

Production of heat – by type

Terajoules

Table Notes

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

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

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, 1990-2013

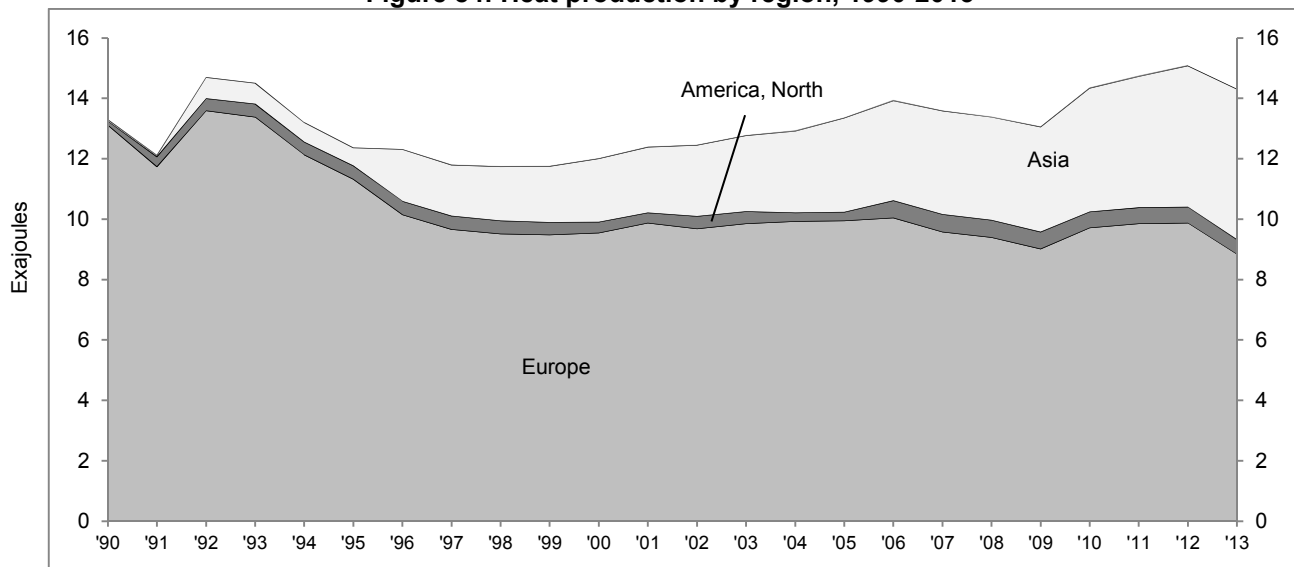


Figure 85: Major heat producing countries, 2013

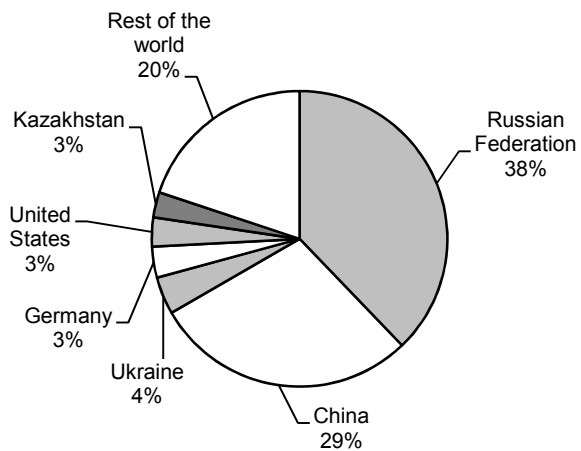
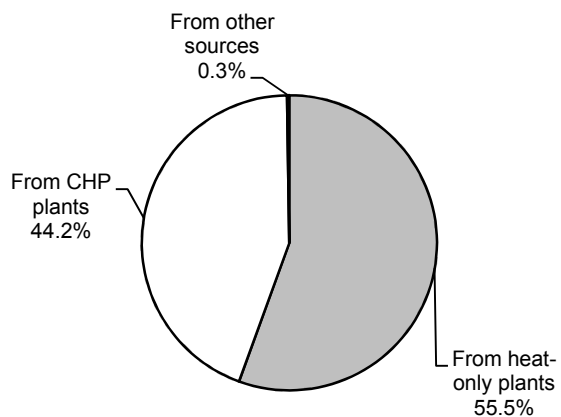


