..	..	162,934

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
China	2009	1,757,485	..	..	323,471	..	51,124
	2010	1,724,899	..	..	265,965	..	50,889
	2011	1,693,905	..	..	262,953	..	50,607
	2012	1,663,483	..	..	299,316	..	50,328
China, Macao SAR	2009	..	..	..	..	..	..
	2010	..	..	..	..	..	..
	2011	..	..	..	..	..	..
	2012	..	..	..	..	..	..
Cyprus	2009	179	..	116	..	..	30
	2010	143	..	82	..	..	30
	2011	181	..	30	..	..	30
	2012	145	..	76	..	..	30
Georgia	2009	15,994	..	..	..	..	..
	2010	15,031	..	..	..	..	..
	2011	13,188	..	..	..	..	..
	2012	12,840	..	..	..	..	..
India	2009	3,728,830	..	3,391,923	399,124	..	84,960
	2010	3,777,353	..	3,464,883	524,763	..	84,960
	2011	3,826,013	..	3,540,340	706,534	..	84,960
	2012	3,874,672	..	3,614,237	734,928	..	84,960
Indonesia	2009	1,759,767	..	452,445	..	..	19,411
	2010	1,725,305	..	458,711	..	..	17,759
	2011	1,783,438	..	464,871	..	..	19,854
	2012	1,778,872	..	470,909	..	..	19,913
Iran(Islamic Rep. of)	2009	45,675	1,175	6,250	..	..	56
	2010	45,675	1,175	6,250	..	..	35
	2011	45,675	1,175	7,500	..	..	24
	2012	73,994	1,175	7,500	..	..	32
Iraq	2009	1,100	..	..	..	..	443
	2010	1,100	..	..	..	..	443
	2011	1,100	..	..	..	..	443
	2012	1,100	..	..	..	..	443
Israel	2009	*631	..	..	..	..	..
	2010	*550	..	..	..	..	..
	2011	*594	..	..	..	..	..
	2012	*594	..	..	..	..	..
Japan	2009	35,765	..	0	4,108	164,626	443
	2010	39,489	..	110,429	4,154	182,801	413
	2011	39,926	..	116,418	15,104	172,134	354
	2012	39,997	..	123,305	3,521	165,523	354
Jordan	2009	2,686	..	..	..	..	1,151
	2010	2,759	..	..	..	..	1,180
	2011	2,832	..	..	..	..	1,215
	2012	2,905	..	..	..	..	1,248
Kazakhstan	2009	2,220	..	..	..	..	14
	2010	2,485	..	..	..	..	14
	2011	2,485	..	..	..	..	14
	2012	2,229	..	..	..	..	14
Korea, Dem.Ppl's.Rep.	2009	44,402	..	..	..	..	..
	2010	44,600	..	..	..	..	..
	2011	44,792	..	..	..	..	..
	2012	45,029	..	..	..	..	..
Korea, Republic of	2009	11,526	..	973	..	..	..
	2010	8,034	..	5,758	..	..	..
	2011	7,050	..	10,196	..	..	..
	2012	21,178	..	718	..	9,560	..

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	2,080,957
..	..	..	..	..	1,990,863
..	..	..	..	..	1,956,858
..	..	..	..	..	1,962,799
..	*1,670	..	..	..	*1,670
..	*1,915	..	..	..	*1,915
..	*1,541	..	..	..	*1,541
..	*1,627	..	..	..	*1,627
276	..	..	258	209	1,038
299	..	..	221	274	1,019
4	..	..	221	448	884
0	..	..	258	476	955
..	..	..	..	3	15,997
..	..	..	..	3	15,034
..	..	..	..	3	13,191
..	..	..	..	3	12,843
..	..	..	..	..	7,519,877
..	..	..	..	..	7,766,999
..	..	..	..	..	8,072,887
..	..	..	..	..	8,223,837
..	..	..	..	..	2,212,212
..	..	..	..	..	2,184,016
..	..	..	..	..	2,248,309
..	..	..	..	..	2,249,781
..	..	..	..	127	53,227
..	..	..	..	127	53,227
..	..	..	..	127	54,477
..	..	..	..	127	82,796
..	..	..	..	..	1,100
..	..	..	..	..	1,100
..	..	..	..	..	1,100
..	..	..	..	..	1,100
..	115	..	..	131	*877
..	110	..	..	237	*897
..	93	..	..	298	*985
..	479	..	..	298	1,371
12,662	54,159	..	..	..	271,320
26,398	44,873	..	..	..	408,144
47,112	48,045	..	..	..	438,739
49,947	48,005	..	..	..	430,298
..	..	..	..	84	2,770
..	..	..	..	108	2,867
..	..	..	..	96	2,928
..	..	..	..	72	2,977
..	..	..	..	..	2,220
..	..	..	..	..	2,485
..	..	..	..	..	2,485
..	..	..	..	..	2,229
..	..	..	..	..	44,402
..	..	..	..	..	44,600
..	..	..	..	..	44,792
..	..	..	..	..	45,029
67,543	30,102	..	8,611	7,510	126,265
74,973	34,000	..	12,107	8,316	143,188
84,096	39,262	..	11,408	9,019	161,031
88,080	37,499	..	12,218	9,358	178,611

