

**Table 32**

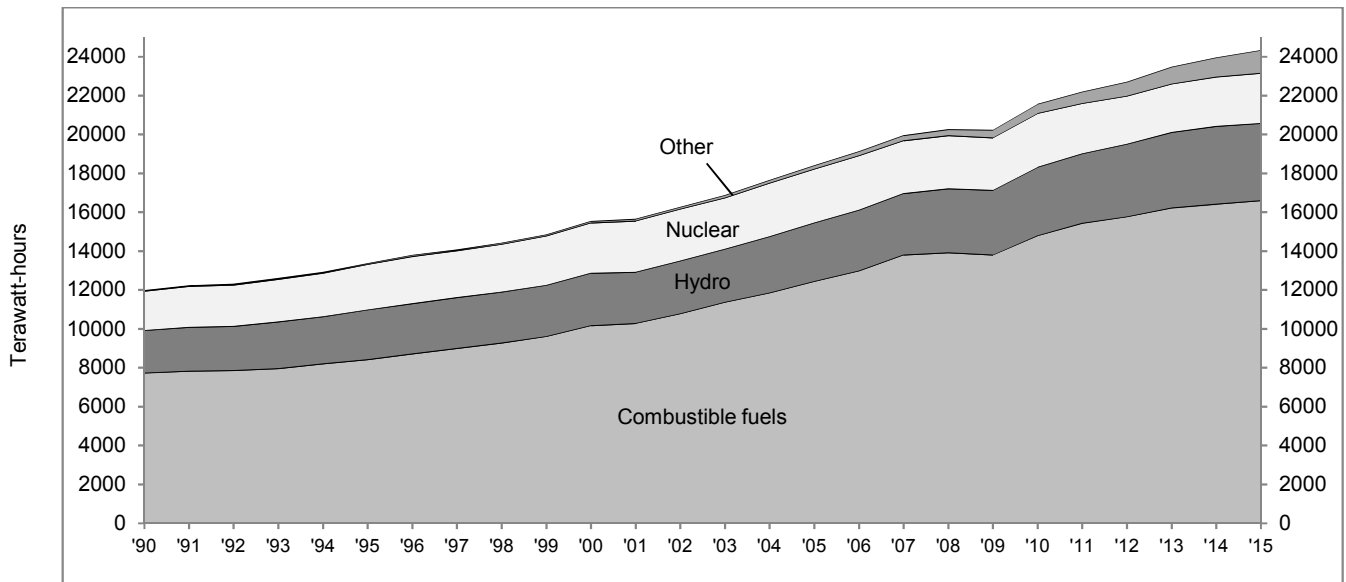
**Production of electricity - by type**  
Gigawatt-hours

**Table Notes**

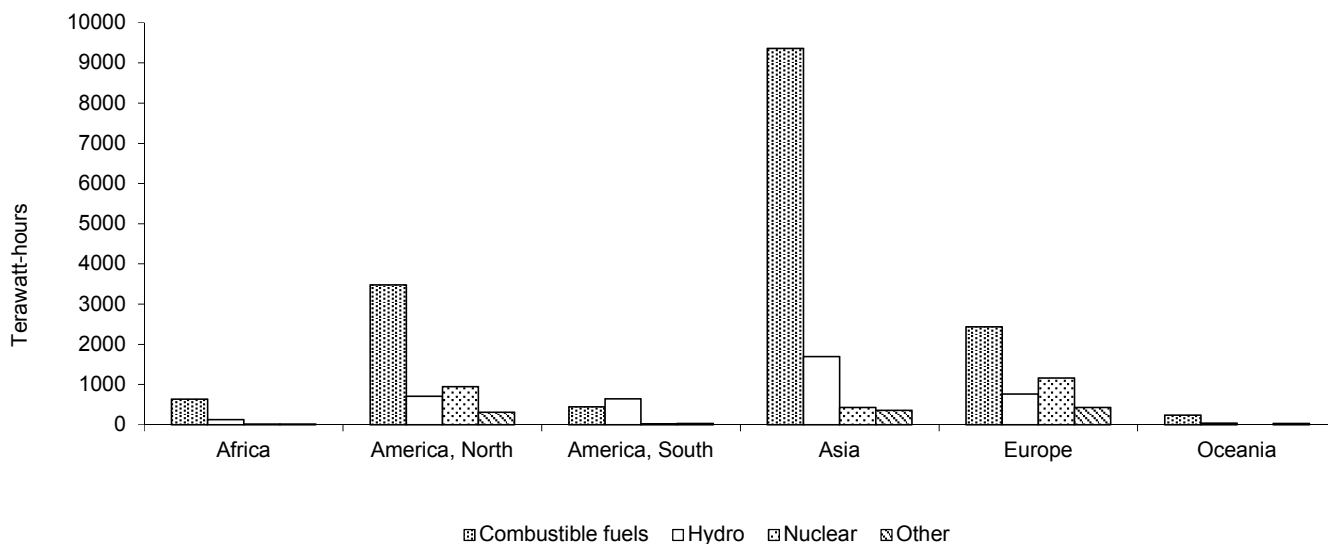
For this table, **Other** under total producers refers to geothermal, tide, wave, marine, electricity from chemical heat, and other non-specified sources. **Other** under autoproducers refers to nuclear (if any), wind, solar, tide, wave, marine, electricity from chemical heat, and other non-specified sources. **Other** under main activity producers refers to wind, solar, tide, wave, marine, electricity from chemical heat, and other non-specified sources.

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.

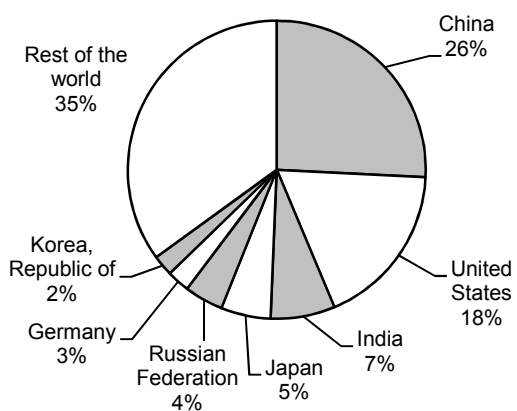
**Figure 75: World electricity generation by source, 1990-2015**



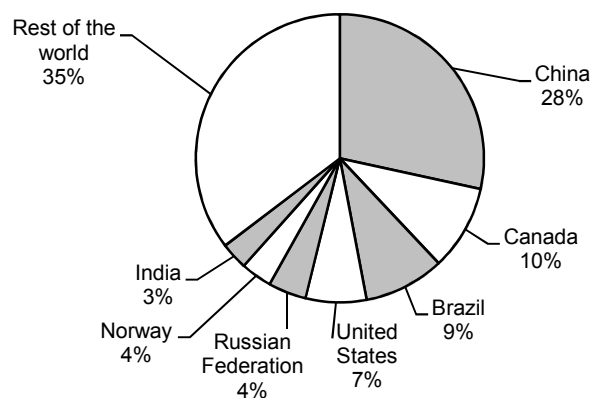
**Figure 76: World production of electricity by source and region, 2015**



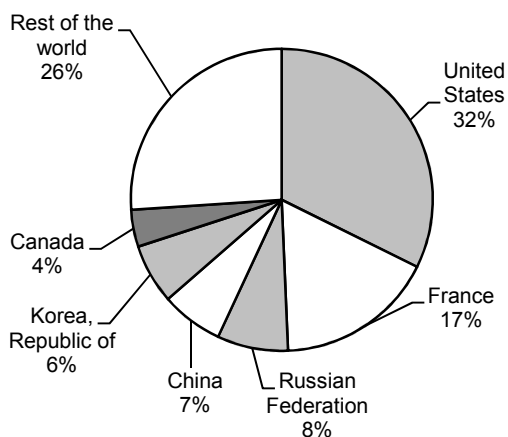
**Figure 77: Major countries producing electricity from combustible fuels, 2015**



