

Table 34

Production of heat – by type

Terajoules

Table Notes

Production of heat by type.

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

Direct use geothermal represents heat used directly for district heating, agriculture etc. without a commercial transaction taking place.

Direct use solar thermal represents heat used for the production of domestic hot water or for the seasonal heating of swimming pools (e.g. flat plate collectors, mainly of the thermosyphon type) without a commercial transaction taking place.

Figure 84: Heat production by region, 1990-2012

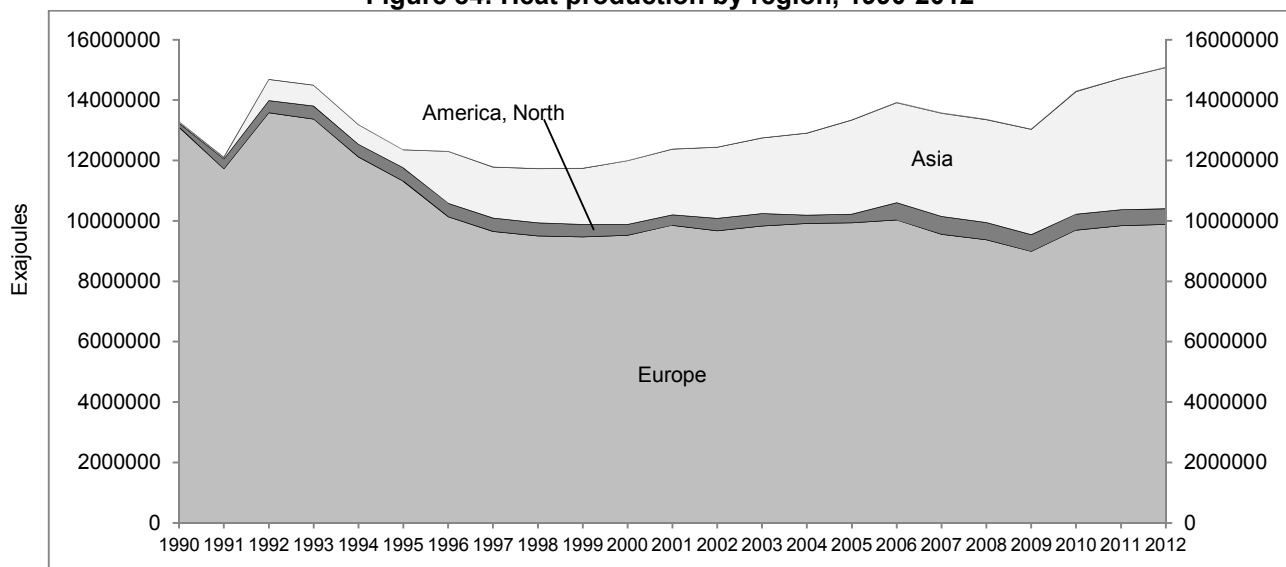


Figure 85: Major heat producing countries, 2012

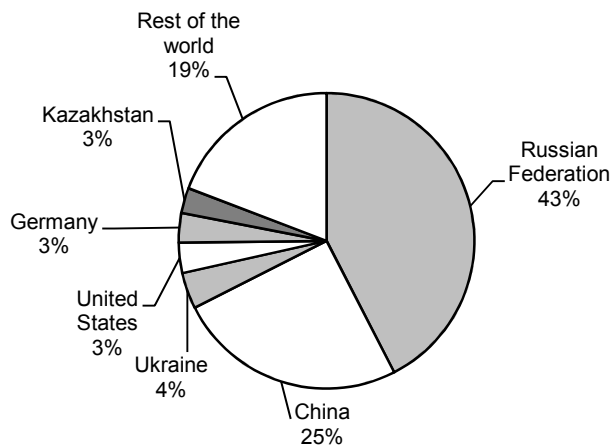


Figure 86: World heat production, by type, in 2012

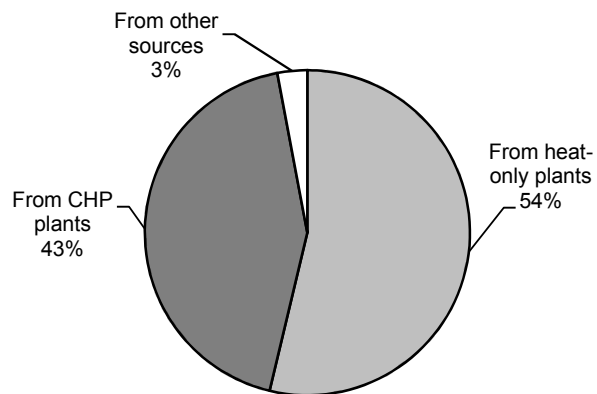


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Country or area	Year	Combustible fuels	Geo-thermal	Solar thermal	Nuclear	Chemical sources	Heat pumps and electric boilers	Other sources	Direct use geothermal	Direct use solar
World	2009	12,633,142	11,753	5,471	28,114	21,722	29,575	312,229	131,511	219,049
	2010	13,847,946	12,249	5,711	27,357	30,632	30,950	343,315	135,687	231,520
	2011	14,282,902	12,073	6,207	27,734	28,969	28,074	343,181	139,331	249,425
	2012	14,636,960	15,546	6,147	27,848	30,030	32,596	348,086	143,217	263,438
Africa	2009	12,145	..	609	..	513	..	..	..	3,426
	2010	12,677	..	664	..	5,543	..	..	..	3,911
	2011	12,421	..	716	..	2,975	..	..	..	4,322
	2012	12,923	..	749	..	3,371	..	..	..	4,752
Botswana	2009	..	..	..	..	..	..	..	..	6
	2010	..	..	..	..	..	..	..	..	6