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Kuwait	2009	165	..	..	..	..	81
	2010	168	..	..	..	..	82
	2011	171	..	..	..	..	84
	2012	173	..	..	..	..	85
Kyrgyzstan	2009	142	..	..	..	..	..
	2010	130	..	..	..	..	..
	2011	131	..	..	..	..	..
	2012	131	..	..	..	..	..
Lao People's Dem. Rep.	2009	54,316	..	..	..	..	610
	2010	54,335	..	..	..	..	624
	2011	54,215	..	..	..	..	636
	2012	54,101	..	..	..	..	649
Lebanon	2009	5,024	..	..	..	..	89
	2010	5,015	..	..	..	..	325
	2011	5,006	..	..	..	..	325
	2012	4,997	..	..	..	..	325
Malaysia	2009	26,109	..	16,762	755	..	844
	2010	25,674	..	14,400	629	..	850
	2011	25,213	..	15,033	629	..	853
	2012	24,768	..	11,405	629	..	856
Maldives	2009	139	..	..	..	..	22
	2010	141	..	..	..	..	23
	2011	142	..	..	..	..	23
	2012	144	..	..	..	..	24
Mongolia	2009	7,326	..	..	..	..	..
	2010	8,313	..	..	..	..	..
	2011	*8,450	..	..	..	..	..
	2012	*9,327	..	..	..	..	..
Myanmar	2009	412,817	..	25,019	2,170	..	779
	2010	415,956	..	25,209	2,000	..	784
	2011	419,199	..	25,406	*2,386	..	797
	2012	423,402	..	25,774	*2,355	..	826
Nepal	2009	114,690	23,277	14,851	3,274	..	2,242
	2010	114,425	23,572	13,883	3,274	..	2,301
	2011	113,859	24,066	15,458	3,521	..	2,331
	2012	113,301	21,402	14,811	3,521	..	2,390
Oman	2009	344	..	..	..	..	165
	2010	356	..	..	..	..	171
	2011	367	..	..	..	..	177
	2012	378	..	..	..	..	182
Other Asia	2009	9,231	..	..	..	..	..
	2010	10,794	..	..	..	..	..
	2011	13,179	..	..	..	..	..
	2012	10,497	..	..	..	..	..
Pakistan	2009	270,944	..	*155,000	87,857	..	2,077
	2010	270,944	..	*157,950	96,920	..	2,133
	2011	270,944	..	*160,697	118,442	..	2,186
	2012	270,944	..	*163,428	129,268	..	2,242
Philippines	2009	121,981	461	24,276	15,099	..	34,671
	2010	118,832	480	24,311	15,883	..	35,017
	2011	115,808	489	24,038	17,015	..	35,371
	2012	112,884	499	23,758	18,372	..	35,725
Qatar	2009	45	..	..	..	..	22
	2010	46	..	..	..	..	22
	2011	46	..	..	..	..	22
	2012	46	..	..	..	..	23

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	165
..	..	..	..	..	168
..	..	..	..	..	171
..	..	..	..	..	173
..	..	..	..	..	142
..	..	..	..	..	130
..	..	..	..	..	131
..	..	..	..	..	131
..	..	..	..	..	54,316
..	..	..	..	..	54,335
..	..	..	..	..	54,215
..	..	..	..	..	54,101
..	..	..	..	..	5,024
..	..	..	..	..	5,015
..	..	..	..	..	5,006
..	..	..	..	..	4,997
..	..	..	..	..	43,626
..	..	..	..	..	40,703
..	..	..	6,366	..	47,241
..	..	..	9,163	..	45,965
..	..	..	..	..	139
..	..	..	..	..	141
..	..	..	..	..	142
..	..	..	..	..	144
..	..	..	..	..	7,326
..	..	..	..	..	8,313
..	..	..	..	..	*8,450
..	..	..	..	..	*9,327
..	..	..	..	..	440,006
..	..	..	..	..	443,165
..	..	..	..	..	446,991
..	..	..	..	..	451,531
..	..	..	..	2,640	158,732
..	..	..	..	2,687	157,841
..	..	..	..	1,929	158,833
..	..	..	..	*1,929	154,965
..	..	..	..	..	344
..	..	..	..	..	356
..	..	..	..	..	367
..	..	..	..	..	378
..	41,602	27	..	..	50,860
..	43,848	27	..	..	54,669
..	56,314	3,904	..	165	73,562
..	56,412	4,481	..	144	71,534
..	..	..	..	..	513,802
..	..	..	..	..	525,814
..	..	..	..	..	550,083
..	..	..	..	..	563,640
..	167	852	4,420	..	167,257
..	175	362	3,999	..	164,042
..	533	105	4,035	..	162,022
..	450	1,426	4,453	..	161,840
..	..	..	..	..	45
..	..	..	..	..	46
..	..	..	..	..	46
..	..	..	..	..	46

