

Table 34**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.

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.

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.

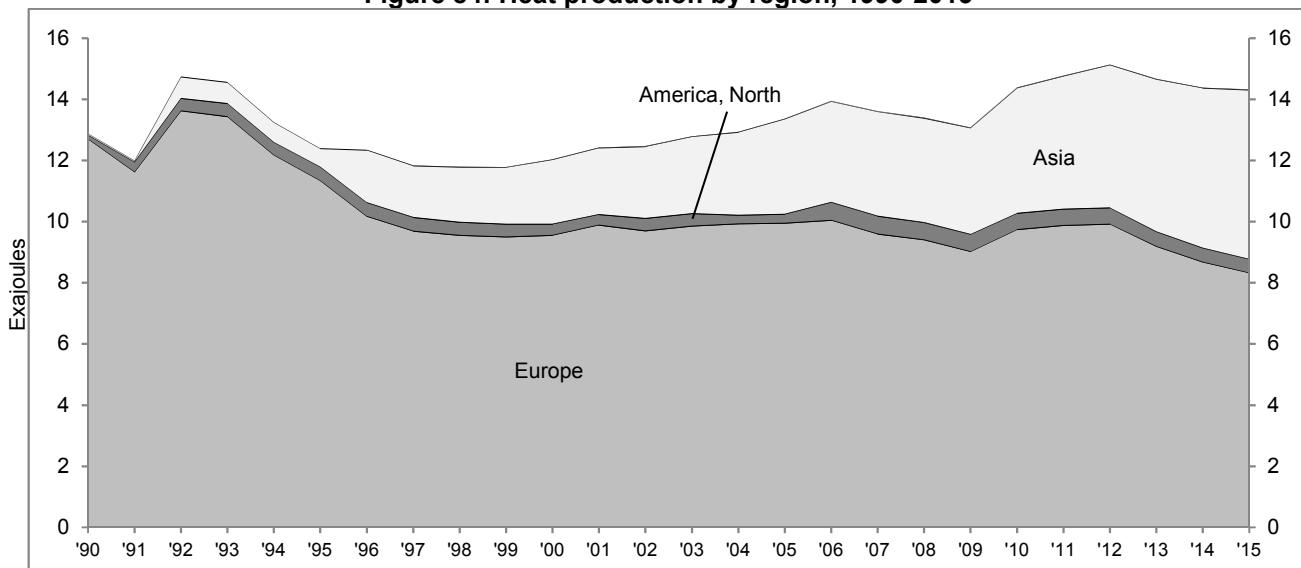
Figure 84: Heat production by region, 1990-2015