**Figure 78: Major countries producing hydro electricity, 2015**



**Figure 79: Major countries producing nuclear electricity, 2015**



**Figure 80: Major countries producing electricity from other sources, 2015**

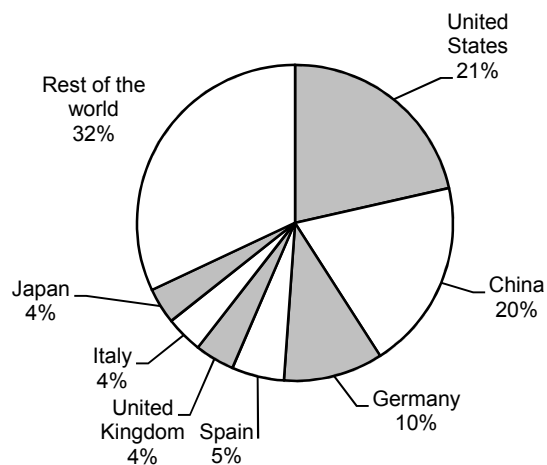


Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
World	2012	22,694,538	15,752,677	3,750,646	2,460,301	521,887	95,122	113,905
	2013	23,467,300	16,222,700	3,890,291	2,478,918	645,840	136,468	93,083
	2014	23,949,499	16,422,580	3,992,528	2,535,642	708,050	185,469	105,230
	2015	24,321,639	16,595,466	3,978,091	2,569,890	826,098	250,639	101,454
Africa	2012	724,802	591,785	114,952	11,954	2,549	515	3,047
	2013	745,560	601,780	121,972	14,106	3,606	721	3,376
	2014	776,437	621,556	127,342	13,794	6,427	2,830	4,487
	2015	791,620	638,374	124,350	12,237	7,630	2,921	6,108
Algeria	2012	57,397	56,775	622	..	..	..	..
	2013	59,890	59,560	330	..	..	..	..
	2014	64,242	63,988	254	..	..	..	..
	2015	68,798	68,576	145	..	19	58	..
Angola	2012	6,204	2,432	3,772	..	..	..	..
	2013	8,216	3,449	4,767	..	..	..	..
	2014	9,480	4,439	5,041	..	..	..	..
	2015	9,764	4,572	5,192	..	..	..	..
Benin	2012	48	48	..	..	..	..	..
	2013	92	92	..	..	..	..	..
	2014	239	239	..	..	..	..	..
	2015	342	323	14	..	..	5	..
Botswana	2012	251	250	..	..	..	1	..
	2013	761	760	..	..	..	1	..
	2014	2,364	2,363	..	..	..	1	..
	2015	*2,967	*2,966	..	..	..	1	..
Burkina Faso	2012	625	528	97	..	..	..	..
	2013	731	625	106	..	..	..	..
	2014	870	780	90	..	..	..	..
	2015	999	906	93	..	..	..	..
Burundi	2012	142	3	139	..	..	..	..
	2013	159	21	138	..	..	..	..
	2014	174	34	140	..	..	..	..
	2015	166	29	137	..	..	..	..
Cabo Verde	2012	375	306	..	..	61	7	..
	2013	404	321	..	..	76	7	..
	2014	409	338	..	..	66	5	..
	2015	421	336	..	..	79	6	..
Cameroon	2012	4,725	1,228	3,497	..	..	..	..
	2013	5,510	1,427	4,083	..	..	..	..
	2014	6,152	1,590	4,562	..	..	..	..
	2015	6,758	1,690	5,068	..	..	..	..
Central African Rep.	2012	176	27	149	..	..	..	..
	2013	139	1	138	..	..	..	..
	2014	171	1	170	..	..	..	..
	2015	*171	*1	*170	..	..	..	..
Chad	2012	205	205	..	..	..	..	..
	2013	*225	*225	..	..	..	..	..
	2014	*225	*225	..	..	..	..	..
	2015	*228	*228	..	..	..	..	..
Comoros	2012	*58	*58	..	..	..	..	..
	2013	*56	*56	..	..	..	..	..
	2014	*53	*53	..	..	..	..	..
	2015	*42	*42	..	..	..	..	..
Congo	2012	1,700	713	987	..	..	..	..
	2013	1,709	738	971	..	..	..	..
	2014	1,740	788	952	..	..	..	..
	2015	1,734	809	925	..	..	..	..