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Singapore	2009	..	..	..	..	..	159
	2010	..	..	..	..	..	156
	2011	..	..	..	..	..	156
	2012	..	..	..	..	..	156
Sri Lanka	2009	157,060	..	..	1,089	..	0
	2010	162,657	..	..	1,066	..	0
	2011	162,788	..	..	842	..	0
	2012	159,638	..	..	1,004	..	0
State of Palestine	2009	2,475	..	..	..	139	..
	2010	3,332	..	..	..	720	..
	2011	3,089	..	..	..	627	..
	2012	2,762	..	..	..	702	..
Syrian Arab Republic	2009	270	..	..	..	..	30
	2010	276	..	..	..	..	30
	2011	282	..	..	..	..	30
	2012	287	..	..	..	..	30
Thailand	2009	588,130	170	71,100	156,859	..	127,676
	2010	669,203	170	63,650	151,755	..	141,394
	2011	*624,240	*170	*62,637	275,470	..	128,650
	2012	*627,558	*170	*62,637	261,053	..	130,243
Timor-Leste	2009	1,145	..	..	..	..	..
	2010	1,097	..	..	..	..	..
	2011	1,052	..	..	..	..	..
	2012	1,009	..	..	..	..	..
Turkey	2009	147,782	..	44,337	..	..	..
	2010	142,014	..	44,275	..	..	..
	2011	102,418	..	45,692	..	..	..
	2012	98,396	..	46,696	..	..	..
Turkmenistan	2009	91	..	..	..	..	..
	2010	91	..	..	..	..	..
	2011	91	..	..	..	..	..
	2012	91	..	..	..	..	..
Uzbekistan	2009	201	..	..	..	..	..
	2010	201	..	..	..	..	..
	2011	210	..	..	..	..	..
	2012	238	..	..	..	..	..
Viet Nam	2009	616,373	..	..	26,502	..	17,022
	2010	615,885	..	..	23,290	..	17,199
	2011	622,311	..	..	28,857	..	17,376
	2012	628,942	..	..	38,788	..	17,553
Yemen	2009	4,108	..	..	..	..	1,977
	2010	4,206	..	..	..	..	2,036
	2011	4,306	..	..	..	..	2,095
	2012	4,407	..	..	..	..	2,154
<b>Europe</b>	<b>2009</b>	<b>2,744,812</b>	<b>1,882</b>	<b>278,956</b>	<b>0</b>	<b>409,331</b>	<b>17,511</b>
	<b>2010</b>	<b>2,980,946</b>	<b>1,726</b>	<b>333,940</b>	<b>0</b>	<b>497,969</b>	<b>11,431</b>
	<b>2011</b>	<b>2,913,249</b>	<b>3,643</b>	<b>334,432</b>	<b>107,318</b>	<b>482,389</b>	<b>11,441</b>
	<b>2012</b>	<b>3,133,460</b>	<b>3,800</b>	<b>309,122</b>	<b>105,152</b>	<b>486,123</b>	<b>11,130</b>
Albania	2009	8,788	..	..	..	..	..
	2010	8,578	..	..	..	..	..
	2011	8,706	..	..	..	..	..
	2012	8,642	..	..	..	..	..
Andorra	2009	..	..	..	..	..	..
	2010	..	..	..	..	..	..
	2011	..	..	..	..	..	..
	2012	..	..	..	..	..	..



Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	..	..	..	..	..
..	..	..	..	..	..
..	..	..	..	..	..
..	..	..	..	..	..
..	..	..	..	..	158,149
..	..	..	..	..	163,723
..	..	..	..	..	163,629
..	..	..	..	..	160,642
..	..	..	..	..	2,614
..	..	..	..	..	4,051
..	..	..	..	..	3,716
..	..	..	..	..	3,463
..	..	..	..	..	270
..	..	..	..	..	276
..	..	..	..	..	282
..	..	..	..	..	287
..	..	8,522	17,186	1,526	843,493
..	..	9,058	18,400	2,611	914,847
..	..	10,854	19,798	24,509	*1,017,679
..	..	13,909	28,373	23,030	*1,016,730
..	..	..	..	..	1,145
..	..	..	..	..	1,097
..	..	..	..	..	1,052
..	..	..	..	..	1,009
1,056	..	241	37	1,968	195,421
1,496	..	0	258	2,846	190,889
1,499	..	214	442	3,037	153,302
1,567	..	214	662	5,387	152,923
..	..	..	..	..	91
..	..	..	..	..	91
..	..	..	..	..	91
..	..	..	..	..	91
..	..	..	..	..	201
..	..	..	..	..	201
..	..	..	..	..	210
..	..	..	..	..	238
..	..	..	..	..	642,875
..	..	..	..	..	639,175
..	..	..	..	..	651,168
..	..	..	..	..	667,730
..	..	..	..	..	4,108
..	..	..	..	..	4,206
..	..	..	..	..	4,306
..	..	..	..	..	4,407
<b>305,242</b>	<b>668,160</b>	<b>111,031</b>	<b>329,492</b>	<b>314,133</b>	<b>5,163,038</b>
<b>336,631</b>	<b>704,690</b>	<b>114,653</b>	<b>367,816</b>	<b>361,387</b>	<b>5,699,758</b>
<b>438,424</b>	<b>737,704</b>	<b>86,987</b>	<b>354,440</b>	<b>439,001</b>	<b>5,897,587</b>
<b>427,038</b>	<b>761,608</b>	<b>100,066</b>	<b>379,551</b>	<b>510,957</b>	<b>6,216,877</b>
..	..	..	..	..	8,788
..	..	..	..	..	8,578
..	..	..	..	..	8,706
..	..	..	..	..	8,642
..	*224	..	..	..	*224
..	*218	..	..	..	*218
..	*211	..	..	..	*211
..	*211	..	..	..	*211

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Austria	2009	134,932	..	24,927	..	24,927	30
	2010	158,380	..	28,077	..	28,077	30
	2011	151,533	..	28,512	..	28,152	30
	2012	160,375	..	30,388	..	30,388	30
Belarus	2009	52,336	..	2,923	..	..	118
	2010	55,446	..	4,550	..	..	118
	2011	60,145	..	3,240	..	..	118
	2012	61,644	..	3,256	..	..	118
Belgium	2009	19,172	..	12,971	..	1,468	..
	2010	22,961	..	15,270	..	1,633	..
	2011	35,654	..	9,123	..	1,470	..
	2012	51,678	263	5,445	..	1,400	..
Bosnia and Herzegovina	2009	6,148	..	..	..	..	590
	2010	6,385	..	..	..	..	502
	2011	6,614	..	..	..	..	561
	2012	6,458	..	..	..	..	561
Bulgaria	2009	31,664	..	394	..	783	472
	2010	34,559	..	366	..	4,534	502
	2011	37,269	..	234	..	5,653	472
	2012	41,388	..	772	..	4,265	118
Croatia	2009	17,900	..	13	..	..	207
	2010	19,812	..	1	..	..	118
	2011	26,709	..	34	..	..	118
	2012	29,017	..	21	..	..	148
Czech Republic	2009	66,935	..	3,595	..	11,856	..
	2010	70,415	..	25,986	..	12,577	..
	2011	69,603	..	27,287	..	12,395	..
	2012	72,181	..	..	..	12,749	..
Denmark	2009	42,220	..	18,982	..	..	..
	2010	46,037	..	25,272	..	..	..
	2011	42,527	..	20,220	..	..	..
	2012	43,877	..	18,449	..	..	..
Estonia	2009	27,575	..	6,498	..	1,204	..
	2010	31,437	..	7,232	..	1,427	..
	2011	29,553	..	8,701	..	1,059	..
	2012	32,115	..	9,220	..	1,056	..
Finland	2009	156,280	..	1,261	..	110,157	..
	2010	187,123	..	1,310	..	135,682	..
	2011	182,333	..	1,037	..	135,109	..
	2012	194,838	..	692	..	135,768	..
France	2009	340,205	0	15,685	0	34,133	*1,609
	2010	380,397	0	14,365	0	37,612	*1,505
	2011	319,631	87	12,345	73	40,280	*1,475
	2012	361,385	97	12,421	0	33,189	*1,475
Germany	2009	370,551	..	..	..	31,619	59
	2010	459,324	..	..	..	33,135	59
	2011	427,510	..	..	..	35,311	59
	2012	456,372	..	..	..	38,126	59
Greece	2009	*23,606	..	9,839	..	..	30
	2010	*20,568	..	9,783	..	..	30
	2011	28,014	..	11,330	..	..	59
	2012	32,894	..	8,985	..	..	30
Hungary	2009	46,805	..	14,399	..	396	30
	2010	49,986	..	13,478	..	351	3
	2011	46,022	..	13,525	..	299	0
	2012	44,060	106	13,525	..	290	0