Figure 85: Major heat producing countries, 2015

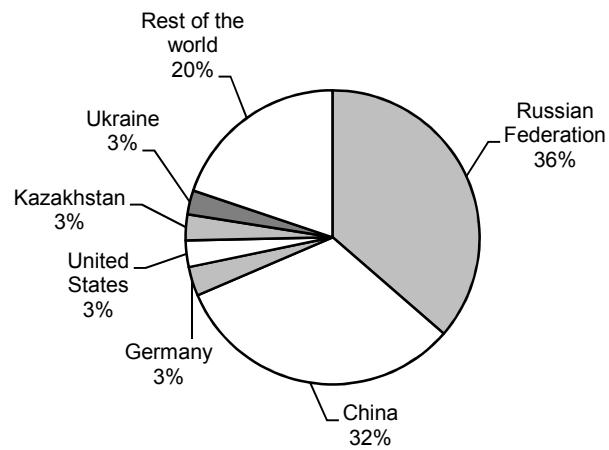


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Country or area	Year	Combustible fuels	Geo-thermal	Solar thermal	Nuclear	Chemical sources	Heat pumps and electric boilers	Other sources	Direct use geothermal	Direct use solar thermal
World	2012	14,669,405	27,631	6,147	27,850	29,423	33,422	347,085	127,142	288,845
	2013	14,150,924	28,583	5,927	27,450	78,762	29,293	345,841	130,082	266,652
	2014	13,860,056	29,672	6,936	26,785	71,832	30,634	354,912	131,010	276,424
	2015	13,794,262	34,251	7,209	25,818	60,411	32,774	366,143	149,888	289,295
Africa	2012	12,923	..	749	..	4,364	..	..	..	4,822
	2013	12,895	..	786	..	3,748	..	..	..	5,531
	2014	11,265	..	815	..	3,355	..	..	..	6,136
	2015	11,487	..	850	..	3,859	..	..	..	6,793
Mayotte	2012	..	..	..	..	..	..	..	..	*4
	2013	..	..	..	..	..	..	..	..	*5
	2014	..	..	..	..	..	..	..	..	*6
	2015	..	..	..	..	..	..	..	..	*6
Namibia	2012	..	..	..	..	..	..	..	..	72
	2013	..	..	..	..	..	..	..	..	72
	2014	..	..	..	..	..	..	..	..	72
	2015	..	..	..	..	..	..	..	..	104
Réunion	2012	2,023	..	749	..	..	..	..	..	..
	2013	1,995	..	786	..	..	..	..	..	..
	2014	2,016	..	815	..	..	..	..	..	..
	2015	2,085	..	850	..	..	..	..	..	..
Senegal	2012	..	..	..	..	1,298	..	..	..	..
	2013	..	..	..	..	698	..	..	..	..
	2014	..	..	..	..	731	..	..	..	..
	2015	..	..	..	..	775	..	..	..	..
South Africa	2012	..	..	..	..	..	..	..	..	3,253
	2013	..	..	..	..	..	..	..	..	3,804
	2014	..	..	..	..	..	..	..	..	4,241
	2015	..	..	..	..	..	..	..	..	4,728
Swaziland	2012	*10,900	..	..	..	..	..	..	..	..
	2013	*10,900	..	..	..	..	..	..	..	..
	2014	9,249	..	..	..	..	..	..	..	..
	2015	*9,403	..	..	..	..	..	..	..	..
Tunisia	2012	..	..	..	..	3,066	..	..	..	1,493
	2013	..	..	..	..	3,050	..	..	..	1,650
	2014	..	..	..	..	2,624	..	..	..	1,817
	2015	..	..	..	..	3,084	..	..	..	1,955
America, North	2012	530,964	..	..	..	..	..	..	9,774	94,312
	2013	483,439	..	..	..	..	..	..	10,355	98,358
	2014	460,533	..	..	..	..	..	..	10,969	102,538
	2015	445,852	..	..	..	..	..	..	11,280	106,687
Canada	2012	29,025	..	..	..	..	..	..	..	1,553
	2013	28,927	..	..	..	..	..	..	..	1,630
	2014	30,923	..	..	..	..	..	..	..	1,702
	2015	26,609	..	..	..	..	..	..	..	1,760
Greenland	2012	1,140	..	..	..	..	..	..	..	..
	2013	1,099
	2014	1,003
	2015	1,056
Mexico	2012	6,427
	2013	7,236
	2014	8,064
	2015	9,087