Figure 86: World heat production by type, 2013



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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 thermal
World	2010	13,891,492	26,177	5,711	27,357	33,496	30,953	343,531	122,427	234,015
	2011	14,285,255	25,746	6,207	27,734	30,772	28,084	343,619	124,744	252,120
	2012	14,624,708	28,801	6,147	27,848	30,630	33,339	345,301	128,688	266,012
	2013	13,803,180	31,028	5,919	27,587	77,102	29,246	343,462	132,614	271,059
Africa	2010	12,677	..	664	..	7,812	..	..	..	3,905
	2011	12,421	..	716	..	3,865	..	..	..	4,306
	2012	12,923	..	749	..	4,364	..	..	..	4,746
	2013	13,004	..	779	..	3,748	..	..	..	5,454
Réunion	2010	2,031	..	664	..	..	..	..	..	..
	2011	1,721	..	716	..	..	..	..	..	..
	2012	2,023	..	749	..	..	..	..	..	..
	2013	*2,104	..	*779	..	..	..	..	..	..
Senegal	2010	..	..	..	..	971	..	..	..	..
	2011	..	..	..	..	1,124	..	..	..	..
	2012	..	..	..	..	1,298	..	..	..	..
	2013	..	..	..	..	698	..	..	..	..
South Africa	2010	..	..	..	..	..	..	..	..	2,768
	2011	..	..	..	..	..	..	..	..	3,005
	2012	..	..	..	..	..	..	..	..	3,253
	2013	..	..	..	..	..	..	..	..	3,804
Swaziland	2010	*10,646	..	..	..	..	..	..	..	..
	2011	*10,700	..	..	..	..	..	..	..	..
	2012	*10,900	..	..	..	..	..	..	..	..
	2013	*10,900	..	..	..	..	..	..	..	..
Tunisia	2010	..	..	..	..	6,841	..	..	..	1,137
	2011	..	..	..	..	2,741	..	..	..	1,301
	2012	..	..	..	..	3,066	..	..	..	1,493
	2013	..	..	..	..	3,050	..	..	..	1,650
America, North	2010	525,946	..	..	..	..	..	..	9,285	64,601
	2011	534,058	..	..	..	..	..	..	9,285	67,963
	2012	528,347	..	..	..	..	..	..	9,285	69,992
	2013	481,183	..	..	..	..	..	..	9,285	69,025
Canada	2010	16,934	..	..	..	..	..	..	..	1,539
	2011	24,560	..	..	..	..	..	..	..	1,770
	2012	26,611	..	..	..	..	..	..	..	1,553
	2013	26,886	..	..	..	..	..	..	..	1,553
Greenland	2010	725	..	..	..	..	..	..	..	..
	2011	861	..	..	..	..	..	..	..	..
	2012	937	..	..	..	..	..	..	..	..
	2013	884	..	..	..	..	..	..	..	..
Mexico	2010	..	..	..	..	..	..	..	..	4,910
	2011	..	..	..	..	..	..	..	..	5,862
	2012	..	..	..	..	..	..	..	..	6,423
	2013	..	..	..	..	..	..	..	..	7,141
United States	2010	508,287	..	..	..	..	..	..	9,285	58,152
	2011	508,637	..	..	..	..	..	..	9,285	60,331
	2012	500,799	..	..	..	..	..	..	9,285	62,016
	2013	453,413	9,285	60,331
America, South	2010	102	239
	2011	102	263
	2012	102	1,058
	2013	1,091	102	1,091