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
18,901	13,544	3,181	9,862	6,445	236,719
18,892	14,111	2,609	10,194	6,447	266,786
20,455	15,459	2,173	8,795	7,080	262,159
19,030	15,555	2,975	6,992	8,688	274,391
10,072	..	..	846	62	66,239
9,049	..	..	1,398	90	70,533
7,544	..	..	1,141	128	72,198
1,135	..	..	1,214	182	67,431
13,552	26,189	4,349	9,090	5,248	92,038
14,671	30,872	3,406	11,555	5,336	105,704
96,833	38,110	6,753	10,083	5,372	203,398
87,729	29,194	7,389	10,709	6,601	200,408
..	..	..	..	..	6,148
..	..	..	..	..	6,385
..	..	..	..	..	6,614
..	..	..	..	..	6,458
244	244	0	699	14	34,042
352	420	0	699	112	41,042
345	414	0	589	139	44,643
276	871	0	294	5	47,871
373	..	..	221	195	18,702
319	..	..	515	298	20,945
179	..	..	294	290	27,506
341	..	..	1,435	479	31,293
6,559	3,744	2,412	5,704	5,440	106,245
6,699	4,376	2,546	7,286	7,398	137,283
6,912	5,575	1,447	7,728	10,460	141,407
7,046	5,840	2,734	6,366	15,698	122,614
..	39,344	1,206	3,202	4,171	109,124
..	37,796	1,425	2,834	4,362	117,725
..	38,547	575	2,907	4,218	108,995
..	37,495	685	3,054	4,383	107,943
..	..	..	..	105	35,382
..	..	..	..	155	40,251
..	..	..	..	137	39,450
..	..	..	..	122	42,513
1,898	9,762	466	8,059	1,733	289,616
1,784	10,424	438	10,488	1,692	348,941
1,953	10,437	329	7,176	2,221	340,595
2,524	13,256	411	9,163	2,425	359,077
..	95,248	19,189	76,875	12,974	594,309
..	99,518	19,939	73,453	14,805	640,089
..	99,344	17,876	66,939	15,466	572,041
..	105,650	17,554	81,880	17,250	629,426
62,882	176,482	39,795	89,534	147,472	918,336
65,840	195,404	36,591	113,491	177,346	1,081,131
61,520	201,342	23,390	113,418	216,897	1,079,388
59,464	217,346	25,109	100,611	268,633	1,165,662
169	..	..	2,870	2,343	*38,827
1,341	..	..	4,563	2,065	*38,320
1,175	..	..	3,974	3,048	47,541
625	..	..	5,042	3,710	51,256
1,150	3,860	1,742	4,600	1,294	74,246
1,449	4,458	643	5,189	1,516	77,070
2,187	3,484	643	5,226	2,540	73,926
1,804	3,766	6,432	5,299	2,212	77,494