	2011	..	..	..	..	..	..	..	..	6
	2012	..	..	..	..	..	..	..	..	*6
Réunion	2009	1,729	..	609	..	..	..	..	..	..
	2010	2,031	..	664	..	..	..	..	..	..
	2011	1,721	..	716	..	..	..	..	..	..
	2012	2,023	..	749	..	..	..	..	..	..
Senegal	2009	..	..	..	..	513	..	..	..	..
	2010	..	..	..	..	917	..	..	..	..
	2011	..	..	..	..	1,124	..	..	..	..
	2012	..	..	..	..	1,298	..	..	..	..
South Africa	2009	..	..	..	..	..	..	..	..	2,496
	2010	..	..	..	..	..	..	..	..	2,768
	2011	..	..	..	..	..	..	..	..	3,005
	2012	..	..	..	..	..	..	..	..	3,253
Swaziland	2009	*10,416	..	..	..	..	..	..	..	..
	2010	*10,646	..	..	..	..	..	..	..	..
	2011	*10,700	..	..	..	..	..	..	..	..
	2012	*10,900	..	..	..	..	..	..	..	..
Tunisia	2009	..	..	..	..	..	..	..	..	924
	2010	..	..	..	..	4,626	..	..	..	1,137
	2011	..	..	..	..	1,851	..	..	..	1,311
	2012	..	..	..	..	2,073	..	..	..	1,493
America, North	2009	560,456	..	..	..	..	..	..	9,179	64,318
	2010	530,463	..	..	..	..	..	..	9,285	63,062
	2011	533,000	..	..	..	..	..	..	9,285	66,193
	2012	525,329	..	..	..	..	..	..	9,285	68,439
Canada	2009	39,110	..	..	..	..	..	..	..	..
	2010	21,451	..	..	..	..	..	..	..	..
	2011	23,502	..	..	..	..	..	..	..	..
	2012	23,593	..	..	..	..	..	..	..	..
Greenland	2009	822	..	..	..	..	..	..	..	..
	2010	725	..	..	..	..	..	..	..	..
	2011	861	..	..	..	..	..	..	..	..
	2012	937	..	..	..	..	..	..	..	..
Mexico	2009	..	..	..	..	..	..	..	..	6,753
	2010	..	..	..	..	..	..	..	..	4,910
	2011	..	..	..	..	..	..	..	..	5,862
	2012	..	..	..	..	..	..	..	..	6,423
United States	2009	520,524	9,179	57,565
	2010	508,287	9,285	58,152
	2011	508,637	9,285	60,331
	2012	500,799	9,285	62,016