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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
United States	2012	500,799	..	..	..	..	..	..	9,774	86,332
	2013	453,413	..	..	..	..	..	..	10,355	89,492
	2014	428,607	..	..	..	..	..	..	10,969	92,772
	2015	418,187	..	..	..	..	..	..	11,280	95,840
America, South	2012	..	..	..	..	..	..	..	102	1,058
	2013	..	..	..	..	1,091	..	..	102	1,091
	2014	..	..	..	..	1,936	..	..	102	1,116
	2015	..	..	..	..	..	..	..	102	2,316
Chile	2012	..	..	..	..	..	..	..	..	772
	2013	..	..	..	..	1,091	..	..	..	780
	2014	..	..	..	..	1,936	..	..	..	780
	2015	..	..	..	..	..	..	..	..	1,243
Ecuador	2012	..	..	..	..	..	..	..	102	..
	2013	..	..	..	..	..	..	..	102	..
	2014	..	..	..	..	..	..	..	102	..
	2015	..	..	..	..	..	..	..	*102	..
Peru	2012	..	..	..	..	..	..	..	..	286
	2013	..	..	..	..	..	..	..	..	311
	2014	..	..	..	..	..	..	..	..	336
	2015	..	..	..	..	..	..	..	..	1,073
Asia	2012	4,654,212	36	4,943	..	3,420	3,791	4,332	71,838	104,357
	2013	4,954,199	0	4,569	..	3,976	3,878	8,370	72,819	73,018
	2014	5,208,653	0	5,301	..	3,752	3,627	7,495	74,820	72,959
	2015	5,511,953	0	5,393	..	2,667	3,615	8,861	92,554	72,984
Armenia	2012	90	..	..	..	..	..	..	..	..
	2013	127	..	..	..	..	..	..	..	..
	2014	*127	..	..	..	..	..	..	..	..
	2015	28	..	..	..	..	..	..	..	..
Azerbaijan	2012	5,004	..	..	..	..	..	..	..	..
	2013	5,436	..	..	..	..	..	..	..	..
	2014	6,778	..	..	..	..	..	..	..	..
	2015	6,501	..	..	..	..	..	..	..	..
China	2012	3,787,310	..	..	..	..	..	..	..	..
	2013	4,131,207	..	..	..	..	..	..	..	..
	2014	4,334,113	..	..	..	..	..	..	..	..
	2015	4,610,572	..	..	..	..	..	..	..	..
Cyprus	2012	31	..	..	..	..	..	..	62	2,700
	2013	42	..	..	..	..	..	..	62	2,751
	2014	45	..	..	..	..	..	..	65	2,796
	2015	51	..	..	..	..	..	..	65	2,841
Georgia	2012	0	36	..	..	..	..	..	380	6
	2013	0	0	..	..	..	..	..	520	47
	2014	0	0	..	..	..	..	..	546	77
	2015	0	0	..	..	..	..	..	*546	*77
Israel	2012	..	..	..	..	..	..	..	..	46,070
	2013	..	..	..	..	..	..	..	..	13,630
	2014	..	..	..	..	..	..	..	..	14,922
	2015	..	..	..	..	..	..	..	..	14,922
Japan	2012	13,883	..	..	..	..	3,791	4,332	7,409	17,098
	2013	13,697	3,878	4,377	7,343	16,905
	2014	14,744	3,627	4,243	7,242	15,071
	2015	14,636	3,615	4,014	7,158	13,943

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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
Kazakhstan	2012	418,081	..	..	..	..	..	..	..	..
	2013	396,689	..	..	..	..	..	..	..	..
	2014	398,902	..	..	..	..	..	..	..	..
	2015	408,147	..	..	..	..	..	..	..	..
Korea, Republic of	2012	216,087	..	..	..	3,420	..	..	2,733	1,099
	2013	196,855	..	..	..	3,976	..	..	3,642	1,164
	2014	203,794	..	..	..	3,752	..	..	4,542	1,193
	2015	202,291	..	..	..	2,667	..	..	5,655	1,192
Kyrgyzstan	2012	13,534	..	..	..	..	..	..	..	..
	2013	12,525	..	..	..	..	..	..	..	..
	2014	13,858	..	..	..	..	..	..	..	..
	2015	16,745	..	..	..	..	..	..	..	..
Lebanon	2012	..	..	..	..	..	..	..	..	839
	2013	..	..	..	..	..	..	..	..	894
	2014	..	..	..	..	..	..	..	..	962
	2015	..	..	..	..	..	..	..	..	993
Mongolia	2012	39,029	..	..	..	..	..	..	..	..
	2013	39,824	..	..	..	..	..	..	..	..
	2014	42,003	..	..	..	..	..	..	..	..
	2015	44,713	..	..	..	..	..	..	..	..
Other Asia	2012	..	..	..	..	..	..	..	..	4,390
	2013	..	..	..	..	..	..	..	..	4,343
	2014	..	..	..	..	..	..	..	..	4,318
	2015	..	..	..	..	..	..	..	..	4,369
State of Palestine	2012	..	..	4,943	..	..	..	..	..	..
	2013	..	..	4,569	..	..	..	..	..	..
	2014	..	..	5,301	..	..	..	..	..	..
	2015	..	..	5,393	..	..	..	..	..	..
Tajikistan	2012	405	..	..	..	..	..	..	..	..
	2013	408	..	..	..	..	..	..	..	..
	2014	1,063	..	..	..	..	..	..	..	..
	2015	1,499	..	..	..	..	..	..	..	..
Turkey	2012	51,317	..	..	..	..	..	..	61,254	32,155
	2013	51,633	..	..	..	..	..	3,993	61,252	33,284
	2014	84,796	..	..	..	..	..	3,252	62,425	33,620
	2015	96,812	..	..	..	..	..	4,847	79,130	34,647
Turkmenistan	2012	8,567	..	..	..	..	..	..	..	..
	2013	9,108	..	..	..	..	..	..	..	..
	2014	9,846	..	..	..	..	..	..	..	..
	2015	9,846	..	..	..	..	..	..	..	..
Uzbekistan	2012	100,874	..	..	..	..	..	..	..	..
	2013	96,648	..	..	..	..	..	..	..	..
	2014	98,584	..	..	..	..	..	..	..	..
	2015	100,112	..	..	..	..	..	..	..	..
Europe	2012	9,471,306	27,595	455	27,850	21,639	29,631	341,846	36,983	71,457
	2013	8,700,390	28,583	572	27,450	69,947	25,415	336,257	39,115	75,031
	2014	8,179,604	29,672	820	26,785	62,789	27,007	346,096	37,786	79,966
	2015	7,824,967	34,251	966	25,818	53,885	29,159	355,919	38,608	85,152
Albania	2012	197
	2013	199
	2014	214
	2015	*225	518