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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 thermal
Chile	2010	..	..	..	..	..	..	..	..	..
	2011	..	..	..	..	..	..	..	..	..
	2012	..	..	..	..	..	..	..	..	772
	2013	..	..	..	..	1,091	..	..	..	780
Ecuador	2010	..	..	..	..	..	..	..	102	..
	2011	..	..	..	..	..	..	..	102	..
	2012	..	..	..	..	..	..	..	102	..
	2013	..	..	..	..	..	..	..	102	..
Peru	2010	..	..	..	..	..	..	..	..	239
	2011	..	..	..	..	..	..	..	..	263
	2012	..	..	..	..	..	..	..	..	286
	2013	..	..	..	..	..	..	..	..	311
Asia	2010	4,076,541	0	4,826	..	3,827	4,126	5,537	69,019	91,041
	2011	4,326,199	36	5,183	..	3,767	3,662	4,608	71,210	97,064
	2012	4,655,582	36	4,943	..	3,420	3,791	4,332	71,838	101,797
	2013	4,956,049	0	4,569	..	3,976	3,880	8,369	72,819	101,912
Armenia	2010	494	..	..	..	..	..	..	..	..
	2011	186	..	..	..	..	..	..	..	..
	2012	90	..	..	..	..	..	..	..	..
	2013	127	..	..	..	..	..	..	..	..
Azerbaijan	2010	3,789	..	..	..	..	..	..	..	..
	2011	4,536	..	..	..	..	..	..	..	..
	2012	5,004	..	..	..	..	..	..	..	..
	2013	5,436	..	..	..	..	..	..	..	..
China	2010	3,262,713	..	..	..	..	..	..	..	..
	2011	3,491,768	..	..	..	..	..	..	..	..
	2012	3,787,310	..	..	..	..	..	..	..	..
	2013	4,131,207	..	..	..	..	..	..	..	..
Cyprus	2010	5	..	..	..	..	..	..	32	2,545
	2011	31	..	..	..	..	..	..	44	2,625
	2012	31	..	..	..	..	..	..	62	2,700
	2013	42	..	..	..	..	..	..	62	2,751
Georgia	2010	1,920	0	..	..	..	..	..	1,920	0
	2011	0	36	..	..	..	..	..	377	0
	2012	0	36	..	..	..	..	..	380	6
	2013	0	0	..	..	..	..	..	520	47
Israel	2010	..	..	..	..	..	..	..	..	46,980
	2011	..	..	..	..	..	..	..	..	46,070
	2012	..	..	..	..	..	..	..	..	46,070
	2013	..	..	..	..	..	..	..	..	46,070
Japan	2010	15,799	..	..	..	..	4,126	5,537	7,409	17,174
	2011	14,568	..	..	..	..	3,662	4,608	7,535	15,782
	2012	15,251	..	..	..	..	3,791	4,332	7,409	14,538
	2013	15,546	..	..	..	..	3,880	4,376	7,343	13,254
Kazakhstan	2010	402,385	..	..	..	..	..	..	..	..
	2011	405,407	..	..	..	..	..	..	..	..
	2012	418,081	..	..	..	..	..	..	..	..
	2013	396,689	..	..	..	..	..	..	..	..
Korea, Republic of	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
	2013	196,855	3,976	3,642	1,164