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Country or area	Year	Combustible fuels	Geo-thermal	Solar thermal	Nuclear	Chemical sources	Heat pumps and electric boilers	Other sources	Direct use geothermal	Direct use solar
America, South	2009	..	..	..	..	..	..	..	102	301
	2010	..	..	..	..	..	..	..	102	239
	2011	..	..	..	..	..	..	..	102	263
	2012	..	..	..	..	..	..	..	102	1,058
Chile	2009	..	..	..	..	..	..	..	..	..
	2010	..	..	..	..	..	..	..	..	..
	2011	..	..	..	..	..	..	..	..	..
	2012	..	..	..	..	..	..	..	..	772
Ecuador	2009	..	..	..	..	..	..	..	102	..
	2010	..	..	..	..	..	..	..	102	..
	2011	..	..	..	..	..	..	..	102	..
	2012	..	..	..	..	..	..	..	102	..
Peru	2009	..	..	..	..	..	..	..	..	301
	2010	..	..	..	..	..	..	..	..	239
	2011	..	..	..	..	..	..	..	..	263
	2012	..	..	..	..	..	..	..	..	286
Asia	2009	3,462,355	..	4,697	..	2,961	3,903	5,825	61,993	88,649
	2010	4,032,712	..	4,826	..	3,827	4,126	5,537	67,099	91,041
	2011	4,326,236	..	5,183	..	3,767	3,662	4,608	70,833	97,064
	2012	4,655,597	..	4,943	..	3,420	3,790	4,335	71,416	101,791
Armenia	2009	981	..	..	..	..	..	..	..	..
	2010	494	..	..	..	..	..	..	..	..
	2011	186	..	..	..	..	..	..	..	..
	2012	90	..	..	..	..	..	..	..	..
Azerbaijan	2009	4,640	..	..	..	..	..	..	..	..
	2010	3,789	..	..	..	..	..	..	..	..
	2011	4,536	..	..	..	..	..	..	..	..
	2012	5,004	..	..	..	..	..	..	..	..
China	2009	2,667,480	..	..	..	..	..	..	..	..
	2010	3,218,883	..	..	..	..	..	..	..	..
	2011	3,491,768	..	..	..	..	..	..	..	..
	2012	3,787,310	..	..	..	..	..	..	..	..
Cyprus	2009	4	..	..	..	..	..	..	15	2,425
	2010	5	..	..	..	..	..	..	32	2,545
	2011	31	..	..	..	..	..	..	44	2,625
	2012	31	..	..	..	..	..	..	62	2,700
Georgia	2009	1,794	..	..	..	..	..	..	..	..
	2010	1,920	..	..	..	..	..	..	..	..
	2011	36	..	..	..	..	..	..	..	..
	2012	36	..	..	..	..	..	..	..	..
Israel	2009	..	..	..	..	..	..	..	..	43,524
	2010	..	..	..	..	..	..	..	..	46,980
	2011	..	..	..	..	..	..	..	..	46,070
	2012	..	..	..	..	..	..	..	..	46,070
Japan	2009	14,290	..	..	..	..	3,903	5,825	8,744	18,553
	2010	15,799	..	..	..	..	4,126	5,537	7,409	17,174
	2011	14,568	..	..	..	..	3,662	4,608	7,535	15,782
	2012	15,230	3,790	4,335	7,367	14,538
Kazakhstan	2009	390,984
	2010	402,385
	2011	405,407
	2012	418,081