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
1,753,353	1,611,458	96,888	45,007	20,941,185	14,141,219	3,653,758	2,460,301	685,907
1,896,443	1,731,213	101,084	64,146	21,570,857	14,491,487	3,789,207	2,478,918	811,245
1,930,441	1,745,165	99,368	85,909	22,019,058	14,677,415	3,893,160	2,535,642	912,840
2,138,647	1,920,017	102,115	116,515	22,182,992	14,675,450	3,875,976	2,569,890	1,061,676
36,893	34,538	782	1,573	687,909	557,247	114,170	11,954	4,538
35,752	33,203	851	1,697	709,809	568,577	121,120	14,106	6,006
37,463	32,833	1,057	3,573	738,973	588,723	126,285	13,794	10,172
41,993	35,471	627	5,895	749,627	602,903	123,723	12,237	10,764
3,311	3,311	..	..	54,086	53,464	622	..	..
3,742	3,742	..	..	56,148	55,818	330	..	..
3,742	3,742	..	..	60,500	60,246	254	..	..
4,135	4,135	..	..	64,663	64,441	145	..	77
357	357	..	..	5,847	2,075	3,772	..	..
473	473	..	..	7,743	2,976	4,767	..	..
546	546	..	..	8,934	3,893	5,041	..	..
562	562	..	..	9,202	4,010	5,192	..	..
20	20	..	..	28	28	..	..	..
19	19	..	..	73	73	..	..	..
112	112	..	..	127	127	..	..	..
112	112	..	..	230	211	14	..	5
..	..	..	..	251	250	..	..	1
..	..	..	..	761	760	..	..	1
..	..	..	..	2,364	2,363	..	..	1
..	..	..	..	*2,967	*2,966	..	..	1
147	147	..	..	479	382	97	..	..
..	..	..	..	731	625	106	..	..
..	..	..	..	870	780	90	..	..
..	..	..	..	999	906	93	..	..
..	..	..	..	142	3	139	..	..
..	..	..	..	159	21	138	..	..
..	..	..	..	174	34	140	..	..
..	..	..	..	166	29	137	..	..
1	1	..	..	374	306	..	..	69
1	1	..	..	404	321	..	..	83
1	1	..	..	408	338	..	..	71
*1	*1	..	..	421	336	..	..	85
911	911	..	..	3,814	317	3,497	..	..
1,057	1,057	..	..	4,453	370	4,083	..	..
1,177	1,177	..	..	4,975	413	4,562	..	..
1,251	1,251	..	..	5,507	439	5,068	..	..
..	..	..	..	176	27	149	..	..
..	..	..	..	139	1	138	..	..
..	..	..	..	171	1	170	..	..
..	..	..	..	*171	*1	*170	..	..
..	..	..	..	205	205	..	..	..
..	..	..	..	*225	*225	..	..	..
..	..	..	..	*225	*225	..	..	..
..	..	..	..	*228	*228	..	..	..
..	..	..	..	*58	*58	..	..	..
..	..	..	..	*56	*56	..	..	..
..	..	..	..	*53	*53	..	..	..
..	..	..	..	*42	*42	..	..	..
713	713	..	..	987	..	987	..	..
738	738	..	..	971	..	971	..	..
788	788	..	..	952	..	952	..	..
809	809	..	..	925	..	925	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Côte d'Ivoire	2012	7,016	5,227	1,789	..	..	..	..
	2013	7,650	6,044	1,606	..	..	..	..
	2014	8,286	6,373	1,913	..	..	..	..
	2015	8,711	7,359	1,352	..	..	..	..
Dem. Rep. of the Congo	2012	7,612	26	7,586	..	..	..	..
	2013	8,258	27	8,231	..	..	..	..
	2014	8,840	20	8,820	..	..	..	..
	2015	8,942	26	8,916	..	..	..	..
Djibouti	2012	393	393	..	..	..	..	..
	2013	402	402	..	..	..	..	..
	2014	402	402	..	..	..	..	..
	2015	405	405	..	..	..	..	..
Egypt	2012	164,628	150,010	13,121	..	1,260	237	..
	2013	168,050	153,252	13,352	..	1,332	114	..
	2014	180,377	164,864	13,822	..	1,444	247	..
	2015	187,479	172,449	13,432	..	1,345	253	..
Equatorial Guinea	2012	410	396	14	..	..	..	..
	2013	414	396	18	..	..	..	..
	2014	939	396	543	..	..	..	..
	2015	*939	*396	*543	..	..	..	..
Eritrea	2012	359	357	..	..	..	2	..
	2013	363	361	..	..	..	2	..
	2014	388	386	..	..	..	2	..
	2015	406	404	..	..	..	2	..
Ethiopia	2012	7,608	12	7,388	..	192	..	16
	2013	8,719	8	8,338	..	356	..	17
	2014	9,534	3	9,013	..	499	..	19
	2015	10,437	4	9,674	..	759	..	..
Gabon	2012	2,151	1,240	908	..	..	3	..
	2013	2,264	1,330	932	..	..	2	..
	2014	2,367	1,570	795	..	..	2	..
	2015	2,126	1,206	918	..	..	2	..
Gambia	2012	*266	*266	..	..	..	..	..
	2013	*261	*261	..	..	..	..	..
	2014	*281	*281	..	..	..	..	..
	2015	*284	*284	..	..	..	..	..
Ghana	2012	12,204	4,133	8,071	..	..	..	..
	2013	13,050	4,814	8,233	..	..	3	..
	2014	13,143	4,752	8,387	..	..	4	..
	2015	11,672	5,824	5,845	..	..	3	..
Guinea	2012	728	238	491	..	..	..	..
	2013	654	172	482	..	..	..	..
	2014	712	287	426	..	..	..	..
	2015	1,118	238	881	..	..	..	..
Guinea-Bissau	2012	*34	*34	..	..	..	..	..
	2013	*35	*35	..	..	..	..	..
	2014	*35	*35	..	..	..	..	..
	2015	*36	*36	..	..	..	..	..
Kenya	2012	7,852	2,305	4,016	..	14	..	1,516
	2013	8,448	2,218	4,435	..	15	..	1,781
	2014	9,139	2,635	3,569	..	17	..	2,917
	2015	9,515	1,462	*3,472	..	60	..	4,521
Lesotho	2012	485	..	485	..	..	..	..
	2013	515	..	515	..	..	..	..
	2014	515	..	515	..	..	..	..
	2015	532	..	532	..	..	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
68	68	..	..	6,948	5,159	1,789	..	..
70	70	..	..	7,580	5,974	1,606	..	..
72	72	..	..	8,214	6,301	1,913	..	..
105	105	..	..	8,606	7,254	1,352	..	..
17	17	0	..	7,595	9	7,586	..	..
18	18	0	..	8,240	9	8,231	..	..
16	16	0	..	8,824	4	8,820	..	..
14	14	0	..	8,928	12	8,916	..	..
..	..	..	..	393	393	..	..	..
..	..	..	..	402	402	..	..	..
..	..	..	..	402	402	..	..	..
..	..	..	..	405	405	..	..	..
5,405	5,405	..	..	159,223	144,605	13,121	..	1,497
5,502	5,502	..	..	162,548	147,750	13,352	..	1,446
*5,502	*5,502	..	..	174,875	159,362	13,822	..	1,691
*5,502	*5,502	..	..	181,977	166,947	13,432	..	1,598
..	..	..	..	410	396	14	..	..
..	..	..	..	414	396	18	..	..
..	..	..	..	939	396	543	..	..
..	..	..	..	*939	*396	*543	..	..
11	11	..	..	348	346	..	..	2
11	11	..	..	352	350	..	..	2
11	11	..	..	377	375	..	..	2
11	11	..	..	395	393	..	..	2
..	..	..	..	7,608	12	7,388	..	208
..	..	..	..	8,719	8	8,338	..	373
..	..	..	..	9,534	3	9,013	..	518
..	..	..	..	10,437	4	9,674	..	759
185	182	..	3	1,966	1,058	908	..	..
193	191	..	2	2,071	1,139	932	..	..
194	192	..	2	2,173	1,378	795	..	..
220	218	..	2	1,906	988	918	..	..
*31	*31	..	..	*236	*236	..	..	..
*31	*31	..	..	*230	*230	..	..	..
*31	*31	..	..	*250	*250	..	..	..
*31	*31	..	..	*253	*253	..	..	..
*180	*180	..	..	12,024	3,953	8,071	..	..
*180	*180	..	..	12,870	4,634	8,233	..	3
*180	*180	..	..	12,963	4,572	8,387	..	4
*180	*180	..	..	11,492	5,644	5,845	..	3
0	0	..	..	728	238	491	..	..
28	28	..	..	627	144	482	..	..
161	161	..	..	552	126	426	..	..
174	174	..	..	945	64	881	..	..
*8	*8	..	..	*26	*26	..	..	..
*8	*8	..	..	*27	*27	..	..	..
*8	*8	..	..	*27	*27	..	..	..
*8	*8	..	..	*28	*28	..	..	..
..	..	..	..	7,852	2,305	4,016	..	1,530
..	..	..	..	8,448	2,218	4,435	..	1,796
..	..	..	..	9,139	2,635	3,569	..	2,934
..	..	..	..	9,515	1,462	*3,472	..	4,580
..	..	..	..	485	..	485	..	..
..	..	..	..	515	..	515	..	..
..	..	..	..	515	..	515	..	..
..	..	..	..	532	..	532	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Liberia	2012	*300	*300	..	..	..	..	..
	2013	*300	*300	..	..	..	..	..
	2014	*300	*300	..	..	..	..	..
	2015	*310	*310	..	..	..	..	..
Libya	2012	34,275	34,275	..	..	..	..	..
	2013	37,913	37,913	..	..	..	..	..
	2014	37,731	37,731	..	..	..	..	..
	2015	37,713	37,713	..	..	..	..	..
Madagascar	2012	1,520	765	755	..	..	0	..
	2013	1,593	784	809	..	..	0	..
	2014	1,658	774	884	..	..	0	..
	2015	1,712	777	935	..	..	0	..
Malawi	2012	2,092	*181	1,911	..	..	..	..
	2013	2,019	*181	1,838	..	..	..	..
	2014	2,082	*181	1,901	..	..	..	..
	2015	*2,103	*183	*1,920	..	..	..	..
Mali	2012	1,363	579	783	..	..	..	..
	2013	1,510	532	978	..	..	..	..
	2014	*1,679	*959	*720	..	..	..	..
	2015	*1,712	*967	*745	..	..	..	..
Mauritania	2012	824	824	..	..	..	..	..
	2013	812	773	..	..	13	26	..
	2014	851	808	..	..	13	30	..
	2015	1,002	868	..	..	104	30	..
Mauritius	2012	2,798	2,719	74	..	4	1	..
	2013	2,882	2,781	95	..	4	3	..
	2014	2,936	2,817	91	..	3	25	..
	2015	2,996	2,845	122	..	3	26	..
Mayotte	2012	271	256	..	..	..	15	..
	2013	285	268	..	..	..	17	..
	2014	299	283	..	..	..	17	..
	2015	316	299	..	..	..	17	..
Morocco	2012	27,797	23,951	1,816	..	728	..	1,302
	2013	28,242	22,594	2,990	..	1,356	..	1,302
	2014	29,384	24,125	2,033	..	1,924	..	1,302
	2015	31,217	25,108	2,282	..	2,519	6	1,302
Mozambique	2012	15,166	21	15,145	..	..	..	..
	2013	15,645	840	14,805	..	..	..	..
	2014	17,739	1,379	16,359	..	..	1	..
	2015	19,641	2,547	17,093	..	..	1	..
Namibia	2012	1,538	67	1,471	..	..	..	..
	2013	1,712	72	1,640	..	..	..	..
	2014	1,498	13	1,485	..	..	..	..
	2015	1,536	34	1,502	..	..	..	..
Niger	2012	392	392	..	..	..	0	..
	2013	438	438	..	..	..	0	..
	2014	499	499	..	..	..	0	..
	2015	526	526	..	..	..	0	..
Nigeria	2012	28,706	23,047	5,659	..	..	..	..
	2013	28,883	23,557	5,326	..	..	..	..
	2014	30,390	25,044	5,346	..	..	..	..
	2015	31,426	25,708	5,718	..	..	..	..
Réunion	2012	2,811	2,114	488	..	19	190	..
	2013	2,813	2,017	557	..	15	224	..
	2014	2,857	2,180	426	..	16	236	..
	2015	2,891	2,135	496	..	16	244	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
*200	*200	..	..	*100	*100	..	..	..
*200	*200	..	..	*100	*100	..	..	..
*200	*200	..	..	*100	*100	..	..	..
*205	*205	..	..	*105	*105	..	..	..
..	..	..	..	34,275	34,275	..	..	..
..	..	..	..	37,913	37,913	..	..	..
..	..	..	..	37,731	37,731	..	..	..
..	..	..	..	37,713	37,713	..	..	..
*170	*170	..	..	1,350	595	755	..	0
*170	*170	..	..	1,423	614	809	..	0
*170	*170	..	..	1,488	604	884	..	0
*170	*170	..	..	1,542	607	935	..	0
*181	*176	*5	..	1,911	*5	1,906	..	..
*181	*176	*5	..	1,838	*5	1,833	..	..
*181	*176	*5	..	1,901	*5	1,896	..	..
*183	*178	*5	..	*1,920	*5	*1,915	..	..
*52	*52	..	..	1,311	527	783	..	..
52	52	..	..	1,458	480	978	..	..
*52	*52	..	..	*1,627	*907	*720	..	..
*60	*60	..	..	*1,652	*907	*745	..	..
323	323	..	..	501	501	..	..	..
320	320	..	..	492	453	..	..	39
326	326	..	..	525	482	..	..	43
*340	*340	..	..	662	528	..	..	134
1,652	1,651	..	1	1,146	1,068	74	..	4
1,706	1,703	..	3	1,176	1,078	95	..	4
1,761	1,736	..	25	1,175	1,081	91	..	3
1,738	1,712	..	26	1,258	1,133	122	..	3
..	..	..	..	271	256	..	..	15
..	..	..	..	285	268	..	..	17
..	..	..	..	299	283	..	..	17
..	..	..	..	316	299	..	..	17
1,441	139	..	1,302	26,356	23,812	1,816	..	728
1,413	111	..	1,302	26,829	22,483	2,990	..	1,356
1,439	137	..	1,302	27,945	23,988	2,033	..	1,924
1,362	60	..	1,302	29,855	25,048	2,282	..	2,525
263	..	263	..	14,903	21	14,882	..	..
263	..	263	..	15,382	840	14,542	..	..
468	..	467	1	17,271	1,379	15,892	..	..
170	54	114	1	19,471	2,493	16,978	..	..
..	..	..	..	1,538	67	1,471	..	..
..	..	..	..	1,712	72	1,640	..	..
..	..	..	..	1,498	13	1,485	..	..
..	..	..	..	1,536	34	1,502	..	..
54	54	..	0	338	338	..	..	..
39	39	..	0	399	399	..	..	..
*112	*112	..	0	387	387	..	..	..
114	114	..	0	412	412	..	..	..
7,435	7,320	115	..	21,271	15,727	5,544	..	..
5,257	5,148	109	..	23,626	18,409	5,217	..	..
5,582	5,473	109	..	24,808	19,571	5,237	..	..
5,735	5,618	117	..	25,691	20,090	5,601	..	..
..	..	..	..	2,811	2,114	488	..	209
..	..	..	..	2,813	2,017	557	..	239
..	..	..	..	2,857	2,180	426	..	252
..	..	..	..	2,891	2,135	496	..	260



Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Rwanda	2012	393	211	182	..	..	0	..
	2013	413	265	148	..	..	0	..
	2014	476	266	205	..	..	5	..
	2015	524	226	284	..	..	14	..
Sao Tome and Principe	2012	77	71	6	..	..	..	..
	2013	71	65	6	..	..	..	..
	2014	*67	*60	*7	..	..	..	..
	2015	*70	*62	*7	..	..	..	..
Senegal	2012	2,917	2,917	..	..	..	..	..
	2013	3,253	3,185	..	..	..	4	64
	2014	3,394	3,323	..	..	..	4	67
	2015	3,613	3,538	..	..	..	4	71
Seychelles	2012	336	336	..	..	..	..	..
	2013	354	347	..	..	7	..	..
	2014	363	355	..	..	7	1	..
	2015	378	369	..	..	7	2	..
Sierra Leone	2012	179	61	118	..	..	..	..
	2013	164	59	105	..	..	..	..
	2014	181	63	118	..	..	..	..
	2015	*205	*80	*125	..	..	..	..
Somalia	2012	340	340	..	..	..	..	..
	2013	350	350	..	..	..	..	..
	2014	350	350	..	..	..	..	..
	2015	350	350	..	..	..	..	..
South Africa	2012	257,995	241,717	4,211	11,954	74	39	..
	2013	256,353	237,844	4,040	14,106	74	289	..
	2014	254,768	232,756	4,082	13,794	1,930	2,206	..
	2015	249,655	229,245	3,720	12,237	2,270	2,183	..
South Sudan	2012	445	443	..	..	..	2	..
	2013	472	470	..	..	..	2	..
	2014	488	486	..	..	..	2	..
	2015	330	328	..	..	..	2	..
St. Helena and Depend.	2012	10	9	..	..	1	0	..
	2013	11	10	..	..	1	0	..
	2014	10	9	..	..	1	0	..
	2015	10	8	..	..	2	0	..
Sudan	2012	9,510	2,891	6,619	..	..	..	..
	2013	10,607	2,290	8,317	..	..	..	..
	2014	11,376	2,463	8,913	..	..	..	..
	2015	13,047	4,627	8,420	..	..	..	..
Swaziland	2012	*622	*350	272	..	..	..	..
	2013	*590	*350	240	..	..	..	..
	2014	567	265	302	..	..	..	..
	2015	*496	*265	231	..	..	..	..
Togo	2012	399	234	165	..	..	..	..
	2013	360	286	74	..	..	..	..
	2014	358	233	125	..	..	..	..
	2015	444	383	61	..	..	..	..
Tunisia	2012	18,059	17,537	110	..	196	3	213
	2013	18,382	17,740	60	..	358	12	212
	2014	19,024	18,254	56	..	507	25	182
	2015	19,676	18,904	69	..	448	41	214
Uganda	2012	2,909	378	2,530	..	..	..	..
	2013	3,416	128	3,289	..	..	..	..
	2014	3,551	307	3,244	..	..	..	..
	2015	3,473	245	3,228	..	..	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
..	..	..	..	393	211	182	..	0
..	..	..	..	413	265	148	..	0
..	..	..	..	476	266	205	..	5
..	..	..	..	524	226	284	..	14
..	..	..	..	77	71	6	..	..
..	..	..	..	71	65	6	..	..
..	..	..	..	*67	*60	*7	..	..
..	..	..	..	*70	*62	*7	..	..
1,496	1,496	..	..	1,421	1,421	..	..	..
523	455	..	68	2,730	2,730	..	..	..
546	475	..	71	2,848	2,848	..	..	..
581	506	..	75	3,032	3,032	..	..	..
..	..	..	..	336	336	..	..	..
..	..	..	..	354	347	..	..	7
..	..	..	..	363	355	..	..	8
..	..	..	..	378	369	..	..	9
..	..	..	..	179	61	118	..	..
..	..	..	..	164	59	105	..	..
..	..	..	..	181	63	118	..	..
..	..	..	..	*205	*80	*125	..	..
..	..	..	..	340	340	..	..	..
..	..	..	..	350	350	..	..	..
..	..	..	..	350	350	..	..	..
..	..	..	..	350	350	..	..	..
10,403	10,238	128	37	247,592	231,479	4,083	11,954	76
11,222	11,016	123	83	245,131	226,828	3,917	14,106	280
12,177	10,107	124	1,946	242,591	222,649	3,958	13,794	2,190
16,264	11,939	113	4,212	233,391	217,306	3,607	12,237	241
234	233	..	1	211	210	..	..	1
246	245	..	1	226	225	..	..	1
254	253	..	1	234	233	..	..	1
172	171	..	1	158	157	..	..	1
..	..	..	..	10	9	..	..	1
..	..	..	..	11	10	..	..	1
..	..	..	..	10	9	..	..	1
..	..	..	..	10	8	..	..	2
*74	*74	..	..	9,436	2,817	6,619	..	..
*320	*320	..	..	10,287	1,970	8,317	..	..
0	0	..	..	11,376	2,463	8,913	..	..
0	0	..	..	13,047	4,627	8,420	..	..
*342	*342	..	..	280	8	272	..	..
*342	*342	..	..	248	*8	240	..	..
265	265	..	..	302	0	302	..	..
*265	*265	..	..	231	0	231	..	..
11	11	..	..	388	223	165	..	..
7	7	..	..	353	279	74	..	..
11	11	..	..	347	222	125	..	..
12	12	..	..	432	371	61	..	..
634	418	..	216	17,425	17,119	110	..	196
745	521	..	224	17,637	17,219	60	..	358
767	560	..	207	18,257	17,694	56	..	507
985	730	..	255	18,691	18,174	69	..	448
365	94	271	..	2,543	284	2,259	..	..
477	125	351	..	2,939	2	2,937	..	..
566	214	353	..	2,985	93	2,891	..	..
449	171	278	..	3,024	74	2,950	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
United Rep. of Tanzania	2012	5,589	3,809	1,767	..	..	13	..
	2013	5,941	4,209	1,717	..	..	15	..
	2014	6,219	3,611	2,590	..	..	18	..
	2015	6,295	4,166	2,108	..	..	21	..
Zambia	2012	12,369	19	12,350	..	..	..	..
	2013	13,301	20	13,281	..	..	..	..
	2014	14,455	413	14,042	..	..	..	..
	2015	13,440	405	13,035	..	..	..	..
Zimbabwe	2012	9,149	3,761	5,387	..	..	..	..
	2013	9,499	4,517	4,982	..	..	..	..
	2014	9,812	4,410	5,402	..	..	..	..
	2015	9,522	4,583	4,939	..	..	..	..
<b>America, North</b>	<b>2012</b>	<b>5,367,275</b>	<b>3,522,368</b>	<b>735,660</b>	<b>904,761</b>	<b>158,598</b>	<b>11,259</b>	<b>34,628</b>
	<b>2013</b>	<b>5,404,593</b>	<b>3,485,607</b>	<b>734,650</b>	<b>937,243</b>	<b>194,024</b>	<b>17,683</b>	<b>35,387</b>
	<b>2014</b>	<b>5,444,818</b>	<b>3,492,179</b>	<b>726,685</b>	<b>947,541</b>	<b>215,809</b>	<b>27,188</b>	<b>35,416</b>
	<b>2015</b>	<b>5,439,789</b>	<b>3,477,483</b>	<b>707,555</b>	<b>943,288</b>	<b>232,372</b>	<b>39,284</b>	<b>39,807</b>
Anguilla	2012	90	90	..	..	..	..	..
	2013	89	89	..	..	..	..	..
	2014	90	90	..	..	..	..	..
	2015	94	94	..	..	..	..	..
Antigua and Barbuda	2012	330	330	..	..	..	..	..
	2013	*330	*330	..	..	..	..	..
	2014	*336	*336	..	..	..	..	..
	2015	*340	*340	..	..	..	..	..
Aruba	2012	915	778	..	..	136	..	..
	2013	*928	*790	..	..	*138	..	..
	2014	*917	*778	..	..	*138	..	..
	2015	*932	*793	..	..	*138	..	..
Bahamas	2012	1,900	1,900	..	..	..	..	..
	2013	1,885	1,885	..	..	..	..	..
	2014	1,922	1,922	..	..	..	..	..
	2015	*2,117	*2,117	..	..	..	..	..
Barbados	2012	1,129	1,129	..	..	..	..	..
	2013	1,016	1,016	..	..	..	..	..
	2014	1,021	1,021	..	..	..	..	..
	2015	1,029	1,029	..	..	..	..	..
Belize	2012	*424	*215	*208	..	..	..	..
	2013	*371	*164	*207	..	..	..	..
	2014	*404	*199	*205	..	..	..	..
	2015	*417	*228	*189	..	..	..	..
Bermuda	2012	700	700	..	..	..	..	..
	2013	677	677	..	..	..	..	..
	2014	661	661	..	..	..	..	..
	2015	674	674	..	..	..	..	..
Bonaire, St Eustatius, Saba	2012	114	81	..	..	33	..	..
	2013	116	80	..	..	37	..	..
	2014	120	79	..	..	41	..	..
	2015	127	87	..	..	40	..	..
British Virgin Islands	2012	*131	*130	..	..	*1	0	..
	2013	*131	*130	..	..	*1	0	..
	2014	*134	*132	..	..	*1	*1	..
	2015	*134	*132	..	..	*1	*1	..
Canada	2012	636,762	146,591	380,340	94,862	11,310	881	2,778
	2013	665,356	148,113	391,861	103,439	17,963	1,499	2,481
	2014	668,127	151,331	382,581	107,280	22,538	2,120	2,277
	2015	670,851	154,082	380,717	101,423	26,446	2,895	5,288