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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 thermal
Kyrgyzstan	2010	12,302	..	..	..	..	..	..	..	..
	2011	13,389	..	..	..	..	..	..	..	..
	2012	13,534	..	..	..	..	..	..	..	..
	2013	12,525	..	..	..	..	..	..	..	..
Lebanon	2010	..	..	..	..	..	..	..	..	630
	2011	..	..	..	..	..	..	..	..	704
	2012	..	..	..	..	..	..	..	..	839
	2013	..	..	..	..	..	..	..	..	999
Mongolia	2010	35,012	..	..	..	..	..	..	..	..
	2011	36,354	..	..	..	..	..	..	..	..
	2012	39,029	..	..	..	..	..	..	..	..
	2013	39,824	..	..	..	..	..	..	..	..
Other Asia	2010	..	..	..	..	..	..	..	..	4,400
	2011	..	..	..	..	..	..	..	..	4,358
	2012	..	..	..	..	..	..	..	..	4,390
	2013	..	..	..	..	..	..	..	..	4,343
State of Palestine	2010	..	..	4,826	..	..	..	..	..	..
	2011	..	..	5,183	..	..	..	..	..	..
	2012	..	..	4,943	..	..	..	..	..	..
	2013	..	..	4,569	..	..	..	..	..	..
Tajikistan	2010	392	..	..	..	..	..	..	..	..
	2011	387	..	..	..	..	..	..	..	..
	2012	405	..	..	..	..	..	..	..	..
	2013	408	..	..	..	..	..	..	..	..
Turkey	2010	51,330	..	..	..	..	..	..	58,257	18,087
	2011	50,917	..	..	..	..	..	..	61,252	26,377
	2012	51,317	..	..	..	..	..	..	61,254	32,155
	2013	51,633	..	..	..	..	..	3,993	61,252	33,284
Turkmenistan	2010	8,041	..	..	..	..	..	..	..	..
	2011	8,311	..	..	..	..	..	..	..	..
	2012	8,567	..	..	..	..	..	..	..	..
	2013	9,108	..	..	..	..	..	..	..	..
Uzbekistan	2010	94,431	..	..	..	..	..	..	..	..
	2011	100,619	..	..	..	..	..	..	..	..
	2012	100,875	..	..	..	..	..	..	..	..
	2013	96,649	..	..	..	..	..	..	..	..
Europe	2010	9,276,327	26,177	221	27,357	20,389	26,827	337,994	34,540	63,280
	2011	9,412,577	25,710	308	27,734	21,952	24,422	339,011	35,420	70,420
	2012	9,427,857	28,765	455	27,848	22,846	29,548	340,062	37,500	75,596
	2013	8,352,944	31,028	571	27,587	68,287	25,366	334,243	39,651	80,266
Albania	2010	234	..	..	..	..	..	..	..	..
	2011	243	..	..	..	..	..	..	..	..
	2012	197	..	..	..	..	..	..	..	..
	2013	199	..	..	..	..	..	..	..	..
Austria	2010	82,927	538	43	..	155	..	..	321	6,646
	2011	79,240	524	51	..	99	..	..	278	6,990
	2012	83,258	577	57	..	99	..	..	346	7,239
	2013	87,176	593	57	..	99	329	7,383
Belarus	2010	278,221
	2011	260,279
	2012	269,754
	2013	263,853

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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 thermal
Belgium	2010	35,483	90	..	..	2,731	..	..	..	507
	2011	35,098	55	..	..	2,930	..	..	..	601
	2012	32,124	60	..	..	4,835	..	..	..	641
	2013	29,075	68	..	..	6,929	..	..	..	788
Bosnia and Herzegovina	2010	6,001	..	..	..	..	..	..	..	..
	2011	6,355	..	..	..	..	..	..	..	..
	2012	6,075	..	..	..	..	..	..	..	..
	2013	5,722	..	..	..	..	..	..	..	..
Bulgaria	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
	2013	50,370	..	..	655	1,992	..	..	1,400	798
Croatia	2010	12,503	..	..	..	..	..	..	285	218
	2011	12,065	..	..	..	..	..	..	287	254
	2012	11,625	..	..	..	..	..	..	291	298
	2013	11,738	..	..	..	..	..	..	286	341
Czech Republic	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
	2013	118,338	..	..	1,035	1,406	94	350	..	600
Denmark	2010	149,182	106	143	..	..	148	2,576	..	514
	2011	129,831	83	217	..	..	264	3,030	..	518
	2012	133,051	144	345	..	..	690	2,913	..	534
	2013	132,413	114	474	..	..	598	2,252	..	552
Estonia	2010	25,548	..	..	..	..	..	..	..	..
	2011	22,887	..	..	..	..	..	..	..	..
	2012	24,473	..	..	..	..	..	..	..	..
	2013	23,028	..	..	..	..	..	..	..	..
Finland	2010	205,381	..	..	..	3,324	1,409	712	..	39
	2011	182,596	..	..	..	2,925	1,400	1,204	..	43
	2012	189,979	..	..	..	3,698	1,871	890	..	47
	2013	178,159	..	..	..	4,475	1,799	1,043	..	52
France	2010	158,463	3,264	..	..	..	..	..	990	2,693
	2011	154,212	3,121	..	..	..	..	..	1,396	3,019
	2012	122,481	3,313	..	..	..	..	..	1,396	3,355
	2013	120,153	4,012	..	..	..	61	..	1,396	3,631
Germany	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	..	..	..	6,296	2,682	24,109
	2013	480,642	207	1	..	..	..	7,461	2,852	24,408
Greece	2010	1,941	..	..	..	..	..	..	916	7,676
	2011	2,256	..	..	..	..	..	..	970	7,656
	2012	1,889	..	..	..	..	..	..	909	7,720
	2013	1,738	..	..	..	..	..	..	812	7,831
Hungary	2010	52,244	233	5	502	..	..	..	3,885	220
	2011	48,432	271	5	508	..	..	..	4,080	242
	2012	48,574	395	5	528	..	..	..	4,071	242
	2013	46,975	574	..	505	..	..	965	4,104	250
Iceland	2010	39	20,864	646	..	4,233	..
	2011	0	20,816	674	..	4,411	..
	2012	0	23,341	675	..	4,416	..
	2013	..	23,160	675	..	4,087	..