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Iceland	2009	..	..	..	..	..	..
	2010	..	..	..	..	..	..
	2011	..	..	..	..	..	..
	2012	..	..	..	..	..	..
Ireland	2009	5,515	1,882	..	..	..	..
	2010	6,244	1,726	..	..	..	..
	2011	6,240	1,711	..	..	..	..
	2012	6,808	1,372	..	..	..	..
Isle of Man	2009	..	..	..	..	..	..
	2010	..	..	..	..	..	..
	2011	..	..	..	..	..	..
	2012	..	..	..	..	..	..
Italy	2009	115,567	..	..	..	..	3,806
	2010	138,150	..	1,944	..	..	295
	2011	156,252	..	7,615	..	..	295
	2012	168,126	..	8,214	..	..	295
Jersey	2009	..	..	..	..	..	..
	2010	..	..	..	..	..	..
	2011	..	..	..	..	..	..
	2012	..	..	..	..	..	..
Latvia	2009	72,404	..	29	..	..	295
	2010	72,531	..	60	..	..	266
	2011	72,873	..	43	..	..	295
	2012	78,271	..	38	..	..	325
Liechtenstein	2009	*1,609	..	..	..	..	..
	2010	*1,731	..	..	..	..	..
	2011	*1,882	..	..	..	..	..
	2012	*1,965	..	..	..	..	..
Lithuania	2009	41,787	..	184	..	..	0
	2010	41,734	..	228	..	..	30
	2011	40,955	..	212	..	..	30
	2012	41,291	..	242	..	..	30
Luxembourg	2009	1,682	..	238	..	..	..
	2010	1,878	..	306	..	..	..
	2011	1,659	..	275	..	..	..
	2012	1,720	..	269	..	..	..
Malta	2009	26	..	..	..	..	..
	2010	26	..	..	..	..	..
	2011	24	..	..	..	..	..
	2012	34	..	..	..	..	..
Montenegro	2009	9,583	..	..	..	..	..
	2010	9,711	..	..	..	..	..
	2011	6,778	..	..	..	..	..
	2012	6,842	..	..	..	..	..
Netherlands	2009	34,611	..	7,850	..	..	177
	2010	34,921	..	10,440	..	..	177
	2011	30,730	..	10,947	..	..	177
	2012	34,388	..	11,448	..	..	177
Norway	2009	44,085	..	..	..	..	..
	2010	51,643	..	..	..	..	..
	2011	49,272	..	..	..	..	..
	2012	48,183	..	..	..	..	..
Poland	2009	167,214	..	50,088	..	..	..
	2010	180,274	..	65,332	..	..	..
	2011	192,687	..	73,174	..	..	..
	2012	201,106	..	91,456	..	..	..

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
..	41	..	..	18	59
..	36	..	..	22	58
..	0	..	..	48	48
..	0	..	..	73	73
..	755	..	2,392	2,324	12,868
..	625	..	2,613	2,445	13,653
..	1,039	..	994	2,411	12,395
13	3,680	..	1,030	2,341	15,244
..	*449	..	..	..	*449
..	*407	..	..	..	*407
..	*429	..	..	..	*429
..	*436	..	..	..	*436
2,273	57,442	3,259	29,366	17,863	225,771
6,925	65,178	4,306	29,403	21,250	267,156
12,121	70,588	3,298	21,749	46,218	317,841
11,184	67,560	3,686	10,562	49,352	318,683
..	*238	..	..	..	*238
..	*238	..	..	..	*238
..	679	..	..	..	679
..	*686	..	..	..	*686
26	62	375	1,656	408	74,960
105	334	402	1,582	558	75,572
84	69	54	2,208	920	76,251
84	51	54	3,312	2,175	83,985
..	156	..	..	..	*1,765
..	328	..	..	..	*2,059
..	315	..	..	..	*2,196
..	328	..	..	..	*2,293
..	..	643	3,864	195	46,673
..	..	965	3,275	418	46,620
..	..	482	2,944	463	45,056
..	..	563	3,938	484	46,517
415	1,224	..	..	467	4,026
597	1,113	..	..	490	4,384
576	1,225	..	..	511	4,246
603	1,187	..	..	658	4,437
..	0	..	0	0	26
..	22	..	37	0	85
..	16	..	37	25	102
..	72	..	110	21	237
..	..	..	..	..	9,583
..	..	..	..	..	9,711
..	..	..	..	..	6,778
..	..	..	..	..	6,842
..	63,609	1,534	10,083	11,215	128,903
..	64,543	822	14,058	12,286	137,070
..	67,940	110	18,069	12,263	140,058
..	63,527	0	43,314	12,454	165,131
693	9,682	..	..	1,037	55,497
1,119	11,814	..	..	1,243	65,819
3,841	14,299	..	3,349	1,235	71,996
1,024	15,078	..	2,613	1,187	68,085
18,791	4,816	3,431	13,395	4,104	261,839
19,983	5,002	4,100	13,984	4,797	293,472
20,410	6,793	3,699	13,358	5,732	315,853
21,074	5,672	4,636	22,264	7,033	353,241