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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
Austria	2012	83,868	578	57	..	99	..	..	346	7,239
	2013	87,661	593	57	..	99	..	..	329	7,384
	2014	79,213	519	69	..	95	..	..	267	7,559
	2015	83,144	578	69	..	106	..	..	301	7,665
Belarus	2012	269,754	..	..	..	..	..	..	..	..
	2013	263,853	..	..	..	..	..	..	..	..
	2014	254,934	..	..	..	..	..	..	..	..
	2015	241,857	..	..	..	..	..	..	..	..
Belgium	2012	32,124	60	..	..	4,835	..	..	..	641
	2013	28,776	68	..	..	9,791	..	..	..	779
	2014	26,474	60	..	..	9,810	..	..	..	857
	2015	27,678	63	..	..	10,099	..	..	..	925
Bosnia and Herzegovina	2012	6,075	..	..	..	..	..	..	..	..
	2013	5,722	..	..	..	..	..	..	..	..
	2014	5,000	..	..	..	..	..	..	..	..
	2015	5,621	..	..	..	..	..	..	..	..
Bulgaria	2012	54,649	..	..	940	2,235	..	..	1,400	645
	2013	50,370	..	..	655	1,992	..	..	1,400	798
	2014	51,930	..	..	604	1,645	..	..	1,400	824
	2015	48,062	..	..	635	1,648	..	..	1,400	912
Croatia	2012	11,625	..	..	..	..	..	..	291	298
	2013	11,738	..	..	..	..	..	..	286	341
	2014	10,127	..	..	..	..	..	..	446	385
	2015	11,106	..	..	..	..	..	..	449	435
Czechia	2012	133,328	..	..	983	134	88	1,670	..	561
	2013	134,504	..	..	898	204	78	1,621	..	630
	2014	116,905	..	..	871	221	81	1,669	..	691
	2015	118,467	..	..	899	163	74	1,704	..	742
Denmark	2012	133,125	144	345	..	..	688	2,646	..	534
	2013	132,369	114	475	..	..	595	2,252	..	552
	2014	118,411	83	700	..	..	493	2,519	..	565
	2015	123,644	70	848	..	..	946	2,566	..	581
Estonia	2012	24,473	..	..	..	..	..	..	..	..
	2013	23,028	..	..	..	..	..	..	..	..
	2014	21,812	..	..	..	..	..	..	..	..
	2015	21,204	..	..	..	..	..	..	..	..
Finland	2012	193,186	..	..	..	3,698	1,870	890	..	47
	2013	181,049	..	..	..	4,475	1,797	1,043	..	52
	2014	177,272	..	..	..	4,526	2,240	960	..	57
	2015	168,602	..	..	..	3,977	3,988	996	..	62
France	2012	134,032	3,242	..	..	..	131	..	1,280	3,420
	2013	133,951	3,937	..	..	..	159	..	1,280	3,748
	2014	118,585	3,747	..	..	..	294	..	1,280	3,993
	2015	131,533	3,844	..	..	..	513	..	1,237	4,146
Germany	2012	474,421	85	11	..	..	..	6,296	2,682	24,109
	2013	480,642	207	1	..	..	..	7,461	2,852	24,408
	2014	430,982	304	11	..	..	..	7,043	3,487	26,221
	2015	448,187	626	9	..	..	..	8,739	2,863	28,091
Greece	2012	1,889	547	7,720
	2013	1,738	481	7,831
	2014	2,073	490	8,029
	2015	2,093	410	8,221