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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 thermal
Ireland	2010	..	..	..	..	..	..	..	..	314
	2011	..	..	..	..	..	..	..	..	380
	2012	..	..	..	..	..	..	..	..	427
	2013	..	..	..	..	..	..	..	..	472
Italy	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
	2013	215,757	650	2	..	..	..	..	4,987	7,040
Latvia	2010	28,650	..	..	..	..	5	7	..	..
	2011	24,985	..	..	..	..	8	7	..	..
	2012	26,840	..	..	..	..	10	7	..	..
	2013	26,227	..	..	..	..	9	13	..	..
Liechtenstein	2010	..	..	29	..	..	..	..	..	..
	2011	..	..	32	..	..	..	..	..	..
	2012	..	..	34	..	..	..	..	..	..
	2013	..	..	36	..	..	..	..	..	..
Lithuania	2010	39,932	95	..	0	8,766	13	..	..	..
	2011	35,583	67	..	0	10,225	12	..	..	..
	2012	36,489	79	..	0	9,877	10	..	..	..
	2013	34,217	35	..	0	9,363	10	..	..	..
Luxembourg	2010	3,109	..	..	..	..	..	..	..	40
	2011	3,150	..	..	..	..	..	..	..	63
	2012	3,076	..	..	..	..	..	..	..	88
	2013	3,254	..	..	..	..	..	..	..	104
Malta	2010	0	..	..	..	..	..	..	..	195
	2011	5	..	..	..	..	..	..	..	194
	2012	26	..	..	..	..	..	..	..	216
	2013	21	..	..	..	..	..	..	..	173
Netherlands	2010	146,986	..	..	..	..	..	..	318	1,001
	2011	142,233	..	..	..	..	..	..	316	1,041
	2012	132,388	..	..	..	..	..	..	495	1,069
	2013	128,992	..	..	..	..	..	..	993	1,089
Norway	2010	16,412	..	..	..	1,374	4,208	262	..	..
	2011	17,855	..	..	..	615	3,273	239	..	..
	2012	17,002	..	..	..	21	4,351	445	..	..
	2013	19,003	..	..	..	1,194	5,076	421	..	..
Poland	2010	335,117	..	..	..	595	3	119	563	350
	2011	297,957	..	..	..	913	4	101	531	434
	2012	308,168	..	..	..	685	5	191	661	544
	2013	302,848	..	..	..	891	5	128	778	639
Portugal	2010	21,077	..	..	..	34	..	..	42	2,013
	2011	20,600	..	..	..	44	..	..	65	2,491
	2012	21,419	..	..	..	55	..	..	65	2,820
	2013	25,523	..	..	..	46	..	..	65	3,046
Republic of Moldova	2010	12,039	..	..	..	..	..	..	..	..
	2011	11,402	..	..	..	..	..	..	..	..
	2012	10,876	..	..	..	..	..	..	..	..
	2013	10,640	..	..	..	..	..	..	..	..
Romania	2010	99,095	11	916	4
	2011	98,853	7	923	2
	2012	89,338	4	902	4
	2013	84,803	9	1,049	9