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Portugal	2009	53,715	..	34,905	..	30,969	574
	2010	39,751	..	31,597	..	36,765	572
	2011	40,674	..	32,142	..	36,761	614
	2012	45,636	..	13,827	..	38,563	572
Republic of Moldova	2009	2,585	..	751	..	..	0
	2010	2,110	..	755	..	..	0
	2011	2,667	..	858	..	..	0
	2012	3,435	..	455	..	..	0
Romania	2009	160,705	..	..	..	..	401
	2010	163,287	..	..	..	..	266
	2011	145,527	..	..	..	..	472
	2012	158,895	..	..	..	..	528
Russian Federation	2009	122,953	..	..	..	..	2,242
	2010	123,275	..	..	..	..	2,242
	2011	126,651	..	..	..	..	1,505
	2012	144,541	..	..	..	..	1,564
Serbia	2009	44,274	..	..	..	..	..
	2010	43,375	..	..	..	..	..
	2011	44,461	..	1,238	..	..	236
	2012	43,710	..	*1,238	..	..	266
Slovakia	2009	12,091	..	3,060	..	11,943	2,360
	2010	13,976	..	4,275	..	12,748	89
	2011	14,255	..	3,842	..	14,714	118
	2012	17,202	..	861	..	15,465	118
Slovenia	2009	22,132	..	325	..	..	..
	2010	21,880	..	345	..	..	..
	2011	23,350	..	328	..	..	..
	2012	23,155	..	290	..	..	..
Spain	2009	134,427	..	39,622	..	17,699	1,062
	2010	129,321	..	43,531	..	16,980	1,062
	2011	138,321	1,845	29,783	107,245	17,881	1,062
	2012	138,199	1,809	32,728	105,152	20,375	1,062
Sweden	2009	228,755	0	..	..	132,177	..
	2010	221,283	0	..	..	176,448	..
	2011	220,726	0	..	..	153,305	..
	2012	244,757	153	..	..	154,489	..
Switzerland	2009	36,660	..	..	..	..	..
	2010	39,340	..	..	..	..	..
	2011	34,970	..	..	..	..	..
	2012	39,200	..	..	..	..	..
T.F.Yug.Rep. Macedonia	2009	7,023	..	..	..	..	..
	2010	6,833	..	..	..	..	..
	2011	6,527	..	..	..	..	..
	2012	5,959	..	..	..	..	..
Ukraine	2009	56,509	..	..	..	..	3,452
	2010	59,441	..	..	..	..	3,570
	2011	54,381	..	..	..	..	3,747
	2012	52,234	..	..	..	..	3,658
United Kingdom	2009	23,783	..	30,417	..	..	..
	2010	26,822	..	29,437	..	..	..
	2011	29,564	..	38,387	..	..	..
	2012	30,879	..	44,882	..	..	..
Oceania	2009	163,519	..	80,454	118,824	6,200	1,044
	2010	167,745	..	79,410	96,404	6,112	1,020
	2011	164,657	..	75,543	100,405	5,783	1,037
	2012	197,648	..	104,152	102,616	7,444	1,039

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
1,702	8,293	110	9,237	996	139,926
2,611	8,030	137	11,666	1,287	131,844
3,390	8,245	137	13,469	1,883	136,701
6,347	7,197	137	11,187	2,362	125,256
437	..	..	..	..	3,773
197	..	..	..	..	3,062
180	..	..	..	..	3,705
374	..	27	..	..	4,291
884	..	1,751	3,018	45	166,403
1,276	..	1,474	442	129	166,608
1,200	..	1,447	3,938	547	152,659
1,131	4	1,769	3,717	1,143	166,659
145,474	..	..	..	..	268,427
167,991	..	..	..	..	291,266
170,277	..	..	..	..	296,928
177,809	..	..	..	..	322,350
93	..	..	..	..	44,367
388	..	..	..	..	43,763
288	..	..	..	..	45,987
50	..	..	..	39	45,037
1,103	1,852	2,492	3,790	679	37,011
731	1,613	2,600	4,158	600	40,701
750	1,416	2,814	4,600	1,918	44,309
1,175	1,407	2,734	4,048	2,594	45,486
828	..	..	258	937	24,480
975	..	..	699	1,273	25,172
1,228	..	..	0	1,506	26,412
1,333	..	..	37	1,597	26,412
..	26,728	9,836	26,754	8,107	263,172
..	14,586	11,256	30,949	11,600	258,223
..	16,332	9,862	24,987	11,520	357,776
..	14,710	8,120	18,253	12,177	351,523
846	45,047	13,652	6,661	4,572	431,709
868	51,800	15,045	7,286	4,654	477,384
1,583	49,786	11,281	9,568	4,993	451,242
1,283	53,698	11,809	13,763	5,303	485,255
9,480	43,430	0	221	2,841	92,632
10,030	44,610	0	258	3,143	97,381
10,080	45,410	0	221	3,421	94,102
10,260	46,060	0	258	3,745	99,523
..	..	..	21	..	7,044
..	..	..	74	..	6,907
..	..	..	166	..	6,694
..	..	..	33	..	5,992
..	..	..	..	..	56,509
..	..	..	..	..	59,441
..	..	..	..	..	54,381
..	..	..	..	..	52,234
6,397	35,695	1,608	7,213	70,829	175,942
2,439	36,814	5,950	5,667	73,570	180,699
13,313	40,201	616	6,514	75,391	203,986
13,320	51,071	3,243	9,053	75,831	228,279
<b>3,778</b>	..	<b>7,050</b>	<b>2,944</b>	<b>15,621</b>	<b>398,390</b>
<b>4,099</b>	..	<b>9,489</b>	<b>2,355</b>	<b>15,703</b>	<b>381,317</b>
<b>4,193</b>	..	<b>11,017</b>	<b>3,275</b>	<b>16,478</b>	<b>381,351</b>
<b>4,029</b>	..	<b>10,909</b>	<b>2,870</b>	<b>20,220</b>	<b>449,888</b>

Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Country or area	Year	Solid biofuels					
		Fuelwood	Animal waste	Vegetal waste	Bagasse	Black liquor	Charcoal
Australia	2009	68,143	..	73,152	113,855	6,200	708
	2010	67,168	..	72,106	91,484	6,112	679
	2011	63,562	..	68,235	94,634	5,783	679
	2012	96,844	..	96,844	97,391	7,444	679
Fiji	2009	338	..	..	4,027	..	68
	2010	338	..	..	3,850	..	71
	2011	338	..	..	4,701	..	71
	2012	338	..	..	4,028	..	71
French Polynesia	2009	40	..	..	..	..	..
	2010	40	..	..	..	..	..
	2011	41	..	..	..	..	15
	2012	41	..	..	..	..	15
Kiribati	2009	26	..	..	..	..	10
	2010	27	..	..	..	..	10
	2011	27	..	..	..	..	10
	2012	28	..	..	..	..	11
Micronesia(Fed. States of)	2009	22	..	..	..	..	10
	2010	22	..	..	..	..	10
	2011	23	..	..	..	..	10
	2012	23	..	..	..	..	10
New Zealand	2009	41,754	..	..	..	..	..
	2010	46,941	..	..	..	..	..
	2011	47,450	..	..	..	..	..
	2012	47,149	..	..	..	..	..
Papua New Guinea	2009	50,544	..	*5,263	880	..	177
	2010	50,544	..	*5,263	1,007	..	177
	2011	50,544	..	*5,263	1,007	..	177
	2012	50,544	..	*5,263	1,133	..	177
Samoa	2009	639	..	*25	62	..	13
	2010	639	..	*25	63	..	13
	2011	639	..	25	*63	..	14
	2012	639	..	*25	*64	..	14
Solomon Islands	2009	1,161	..	*2,015	..	..	36
	2010	1,174	..	*2,017	..	..	37
	2011	1,182	..	*2,020	..	..	38
	2012	1,191	..	*2,020	..	..	39
Tonga	2009	19	..	..	..	..	7
	2010	19	..	..	..	..	7
	2011	19	..	..	..	..	7
	2012	19	..	..	..	..	7
Vanuatu	2009	831	..	..	..	..	15
	2010	831	..	..	..	..	15
	2011	831	..	..	..	..	16
	2012	831	..	..	..	..	16



Table 12

## Production of biofuels and wastes

Terajoules (TJ)

Non-biomass wastes		Liquid biofuels		Biogases	Total
Industrial waste	Municipal waste	Biogasoline	Biodiesel		
3,778	..	6,914	2,907	12,870	287,819
4,099	..	9,326	2,318	12,915	265,529
4,193	..	10,827	3,202	13,506	263,942
4,029	..	10,720	2,834	17,192	333,298
..	..	..	..	..	4,365
..	..	..	..	..	4,188
..	..	..	..	..	5,039
..	..	..	..	..	4,366
..	..	..	..	..	40
..	..	..	..	..	40
..	..	..	..	..	41
..	..	..	..	..	41
..	..	..	..	..	26
..	..	..	..	..	27
..	..	..	..	..	27
..	..	..	..	..	28
..	..	..	..	..	22
..	..	..	..	..	22
..	..	..	..	..	23
..	..	..	..	..	23
..	..	54	37	2,751	44,595
..	..	80	37	2,788	49,846
..	..	107	74	2,972	50,603
..	..	107	37	3,028	50,321
..	..	..	..	..	56,687
..	..	..	..	..	56,813
..	..	..	..	..	56,813
..	..	..	..	..	56,939
..	..	..	..	..	726
..	..	..	..	..	727
..	..	..	..	..	727
..	..	..	..	..	729
..	..	..	..	..	*3,176
..	..	..	..	..	*3,190
..	..	..	..	..	*3,202
..	..	..	..	..	*3,211
..	..	..	..	..	19
..	..	..	..	..	19
..	..	..	..	..	19
..	..	..	..	..	19
..	..	*82	..	..	913
..	..	*82	..	..	913
..	..	*82	..	..	913
..	..	*82	..	..	913