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Country or area	Year	Combustible fuels	Geo-thermal	Solar thermal	Nuclear	Chemical sources	Heat pumps and electric boilers	Other sources	Direct use geothermal	Direct use solar
Korea, Republic of	2009	187,606	..	..	..	2,961	..	..	926	1,284
	2010	187,928	..	..	..	3,827	..	..	1,401	1,225
	2011	199,727	..	..	..	3,767	..	..	2,002	1,148
	2012	216,088	..	..	..	3,420	..	..	2,733	1,099
Kyrgyzstan	2009	12,476	..	..	..	..	..	..	..	..
	2010	12,302	..	..	..	..	..	..	..	..
	2011	13,389	..	..	..	..	..	..	..	..
	2012	13,534	..	..	..	..	..	..	..	..
Lebanon	2009	..	..	..	..	..	..	..	..	555
	2010	..	..	..	..	..	..	..	..	630
	2011	..	..	..	..	..	..	..	..	704
	2012	..	..	..	..	..	..	..	..	839
Mongolia	2009	34,836	..	..	..	..	..	..	..	..
	2010	35,013	..	..	..	..	..	..	..	..
	2011	36,354	..	..	..	..	..	..	..	..
	2012	39,029	..	..	..	..	..	..	..	..
Other Asia	2009	..	..	..	..	..	..	..	..	4,357
	2010	..	..	..	..	..	..	..	..	4,400
	2011	..	..	..	..	..	..	..	..	4,358
	2012	..	..	..	..	..	..	..	..	4,390
State of Palestine	2009	..	..	4,697	..	..	..	..	..	..
	2010	..	..	4,826	..	..	..	..	..	..
	2011	..	..	5,183	..	..	..	..	..	..
	2012	..	..	4,943	..	..	..	..	..	..
Tajikistan	2009	384	..	..	..	..	..	..	..	..
	2010	392	..	..	..	..	..	..	..	..
	2011	387	..	..	..	..	..	..	..	..
	2012	405	..	..	..	..	..	..	..	..
Turkey	2009	44,383	..	..	..	..	..	..	52,308	17,951
	2010	51,330	..	..	..	..	..	..	58,257	18,087
	2011	50,917	..	..	..	..	..	..	61,252	26,377
	2012	51,317	..	..	..	..	..	..	61,254	32,155
Turkmenistan	2009	7,713	..	..	..	..	..	..	..	..
	2010	8,041	..	..	..	..	..	..	..	..
	2011	8,311	..	..	..	..	..	..	..	..
	2012	8,567	..	..	..	..	..	..	..	..
Uzbekistan	2009	94,784	..	..	..	..	..	..	..	..
	2010	94,431	..	..	..	..	..	..	..	..
	2011	100,619	..	..	..	..	..	..	..	..
	2012	100,875	..	..	..	..	..	..	..	..
Europe	2009	8,598,185	11,753	165	28,114	16,880	25,672	306,404	50,401	53,771
	2010	9,272,094	12,249	221	27,357	19,794	26,824	337,778	49,720	62,785
	2011	9,411,246	12,073	308	27,734	21,039	24,412	338,573	50,384	70,230
	2012	9,443,111	15,546	455	27,848	22,161	28,806	343,751	52,451	75,662
Albania	2009	234	..	..	..	..	..	..	..	..
	2010	234	..	..	..	..	..	..	..	..
	2011	243	..	..	..	..	..	..	..	..
	2012	197	..	..	..	..	..	..	..	..
Austria	2009	68,600	535	31	..	145	..	..	281	5,196
	2010	84,178	538	43	..	155	321	6,647
	2011	80,032	524	51	..	99	278	6,990
	2012	82,306	561	57	..	99	294	7,239

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Country or area	Year	Combustible fuels	Geo-thermal	Solar thermal	Nuclear	Chemical sources	Heat pumps and electric boilers	Other sources	Direct use geothermal	Direct use solar
Belarus	2009	260,839	..	..	..	..	..	..	..	..
	2010	278,221	..	..	..	..	..	..	..	..
	2011	260,446	..	..	..	..	..	..	..	..
	2012	269,754	..	..	..	..	..	..	..	..
Belgium	2009	31,008	85	..	..	889	..	..	..	464
	2010	35,483	90	..	..	2,731	..	..	..	507
	2011	35,098	55	..	..	2,930	..	..	52	601
	2012	32,881	60	..	..	4,835	..	..	57	641
Bosnia and Herzegovina	2009	5,554	..	..	..	..	..	..	..	..
	2010	6,001	..	..	..	..	..	..	..	..
	2011	6,355	..	..	..	..	..	..	..	..
	2012	6,075	..	..	..	..	..	..	..	..
Bulgaria	2009	57,404	..	..	967	1,742	..	..	1,368	..
	2010	56,124	..	..	943	2,283	..	..	1,368	428
	2011	54,518	..	..	922	2,992	..	..	1,380	579
	2012	54,649	..	..	940	2,235	..	..	1,400	645
Croatia	2009	11,598	..	..	..	..	..	..	132	200
	2010	12,503	..	..	..	..	..	..	285	218
	2011	12,065	..	..	..	..	..	..	287	254
	2012	11,625	..	..	..	..	..	..	291	298
Czech Republic	2009	119,336	..	..	985	939	95	215	..	266
	2010	127,714	..	..	1,067	1,127	112	320	..	366
	2011	120,734	..	..	919	1,209	102	332	..	455
	2012	121,365	..	..	981	1,341	105	348	..	561
Denmark	2009	128,635	241	105	..	..	77	2,540	..	486
	2010	149,182	106	143	..	..	148	2,479	..	514
	2011	129,832	83	217	..	..	258	2,693	..	572
	2012	133,029	144	345	..	..	687	2,646	..	908
Estonia	2009	24,726	..	..	..	..	..	..	..	..
	2010	25,548	..	..	..	..	..	..	..	..
	2011	22,887	..	..	..	..	..	..	..	..
	2012	24,473	..	..	..	..	..	..	..	..
Finland	2009	182,456	..	..	..	3,414	774	696	..	35
	2010	205,385	..	..	..	3,324	1,409	712	..	39
	2011	182,936	..	..	..	2,925	1,400	1,204	..	43
	2012	190,482	..	..	..	3,698	1,190	814	..	50
France	2009	124,679	0	..	..	..	..	..	3,460	2,110
	2010	147,570	0	..	..	..	..	..	3,806	2,393
	2011	133,751	0	..	..	..	..	..	3,487	2,986
	2012	123,666	3,151	..	..	..	..	..	1,398	3,195
Germany	2009	466,155	229	..	..	..	..	3,099	1,919	19,008
	2010	508,337	225	..	..	..	..	6,606	2,164	20,268
	2011	460,483	51	..	..	..	..	6,703	2,477	23,184
	2012	474,421	85	11	..	..	..	10,519	2,682	24,109
Greece	2009	2,050	..	..	..	..	..	..	856	7,632
	2010	1,941	..	..	..	..	..	..	916	7,676
	2011	2,256	..	..	..	..	..	..	970	7,656
	2012	1,889	..	..	..	..	..	..	909	7,720
Hungary	2009	52,433	209	2	509	..	..	..	3,810	188
	2010	52,286	233	5	502	3,885	220
	2011	48,471	271	5	508	4,080	242
	2012	48,617	395	5	528	4,071	242