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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 thermal
Russian Federation	2010	5,673,674	..	..	14,633	..	..	327,324	..	..
	2011	6,038,583	..	..	15,482	..	..	327,324	..	..
	2012	6,063,487	..	..	15,109	..	..	328,963	..	..
	2013	5,074,829	1,481	..	15,136	..	..	321,571	..	..
Serbia	2010	38,187	..	..	..	..	..	..	224	..
	2011	41,440	..	..	..	..	..	..	265	..
	2012	35,203	..	..	..	..	..	..	260	..
	2013	34,313	..	..	..	..	..	..	187	..
Slovakia	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
	2013	40,192	102	1	2,147	..	49	39	69	233
Slovenia	2010	9,758	23	..	..	..	..	..	1,045	348
	2011	9,698	22	..	..	..	..	..	1,160	369
	2012	9,477	22	..	..	..	..	..	1,276	392
	2013	9,405	23	..	..	..	..	..	1,528	404
Spain	2010	..	..	..	..	..	..	..	670	7,679
	2011	..	..	..	..	..	..	..	703	8,576
	2012	..	..	..	..	..	..	..	737	9,226
	2013	..	..	..	..	..	..	..	759	9,978
Sweden	2010	204,092	..	..	..	..	20,138	..	..	432
	2011	159,916	..	..	..	..	18,544	..	..	461
	2012	174,779	..	..	..	..	21,665	..	..	464
	2013	173,253	..	..	..	..	16,895	..	..	468
Switzerland	2010	20,891	..	..	1,300	..	141	..	10,848	1,451
	2011	18,399	..	..	1,290	..	132	..	10,418	1,655
	2012	18,866	..	..	1,370	..	121	..	12,184	1,853
	2013	19,674	..	..	1,270	..	95	..	13,630	2,042
T.F.Yug.Rep. Macedonia	2010	3,480	..	..	..	..	..	..	406	..
	2011	2,669	..	..	..	..	..	..	424	..
	2012	2,463	..	..	..	..	..	..	371	..
	2013	2,151	..	..	..	..	..	..	307	..
Ukraine	2010	615,896	..	..	6,413	..	..	..	..	..
	2011	602,027	..	..	6,403	..	..	..	..	..
	2012	592,624	..	..	6,805	..	..	..	..	..
	2013	537,503	..	..	6,839	41,892	..	..	..	..
United Kingdom	2010	56,967	..	..	..	..	..	..	33	4,084
	2011	58,123	..	..	..	..	..	..	33	5,125
	2012	64,181	..	..	..	..	..	..	33	6,377
	2013	60,761	..	..	..	..	..	..	33	7,935
Oceania	2010	..	..	..	..	1,468	..	..	9,481	10,949
	2011	..	..	..	..	1,188	..	..	8,727	12,104
	2012	..	..	..	..	..	..	907	9,963	12,823
	2013	..	..	..	..	..	..	850	10,757	13,311
Australia	2010	..	..	..	..	..	..	..	..	10,485
	2011	11,629
	2012	12,348
	2013	12,836
New Caledonia	2010	111
	2011	111
	2012	111
	2013	111

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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 thermal
New Zealand	2010	..	..	..	..	1,468	..	..	9,481	353
	2011	..	..	..	..	1,188	..	..	8,727	364
	2012	..	..	..	..	..	..	907	9,963	364
	2013	..	..	..	..	..	..	850	10,757	364