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
13	..	..	13	5,576	3,809	1,767	..	..
15	..	..	15	5,926	4,209	1,717	..	..
18	..	..	18	6,201	3,611	2,590	..	..
21	..	..	21	6,274	4,166	2,108	..	..
..	..	..	..	12,369	19	12,350	..	..
..	..	..	..	13,301	20	13,281	..	..
..	..	..	..	14,455	413	14,042	..	..
..	..	..	..	13,440	405	13,035	..	..
186	186	..	..	8,963	3,575	5,387	..	..
184	184	..	..	9,315	4,333	4,982	..	..
29	29	..	..	9,783	4,381	5,402	..	..
54	54	..	..	9,468	4,529	4,939	..	..
<b>289,836</b>	<b>241,155</b>	<b>36,382</b>	<b>12,299</b>	<b>5,077,439</b>	<b>3,281,214</b>	<b>699,278</b>	<b>904,761</b>	<b>192,186</b>
<b>289,270</b>	<b>238,394</b>	<b>36,731</b>	<b>14,146</b>	<b>5,115,322</b>	<b>3,247,213</b>	<b>697,919</b>	<b>937,243</b>	<b>232,948</b>
<b>293,023</b>	<b>241,970</b>	<b>34,505</b>	<b>16,548</b>	<b>5,151,796</b>	<b>3,250,209</b>	<b>692,180</b>	<b>947,541</b>	<b>261,866</b>
<b>309,794</b>	<b>250,695</b>	<b>35,116</b>	<b>23,983</b>	<b>5,129,995</b>	<b>3,226,788</b>	<b>672,440</b>	<b>943,288</b>	<b>287,480</b>
..	..	..	..	90	90	..	..	..
..	..	..	..	89	89	..	..	..
..	..	..	..	90	90	..	..	..
..	..	..	..	94	94	..	..	..
*1	*1	..	..	329	329	..	..	..
*1	*1	..	..	*329	*329	..	..	..
*1	*1	..	..	*335	*335	..	..	..
*1	*1	..	..	*339	*339	..	..	..
..	..	..	..	915	778	..	..	136
..	..	..	..	*928	*790	..	..	*138
..	..	..	..	*917	*778	..	..	*138
..	..	..	..	*932	*793	..	..	*138
*73	*73	..	..	1,827	1,827	..	..	..
74	74	..	..	1,811	1,811	..	..	..
*74	*74	..	..	1,848	1,848	..	..	..
*76	*76	..	..	*2,041	*2,041	..	..	..
*4	*4	..	..	1,125	1,125	..	..	..
*3	*3	..	..	1,013	1,013	..	..	..
*14	*14	..	..	1,007	1,007	..	..	..
17	17	..	..	1,012	1,012	..	..	..
72	72	..	..	*352	*143	*208	..	..
63	63	..	..	*308	*101	*207	..	..
69	69	..	..	*335	*130	*205	..	..
71	71	..	..	*346	*157	*189	..	..
*12	*12	..	..	688	688	..	..	..
*12	*12	..	..	665	665	..	..	..
*12	*12	..	..	649	649	..	..	..
*12	*12	..	..	662	662	..	..	..
..	..	..	..	114	81	..	..	33
..	..	..	..	116	80	..	..	37
..	..	..	..	120	79	..	..	41
..	..	..	..	127	87	..	..	40
..	..	..	..	*131	*130	..	..	*1
..	..	..	..	*131	*130	..	..	*1
..	..	..	..	*134	*132	..	..	*2
..	..	..	..	*134	*132	..	..	*2
60,210	28,172	32,034	4	576,552	118,419	348,306	94,862	14,965
60,949	29,685	31,246	18	604,407	118,428	360,615	103,439	21,925
65,895	34,714	31,053	128	602,232	116,617	351,528	107,280	26,807
71,098	39,659	31,053	386	599,753	114,423	349,664	101,423	34,243