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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
Hungary	2012	48,574	395	5	528	..	..	..	4,071	352
	2013	46,975	574	0	505	..	..	965	4,104	368
	2014	44,288	1,166	0	778	..	..	1,736	2,466	406
	2015	47,772	1,769	..	802	..	..	1,678	2,230	448
Iceland	2012	45	22,241	..	..	..	647	..	4,416	..
	2013	42	22,060	..	..	..	647	..	4,087	..
	2014	82	22,443	..	..	..	660	..	4,543	..
	2015	33	25,873	..	..	..	700	..	3,415	..
Ireland	2012	..	..	..	..	..	..	..	..	427
	2013	..	..	..	..	..	..	..	..	472
	2014	..	..	..	..	..	..	..	..	511
	2015	..	..	..	..	..	..	..	..	544
Italy	2012	206,335	650	1	..	..	..	..	4,950	6,503
	2013	215,757	650	2	..	..	..	..	4,987	7,040
	2014	205,188	764	2	..	..	..	..	4,660	7,517
	2015	216,164	780	2	..	..	..	..	4,778	7,953
Latvia	2012	26,840	..	..	..	..	10	7	..	..
	2013	26,227	..	..	..	..	9	13	..	..
	2014	25,740	..	..	..	..	7	..	..	..
	2015	25,452	..	..	..	..	7	..	..	..
Liechtenstein	2012	..	..	34	..	..	..	..	..	..
	2013	..	..	36	..	..	..	..	..	..
	2014	..	..	37	..	..	..	..	..	..
	2015	..	..	37	..	..	..	..	..	..
Lithuania	2012	36,489	79	..	..	9,877	10	..	..	..
	2013	34,217	35	..	..	9,363	10	..	..	..
	2014	32,420	39	..	..	10,832	9	..	..	..
	2015	31,820	32	..	..	9,600	8	..	..	..
Luxembourg	2012	3,093	..	..	..	..	..	..	..	57
	2013	3,256	..	..	..	..	..	..	..	68
	2014	2,525	..	..	..	..	..	..	..	73
	2015	2,341	..	..	..	..	..	..	..	79
Malta	2012	8	..	..	..	..	..	..	..	216
	2013	1	..	..	..	..	..	..	..	173
	2014	1	..	..	..	..	..	..	..	178
	2015	6	..	..	..	..	..	..	..	180
Netherlands	2012	149,117	..	..	..	..	..	..	495	1,070
	2013	150,090	..	..	..	..	..	..	993	1,106
	2014	147,157	..	..	..	..	..	..	1,502	1,128
	2015	139,282	..	..	..	..	..	..	2,448	1,137
Norway	2012	16,273	..	..	..	21	4,351	1,174	..	..
	2013	18,260	..	..	..	1,194	5,076	1,164	..	..
	2014	17,422	..	..	..	3,200	4,091	1,313	..	..
	2015	18,747	..	..	..	3,120	4,377	984	..	..
Poland	2012	308,168	..	..	..	685	5	191	661	620
	2013	301,318	..	..	..	891	5	128	778	1,035
	2014	275,602	..	..	..	1,205	4	76	847	1,455
	2015	280,106	..	..	..	1,191	3	96	909	1,885
Portugal	2012	21,419	55	65	2,820
	2013	25,523	46	52	3,046
	2014	21,367	55	55	3,218
	2015	19,527	87	64	3,360