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Country or area	Year	Combustible fuels	Geo-thermal	Solar thermal	Nuclear	Chemical sources	Heat pumps and electric boilers	Other sources	Direct use geothermal	Direct use solar
Iceland	2009	48	10,200	..	..	..	645	..	17,432	..
	2010	39	10,200	..	..	..	646	..	16,597	..
	2011	0	10,300	..	..	..	674	..	17,232	..
	2012	0	10,300	..	..	..	675	..	19,302	..
Ireland	2009	..	..	..	..	..	..	..	..	184
	2010	..	..	..	..	..	..	..	..	275
	2011	..	..	..	..	..	..	..	..	338
	2012	..	..	..	..	..	..	..	..	428
Italy	2009	180,820	..	..	..	..	..	..	8,916	3,556
	2010	204,752	589	..	..	..	..	..	5,243	5,616
	2011	218,519	589	1	..	..	..	..	5,243	5,877
	2012	206,335	650	1	..	..	..	..	4,950	6,503
Latvia	2009	26,304	..	..	..	..	4	0	..	..
	2010	28,650	..	..	..	..	5	7	..	..
	2011	24,985	..	..	..	..	8	7	..	..
	2012	26,840	..	..	..	..	10	7	..	..
Liechtenstein	2009	..	..	26	..	..	..	..	..	..
	2010	..	..	29	..	..	..	..	..	..
	2011	..	..	32	..	..	..	..	..	..
	2012	..	..	34	..	..	..	..	..	..
Lithuania	2009	36,279	107	..	1,945	8,982	19	..	..	..
	2010	39,932	95	..	0	8,766	13	..	..	..
	2011	35,583	67	..	0	10,225	12	..	..	..
	2012	36,489	79	..	0	9,877	10	..	..	..
Luxembourg	2009	2,555	..	..	..	..	..	..	..	29
	2010	3,109	..	..	..	..	..	..	..	40
	2011	3,150	..	..	..	..	..	..	..	58
	2012	3,076	..	..	..	..	..	..	..	70
Malta	2009	0	..	..	..	..	..	..	..	39
	2010	0	..	..	..	..	..	..	..	38
	2011	18	..	..	..	..	..	..	..	30
	2012	39	..	..	..	..	..	..	..	47
Netherlands	2009	141,220	..	..	..	..	..	..	142	932
	2010	146,986	..	..	..	..	..	..	318	1,001
	2011	142,233	..	..	..	..	..	..	316	1,041
	2012	132,388	..	..	..	..	..	..	495	1,069
Norway	2009	11,342	..	..	..	769	3,798	48	..	..
	2010	16,412	..	..	..	1,374	4,208	262	..	..
	2011	17,855	..	..	..	615	3,273	239	..	..
	2012	19,163	..	..	..	21	4,298	445	..	..
Poland	2009	312,214	..	..	..	..	..	..	600	283
	2010	343,911	..	..	..	..	..	..	563	350
	2011	318,198	..	..	..	..	..	..	531	434
	2012	327,273	..	..	..	..	..	..	661	544
Portugal	2009	16,055	..	..	..	..	..	..	42	1,460
	2010	21,077	..	..	..	34	..	..	42	2,013
	2011	20,600	..	..	..	44	..	..	65	2,491
	2012	21,419	55	65	2,820
Republic of Moldova	2009	11,052
	2010	12,039
	2011	11,402
	2012	10,876