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Cayman Islands	2012	607	607	..	..	..	..	..
	2013	615	615	..	..	..	..	..
	2014	621	621	..	..	..	..	..
	2015	640	640	..	..	..	..	..
Costa Rica	2012	10,174	1,009	7,233	..	528	1	1,403
	2013	10,234	1,379	6,851	..	485	2	1,517
	2014	10,216	1,224	6,717	..	735	2	1,538
	2015	10,812	287	8,067	..	1,080	3	1,376
Cuba	2012	18,432	18,321	111	..	..	..	..
	2013	19,140	19,012	127	..	..	..	..
	2014	19,366	19,262	104	..	..	..	..
	2015	20,288	20,240	48	..	..	..	..
Curaçao	2012	917	885	..	..	32	..	..
	2013	904	872	..	..	32	..	..
	2014	891	859	..	..	32	..	..
	2015	862	830	..	..	32	..	..
Dominica	2012	150	116	33	..	..	..	..
	2013	144	107	37	..	..	..	..
	2014	147	117	31	..	..	..	..
	2015	151	127	24	..	..	..	..
Dominican Republic	2012	17,224	15,335	1,784	..	96	1	7
	2013	18,406	16,274	1,875	..	243	6	8
	2014	17,692	16,153	1,271	..	243	14	11
	2015	18,505	17,227	945	..	290	28	15
El Salvador	2012	6,237	2,855	1,847	..	..	..	1,535
	2013	6,272	2,922	1,790	..	..	..	1,560
	2014	6,223	2,947	1,718	..	..	..	1,558
	2015	5,989	3,096	1,353	..	..	..	1,540
Greenland	2012	459	115	345	..	..	..	..
	2013	473	95	378	..	..	..	..
	2014	488	92	396	..	..	..	..
	2015	520	97	423	..	..	..	..
Grenada	2012	200	200	..	..	..	..	..
	2013	197	197	..	..	..	..	..
	2014	200	200	..	..	..	..	..
	2015	207	207	..	..	..	..	..
Guadeloupe	2012	1,726	1,519	14	..	51	92	51
	2013	1,729	1,474	19	..	57	99	81
	2014	1,734	1,475	27	..	54	103	75
	2015	1,781	1,523	21	..	52	102	83
Guatemala	2012	9,335	4,631	4,459	..	..	..	246
	2013	10,024	5,152	4,660	..	..	..	212
	2014	10,638	5,531	4,853	..	..	7	247
	2015	10,302	5,162	4,632	..	107	149	252
Haiti	2012	1,100	879	221	..	..	..	..
	2013	1,055	914	141	..	..	..	..
	2014	1,033	943	90	..	..	..	..
	2015	1,038	955	83	..	..	..	..
Honduras	2012	7,740	4,615	2,787	..	338	..	..
	2013	8,074	5,025	2,739	..	310	..	..
	2014	8,038	5,038	2,602	..	398	..	..
	2015	8,965	5,960	2,340	..	665	..	..
Jamaica	2012	4,156	3,898	151	..	108	..	..
	2013	4,256	4,017	124	..	115	..	..
	2014	4,123	3,869	135	..	119	..	..
	2015	4,291	3,868	136	..	250	37	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
..	..	..	..	607	607	..	..	..
..	..	..	..	615	615	..	..	..
..	..	..	..	621	621	..	..	..
..	..	..	..	640	640	..	..	..
2,186	179	1,357	651	7,988	830	5,877	..	1,281
2,157	183	1,361	613	8,077	1,196	5,490	..	1,391
2,359	181	1,338	840	7,858	1,043	5,379	..	1,436
3,014	179	1,810	1,024	7,797	108	6,256	..	1,433
836	836	..	..	17,596	17,485	111	..	..
877	877	..	..	18,263	18,135	127	..	..
838	838	..	..	18,529	18,424	104	..	..
898	898	..	..	19,390	19,342	48	..	..
486	486	..	..	431	399	..	..	32
479	479	..	..	425	393	..	..	32
472	472	..	..	419	387	..	..	32
457	457	..	..	405	373	..	..	32
41	41	..	..	108	75	33	..	..
*43	*43	..	..	101	64	37	..	..
*45	*45	..	..	102	72	31	..	..
*44	*44	..	..	107	83	24	..	..
2,448	2,439	2	8	14,775	12,897	1,783	..	96
3,127	3,110	3	14	15,279	13,164	1,872	..	243
2,700	2,671	4	25	14,992	13,482	1,267	..	243
2,722	2,674	5	43	15,783	14,553	940	..	290
696	696	..	..	5,541	2,159	1,847	..	1,535
660	660	..	..	5,612	2,262	1,790	..	1,560
654	654	..	..	5,569	2,293	1,718	..	1,558
705	705	..	..	5,284	2,391	1,353	..	1,540
..	..	..	..	459	115	345	..	..
..	..	..	..	473	95	378	..	..
..	..	..	..	488	92	396	..	..
..	..	..	..	520	97	423	..	..
..	..	..	..	200	200	..	..	..
..	..	..	..	197	197	..	..	..
..	..	..	..	200	200	..	..	..
..	..	..	..	207	207	..	..	..
62	62	..	..	1,664	1,457	14	..	193
46	46	..	..	1,684	1,428	19	..	237
61	61	..	..	1,673	1,414	27	..	233
56	56	..	..	1,724	1,467	21	..	236
634	611	23	..	8,702	4,020	4,436	..	246
855	827	28	..	9,170	4,326	4,632	..	212
856	827	28	..	9,782	4,703	4,825	..	254
856	827	28	..	9,446	4,335	4,604	..	508
48	48	..	..	1,052	831	221	..	..
50	50	..	..	1,005	864	141	..	..
90	90	..	..	943	853	90	..	..
207	207	..	..	831	748	83	..	..
509	509	..	..	7,231	4,106	2,787	..	338
531	531	..	..	7,543	4,494	2,739	..	310
351	351	..	..	7,687	4,687	2,602	..	398
478	478	..	..	8,487	5,482	2,340	..	665
1,542	1,434	..	108	2,615	2,464	151	..	..
1,914	1,799	..	115	2,343	2,218	124	..	..
1,661	1,542	..	119	2,462	2,327	135	..	..
1,855	1,704	..	151	2,436	2,164	136	..	136

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Martinique	2012	*1,780	*1,736	..	..	*2	*43	..
	2013	*1,764	*1,719	..	..	*2	*44	..
	2014	*1,764	*1,719	..	..	*2	*44	..
	2015	*1,778	*1,730	..	..	*2	*46	..
Mexico	2012	307,228	257,001	31,883	8,770	3,688	69	5,817
	2013	297,326	247,163	28,002	11,800	4,185	106	6,070
	2014	301,496	240,279	38,893	9,677	6,426	221	6,000
	2015	311,138	253,424	30,815	11,577	8,745	246	6,331
Montserrat	2012	*23	*23	..	..	..	..	..
	2013	*23	*23	..	..	..	..	..
	2014	24	24	..	..	..	..	..
	2015	*24	*24	..	..	..	..	..
Nicaragua	2012	4,031	2,759	419	..	330	..	523
	2013	4,166	2,469	456	..	562	..	679
	2014	4,446	2,543	395	..	846	..	662
	2015	4,579	2,741	295	..	865	..	678
Panama	2012	8,606	3,218	5,388	..	..	..	..
	2013	8,962	3,808	5,154	..	..	..	..
	2014	9,287	4,136	5,034	..	116	1	..
	2015	10,295	3,604	6,257	..	419	16	..
Puerto Rico	2012	22,587	22,429	125	..	15	18	..
	2013	21,812	21,509	91	..	173	40	..
	2014	21,316	20,969	81	..	218	48	..
	2015	21,160	20,771	56	..	239	94	..
Sint Maarten (Dutch part)	2012	*402	*402	..	..	..	..	..
	2013	410	410	..	..	..	..	..
	2014	*418	*418	..	..	..	..	..
	2015	*433	*433	..	..	..	..	..
St. Kitts-Nevis	2012	218	210	..	..	8	0	..
	2013	*220	*211	..	..	*8	*1	..
	2014	*221	*211	..	..	*8	*2	..
	2015	*225	*215	..	..	*8	*2	..
St. Lucia	2012	385	385	..	..	..	..	..
	2013	383	383	..	..	..	..	..
	2014	379	379	..	..	..	..	..
	2015	381	381	..	..	..	..	..
St. Pierre-Miquelon	2012	43	43	..	..	1	..	..
	2013	47	46	..	..	*1	..	..
	2014	48	47	..	..	*1	..	..
	2015	49	49	..	..	*1	..	..
St. Vincent-Grenadines	2012	*139	*114	25	..	..	..	..
	2013	*139	*114	25	..	..	..	..
	2014	*157	*132	25	..	..	..	..
	2015	*166	*140	26	..	..	..	..
Trinidad and Tobago	2012	9,132	9,132	..	..	..	..	..
	2013	9,505	9,505	..	..	..	..	..
	2014	9,895	9,895	..	..	..	..	..
	2015	10,300	10,300	..	..	..	..	..
Turks and Caicos Islands	2012	*210	*210	..	..	..	..	..
	2013	*209	*209	..	..	..	..	..
	2014	*227	*227	..	..	..	..	..
	2015	*239	*239	..	..	..	..	..
United States	2012	4,290,660	3,016,908	298,287	801,129	141,922	10,145	22,269
	2013	4,306,371	2,985,891	290,113	822,004	169,713	15,872	22,778
	2014	4,339,210	2,995,556	281,527	830,584	183,892	24,603	23,048
	2015	4,317,159	2,962,870	271,129	830,288	192,992	35,635	24,245