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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
Republic of Moldova	2012	10,876	..	..	..	..	..	..	..	..
	2013	10,640	..	..	..	..	..	..	..	..
	2014	10,466	..	..	..	..	..	..	..	..
	2015	10,042	..	..	..	..	..	..	..	..
Romania	2012	89,338	4	..	..	..	..	..	902	4
	2013	84,803	9	..	..	..	..	..	1,049	9
	2014	77,756	217	..	..	..	..	..	835	23
	2015	76,366	251	..	..	..	..	..	824	21
Russian Federation	2012	6,063,487	..	..	15,109	..	..	328,963	..	..
	2013	5,374,829	211	..	15,136	..	..	321,571	..	..
	2014	5,187,219	191	..	14,982	..	..	330,772	..	..
	2015	4,853,378	223	..	14,180	..	..	339,148	..	..
Serbia	2012	35,203	..	..	..	..	..	..	260	..
	2013	34,313	..	..	..	..	..	..	187	..
	2014	30,694	..	..	..	..	..	..	234	..
	2015	35,256	..	..	..	..	..	..	256	..
Slovakia	2012	40,905	95	2	2,115	..	45	9	55	222
	2013	40,192	102	1	2,147	..	49	39	69	233
	2014	32,823	120	1	1,795	..	55	8	56	241
	2015	34,510	121	1	1,968	..	53	8	55	229
Slovenia	2012	9,477	22	..	..	..	..	..	1,237	409
	2013	9,405	23	..	..	..	..	..	1,410	437
	2014	8,164	19	..	..	..	..	..	1,486	452
	2015	8,664	21	..	..	..	..	..	1,749	457
Spain	2012	..	..	..	..	..	..	..	737	9,226
	2013	..	..	..	..	..	..	..	758	10,006
	2014	..	..	..	..	..	..	..	789	10,828
	2015	..	..	..	..	..	..	..	789	11,608
Sweden	2012	174,779	..	..	..	..	21,665	..	..	464
	2013	173,253	..	..	..	..	16,895	..	..	468
	2014	160,891	..	..	..	..	19,005	..	..	468
	2015	165,056	..	..	..	..	18,399	..	..	472
Switzerland	2012	18,866	..	..	1,370	..	121	..	12,184	1,853
	2013	19,674	..	..	1,270	..	95	..	13,630	2,042
	2014	17,313	..	..	1,190	..	68	..	12,616	2,212
	2015	19,194	..	..	1,100	..	91	..	14,398	2,359
T.F.Yug.Rep. Macedonia	2012	2,463	..	..	..	..	..	..	371	..
	2013	2,131	..	..	..	..	..	..	350	..
	2014	1,956	..	..	..	..	..	..	294	..
	2015	2,193	..	..	..	..	..	..	..	..
Ukraine	2012	592,624	..	..	6,805	..	..	..	..	..
	2013	537,503	..	..	6,839	41,892	..	..	..	..
	2014	406,078	..	..	6,565	31,200	..	..	..	..
	2015	348,082	..	..	6,234	23,894	..	..	..	..
United Kingdom	2012	64,181	..	..	..	..	..	..	33	2,000
	2013	56,381	..	..	..	..	..	..	33	2,005
	2014	60,520	..	..	..	..	..	..	33	2,075
	2015	59,553	..	..	..	..	..	..	33	2,122
Oceania	2012	907	8,445	12,839
	2013	2	1,214	7,691	13,623
	2014	2	1,321	7,333	13,709
	2015	4	1,363	7,344	15,363

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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
Australia	2012	..	..	..	..	..	..	..	..	12,348
	2013	..	..	..	..	..	..	..	..	13,132
	2014	..	..	..	..	..	..	..	..	13,218
	2015	..	..	..	..	..	..	..	..	14,843
New Caledonia	2012	..	..	..	..	..	..	..	..	111
	2013	..	..	..	..	..	..	..	..	111
	2014	..	..	..	..	..	..	..	..	111
	2015	..	..	..	..	..	..	..	..	140
New Zealand	2012	..	..	..	..	..	..	907	8,445	364
	2013	2	..	..	..	..	..	1,214	7,691	364
	2014	2	..	..	..	..	..	1,321	7,333	364
	2015	4	..	..	..	..	..	1,363	7,344	364
Niue	2012	..	..	..	..	..	..	..	..	16
	2013	..	..	..	..	..	..	..	..	16
	2014	..	..	..	..	..	..	..	..	16
	2015	..	..	..	..	..	..	..	..	16