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Country or area	Year	Combustible fuels	Geo-thermal	Solar thermal	Nuclear	Chemical sources	Heat pumps and electric boilers	Other sources	Direct use geothermal	Direct use solar
Romania	2009	96,661	3	..	..	..	..	..	1,005	1
	2010	99,095	11	..	..	..	..	..	916	4
	2011	98,853	7	..	..	..	..	..	923	2
	2012	89,338	4	..	..	..	..	..	902	4
Russian Federation	2009	5,340,189	..	..	13,730	..	..	299,725	..	..
	2010	5,673,674	..	..	14,633	..	..	327,324	..	..
	2011	6,038,583	..	..	15,482	..	..	327,324	..	..
	2012	6,063,487	..	..	15,109	..	..	328,963	..	..
Serbia	2009	34,429	..	..	..	..	..	..	204	..
	2010	38,187	..	..	..	..	..	..	224	..
	2011	41,440	..	..	..	..	..	..	265	..
	2012	35,203	..	..	..	..	..	..	260	..
Slovakia	2009	39,713	144	1	2,266	..	5	81	68	1
	2010	45,871	139	1	2,499	..	4	68	70	178
	2011	41,351	104	2	2,210	..	9	71	60	211
	2012	40,905	95	2	2,115	..	45	9	55	222
Slovenia	2009	9,093	0	..	..	..	..	..	265	325
	2010	9,758	23	..	..	..	..	..	1,045	348
	2011	9,698	22	..	..	..	..	..	1,160	369
	2012	9,477	22	..	..	..	..	..	1,276	392
Spain	2009	..	..	..	..	..	..	..	572	6,501
	2010	..	..	..	..	..	..	..	670	7,679
	2011	..	..	..	..	..	..	..	703	8,576
	2012	..	..	..	..	..	..	..	737	9,226
Sweden	2009	166,999	..	..	..	..	20,155	..	..	414
	2010	204,092	..	..	..	..	20,138	..	..	432
	2011	159,916	..	..	..	..	18,544	..	..	461
	2012	174,779	..	..	..	..	21,665	..	..	464
Switzerland	2009	15,588	..	..	1,300	..	100	..	8,956	1,236
	2010	17,460	..	..	1,300	..	141	..	10,848	1,451
	2011	15,936	..	..	1,290	..	132	..	10,418	1,655
	2012	16,875	..	..	1,370	..	121	..	12,184	1,853
T.F.Yug.Rep. Macedonia	2009	5,170	..	..	..	..	..	..	340	..
	2010	3,480	..	..	..	..	..	..	406	..
	2011	2,669	..	..	..	..	..	..	424	..
	2012	2,463	..	..	..	..	..	..	429	..
Ukraine	2009	562,286	..	..	6,412	..	..	..	..	..
	2010	615,896	..	..	6,413	..	..	..	..	..
	2011	602,027	..	..	6,403	..	..	..	..	..
	2012	592,624	..	..	6,805	..	..	..	..	..
United Kingdom	2009	54,461	..	..	..	..	..	..	33	3,225
	2010	56,967	..	..	..	..	..	..	33	4,084
	2011	58,123	..	..	..	..	..	..	33	5,125
	2012	58,633	..	..	..	..	..	..	33	6,412
Oceania	2009	..	..	..	..	1,368	..	..	9,836	8,584
	2010	..	..	..	..	1,468	..	..	9,481	10,482
	2011	..	..	..	..	1,188	..	..	8,727	11,353
	2012	1,078	9,963	11,736
Australia	2009	8,244
	2010	10,129
	2011	10,989
	2012	11,372

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Country or area	Year	Combustible fuels	Geothermal	Solar thermal	Nuclear	Chemical sources	Heat pumps and electric boilers	Other sources	Direct use geothermal	Direct use solar
New Zealand	2009	..	..	..	..	1,368	..	..	9,836	340
	2010	..	..	..	..	1,468	..	..	9,481	353
	2011	..	..	..	..	1,188	..	..	8,727	364
	2012	..	..	..	..	1,078	..	..	9,963	364