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
*30	*30	..	..	*1,750	*1,706	..	..	*45
*30	*30	..	..	*1,734	*1,689	..	..	*46
*30	*30	..	..	*1,734	*1,689	..	..	*46
*30	*30	..	..	*1,748	*1,700	..	..	*48
44,987	42,410	566	2,011	262,241	214,591	31,317	8,770	7,563
38,505	35,483	558	2,464	258,821	211,680	27,444	11,800	7,897
43,238	37,933	748	4,557	258,258	202,346	38,145	9,677	8,090
48,434	41,039	764	6,631	262,704	212,385	30,051	11,577	8,691
..	..	..	..	*23	*23	..	..	..
..	..	..	..	*23	*23	..	..	..
..	..	..	..	24	24	..	..	..
..	..	..	..	*24	*24	..	..	..
502	501	1	..	3,529	2,258	418	..	853
535	534	1	..	3,631	1,935	455	..	1,241
545	544	1	..	3,901	1,999	394	..	1,508
509	508	1	..	4,070	2,233	294	..	1,543
26	26	..	..	8,580	3,192	5,388	..	..
33	33	..	..	8,929	3,775	5,154	..	..
31	31	..	..	9,256	4,105	5,034	..	118
34	34	..	..	10,262	3,570	6,257	..	435
*250	*250	..	..	22,337	22,179	125	..	33
*250	*250	..	..	21,562	21,259	91	..	213
*250	*250	..	..	21,066	20,719	81	..	266
*250	*250	..	..	20,910	20,521	56	..	333
..	..	..	..	*402	*402	..	..	..
..	..	..	..	410	410	..	..	..
..	..	..	..	*418	*418	..	..	..
..	..	..	..	*433	*433	..	..	..
1	1	..	..	217	209	..	..	8
*1	*1	..	..	*219	*210	..	..	*9
*1	*1	..	..	*220	*210	..	..	*10
*1	*1	..	..	*224	*214	..	..	*10
..	..	..	..	385	385	..	..	..
..	..	..	..	383	383	..	..	..
..	..	..	..	379	379	..	..	..
..	..	..	..	381	381	..	..	..
..	..	..	..	43	43	..	..	1
..	..	..	..	47	46	..	..	*1
..	..	..	..	48	47	..	..	*1
..	..	..	..	49	49	..	..	*1
..	..	..	..	*139	*114	25	..	..
..	..	..	..	*139	*114	25	..	..
..	..	..	..	*157	*132	25	..	..
..	..	..	..	*166	*140	26	..	..
75	75	..	..	9,057	9,057	..	..	..
78	78	..	..	9,427	9,427	..	..	..
82	82	..	..	9,813	9,813	..	..	..
85	85	..	..	10,215	10,215	..	..	..
..	..	..	..	*210	*210	..	..	..
..	..	..	..	*209	*209	..	..	..
..	..	..	..	*227	*227	..	..	..
..	..	..	..	*239	*239	..	..	..
174,097	162,188	2,400	9,509	4,116,563	2,854,720	295,887	801,129	164,827
177,985	163,542	3,534	10,909	4,128,386	2,822,349	286,579	822,004	197,454
172,680	160,485	1,332	10,863	4,166,530	2,835,071	280,195	830,584	220,680
177,864	160,682	1,454	15,728	4,139,295	2,802,188	269,675	830,288	237,144



Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
United States Virgin Is.	2012	881	872	..	..	..	*9	..
	2013	834	820	..	..	..	*14	..
	2014	*788	*766	..	..	..	*22	..
	2015	*797	*766	..	..	..	*31	..
<b>America, South</b>	<b>2012</b>	<b>1,092,636</b>	<b>365,304</b>	<b>698,766</b>	<b>22,433</b>	<b>6,010</b>	<b>123</b>	<b>0</b>
	<b>2013</b>	<b>1,129,889</b>	<b>421,275</b>	<b>678,657</b>	<b>21,657</b>	<b>7,859</b>	<b>278</b>	<b>164</b>
	<b>2014</b>	<b>1,149,317</b>	<b>439,669</b>	<b>672,021</b>	<b>21,134</b>	<b>15,413</b>	<b>789</b>	<b>291</b>
	<b>2015</b>	<b>1,143,471</b>	<b>446,349</b>	<b>646,359</b>	<b>21,873</b>	<b>27,176</b>	<b>1,714</b>	<b>..</b>
Argentina	2012	135,207	98,719	29,716	6,395	369	8	..
	2013	140,863	100,758	33,422	6,207	461	15	..
	2014	138,576	90,850	41,335	5,756	619	16	..
	2015	145,447	99,165	38,529	7,139	599	15	..
Bolivia (Plur. State of)	2012	7,661	5,306	2,352	..	..	3	..
	2013	8,065	5,526	2,535	..	1	3	..
	2014	8,755	6,490	2,251	..	8	6	..
	2015	8,528	6,042	2,463	..	12	11	..
Brazil	2012	552,498	116,068	415,342	16,038	5,050	..	..
	2013	570,838	157,810	390,992	15,450	6,579	7	..
	2014	590,542	189,498	373,439	15,378	12,211	16	..
	2015	581,228	185,066	359,743	14,734	21,626	59	..
Chile	2012	69,751	49,184	20,158	..	409	0	0
	2013	73,065	52,602	19,737	..	554	8	164
	2014	71,566	46,253	23,099	..	1,443	480	291
	2015	75,387	48,130	23,881	..	2,115	1,261	..
Colombia	2012	68,344	20,689	47,600	..	55	..	..
	2013	70,858	26,423	44,377	..	58	..	..
	2014	70,059	25,149	44,852	..	58	..	..
	2015	67,527	22,648	44,821	..	58	..	..
Ecuador	2012	22,848	10,608	12,238	..	2	0	..
	2013	23,774	12,161	11,553	..	57	4	..
	2014	24,307	12,753	11,458	..	80	16	..
	2015	25,950	12,719	13,096	..	99	36	..
Falkland Is. (Malvinas)	2012	*18	*12	..	..	*6	..	..
	2013	*18	*12	..	..	*6	..	..
	2014	*18	*12	..	..	*6	..	..
	2015	*18	*12	..	..	*6	..	..
French Guiana	2012	874	266	556	..	..	52	..
	2013	883	349	490	..	..	44	..
	2014	911	359	500	..	..	52	..
	2015	923	377	493	..	..	53	..
Guyana	2012	942	942	..	..	..	..	..
	2013	962	962	..	..	..	..	..
	2014	979	979	..	..	..	..	..
	2015	1,039	1,039	..	..	..	..	..
Paraguay	2012	60,235	3	60,232	..	..	..	..
	2013	60,381	3	60,378	..	..	..	..
	2014	55,282	6	55,276	..	..	..	..
	2015	55,744	1	55,743	..	..	..	..
Peru	2012	40,044	17,951	22,032	..	1	60	..
	2013	43,330	20,812	22,320	..	1	197	..
	2014	45,508	22,882	22,171	..	256	199	..
	2015	48,277	23,729	23,722	..	596	230	..
Suriname	2012	1,961	849	1,112	..	..	..	..
	2013	2,035	932	1,103	..	..	..	..
	2014	2,073	1,276	797	..	..	..	..
	2015	2,079	1,378	702	..	..	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers					
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other	
*8	0	..	..	*8	873	872	..	..	*1
*13	0	..	..	*13	821	820	..	..	*1
*16	0	..	..	*16	*772	*766	..	..	*6
*20	0	..	..	*20	*777	*766	..	..	*11
<b>113,548</b>	<b>90,526</b>	<b>22,996</b>	<b>26</b>	<b>979,088</b>	<b>274,778</b>	<b>675,770</b>	<b>22,433</b>	<b>6,107</b>	
<b>121,633</b>	<b>96,974</b>	<b>24,629</b>	<b>30</b>	<b>1,008,257</b>	<b>324,301</b>	<b>654,028</b>	<b>21,657</b>	<b>8,271</b>	
<b>128,871</b>	<b>104,527</b>	<b>24,302</b>	<b>42</b>	<b>1,020,446</b>	<b>335,142</b>	<b>647,719</b>	<b>21,134</b>	<b>16,451</b>	
<b>131,603</b>	<b>108,251</b>	<b>23,283</b>	<b>69</b>	<b>1,011,868</b>	<b>338,098</b>	<b>623,076</b>	<b>21,873</b>	<b>28,821</b>	
15,229	15,171	58	..	119,978	83,548	29,658	6,395	377	
14,716	14,663	53	..	126,147	86,095	33,369	6,207	476	
14,216	14,179	37	..	124,360	76,671	41,298	5,756	635	
13,770	13,734	36	..	131,677	85,431	38,493	7,139	614	
123	120	..	3	7,538	5,186	2,352	..	..	
59	56	..	3	8,006	5,470	2,535	..	1	
192	186	..	6	8,563	6,304	2,251	..	8	
201	190	..	11	8,327	5,852	2,463	..	12	
78,029	57,566	20,463	..	474,469	58,502	394,879	16,038	5,050	
86,163	64,105	22,053	5	484,675	93,705	368,939	15,450	6,581	
94,032	71,933	22,088	11	496,510	117,565	351,351	15,378	12,216	
96,306	75,190	21,070	46	484,922	109,876	338,673	14,734	21,639	
5,778	5,577	179	22	63,973	43,607	19,979	..	387	
6,422	6,228	175	19	66,643	46,374	19,562	..	707	
5,912	5,734	159	19	65,654	40,519	22,940	..	2,195	
6,221	6,174	44	3	69,166	41,956	23,837	..	3,373	
3,790	3,658	132	..	64,554	17,031	47,468	..	55	
3,464	3,343	121	..	67,394	23,080	44,256	..	58	
3,743	3,604	139	..	66,316	21,545	44,713	..	58	
*3,743	*3,604	*139	..	63,784	19,044	44,682	..	58	
3,866	3,356	511	..	18,982	7,252	11,727	..	3	
3,891	3,378	514	..	19,883	8,783	11,039	..	60	
3,831	3,308	522	..	20,476	9,445	10,935	..	96	
4,194	3,496	697	..	21,756	9,223	12,399	..	135	
*2	*2	..	..	*16	*10	..	..	*6	
*2	*2	..	..	*16	*10	..	..	*6	
*2	*2	..	..	*16	*10	..	..	*6	
*2	*2	..	..	*16	*10	..	..	*6	
..	..	..	..	874	266	556	..	52	
..	..	..	..	883	349	490	..	44	
..	..	..	..	911	359	500	..	52	
..	..	..	..	923	377	493	..	53	
285	285	..	..	658	658	..	..	..	
302	302	..	..	660	660	..	..	..	
202	202	..	..	778	778	..	..	..	
290	290	..	..	749	749	..	..	..	
..	..	..	..	60,235	3	60,232	..	..	
..	..	..	..	60,381	3	60,378	..	..	
..	..	..	..	55,282	6	55,276	..	..	
..	..	..	..	55,744	1	55,743	..	..	
2,675	2,134	541	..	37,369	15,817	21,491	..	61	
2,666	2,055	610	..	40,665	18,757	21,709	..	198	
2,664	2,104	560	..	42,844	20,778	21,611	..	455	
2,558	1,963	595	..	45,719	21,766	23,127	..	826	
1,446	334	1,112	..	515	515	..	..	..	
1,483	380	1,103	..	552	552	..	..	..	
1,322	525	797	..	751	751	..	..	..	
1,322	620	702	..	757	757	..	..	..	

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Uruguay	2012	10,601	5,062	5,421	..	118	..	..
	2013	11,658	3,309	8,206	..	143	..	..
	2014	13,008	2,623	9,649	..	733	3	..
	2015	13,734	3,352	8,268	..	2,065	49	..
Venezuela (Bolivar. Rep.)	2012	121,653	39,645	82,008	..	..	..	..
	2013	123,160	39,615	83,545	..	..	..	..
	2014	127,732	40,538	87,194	..	..	..	..
	2015	117,590	42,691	74,899	..	..	..	..
<b>Asia</b>	<b>2012</b>	<b>10,310,482</b>	<b>8,365,137</b>	<b>1,400,038</b>	<b>345,675</b>	<b>137,834</b>	<b>8,837</b>	<b>52,962</b>
	<b>2013</b>	<b>11,033,840</b>	<b>8,937,649</b>	<b>1,500,159</b>	<b>347,375</b>	<b>191,139</b>	<b>27,158</b>	<b>30,361</b>
	<b>2014</b>	<b>11,509,323</b>	<b>9,223,018</b>	<b>1,614,432</b>	<b>380,177</b>	<b>201,276</b>	<b>50,596</b>	<b>39,824</b>
	<b>2015</b>	<b>11,840,982</b>	<b>9,358,591</b>	<b>1,693,092</b>	<b>429,177</b>	<b>239,303</b>	<b>90,893</b>	<b>29,926</b>
Afghanistan	2012	1,022	144	878	..	..	..	..
	2013	*1,022	*218	*804	..	..	..	..
	2014	*1,049	*154	*895	..	..	..	..
	2015	*1,034	*144	*890	..	..	..	..
Armenia	2012	8,036	3,399	2,311	2,322	4	..	..
	2013	7,710	3,173	2,173	2,360	4	..	..
	2014	7,750	3,289	1,992	2,465	4	..	..
	2015	7,799	2,801	2,206	2,788	3	1	..
Azerbaijan	2012	22,988	21,167	1,821	..	..	..	..
	2013	23,354	21,863	1,489	..	1	1	..
	2014	24,728	23,423	1,300	..	2	3	..
	2015	24,688	23,041	1,637	..	5	5	..
Bahrain	2012	24,770	24,770	..	..	..	..	..
	2013	25,909	25,909	..	..	..	..	..
	2014	27,253	27,253	..	..	..	..	..
	2015	29,987	29,987	..	..	..	..	..
Bangladesh	2012	48,562	47,785	777	..	..	..	..
	2013	53,120	52,086	894	..	4	136	..
	2014	55,845	55,108	588	..	4	145	..
	2015	59,011	58,287	566	..	4	154	..
Bhutan	2012	6,827	0	6,827	..	..	..	..
	2013	7,640	1	7,640	..	..	..	..
	2014	7,004	1	7,003	..	..	..	..
	2015	7,748	1	7,747	..	..	..	..
Brunei Darussalam	2012	3,930	3,928	..	..	..	2	..
	2013	4,402	4,400	..	..	..	2	..
	2014	4,506	4,504	..	..	..	2	..
	2015	4,200	4,198	..	..	..	2	..
Cambodia	2012	1,434	914	517	..	..	3	..
	2013	1,778	759	1,016	..	..	3	..
	2014	3,062	1,207	1,852	..	..	3	..
	2015	4,397	2,394	2,000	..	..	3	..
China	2012	4,987,553	3,892,814	872,107	97,394	95,978	..	29,260
	2013	5,431,637	4,247,009	920,291	111,613	141,197	5,564	5,963
	2014	5,649,583	4,268,649	1,064,337	132,538	156,078	15,189	12,792
	2015	5,814,573	4,284,188	1,130,270	170,789	185,766	38,776	4,784
China, Hong Kong SAR	2012	38,752	38,752	..	..	..	..	..
	2013	39,063	39,063	..	..	..	..	..
	2014	39,803	39,803	..	..	..	..	..
	2015	37,924	37,924	..	..	..	..	..
China, Macao SAR	2012	561	561	..	..	..	..	..
	2013	413	413	..	..	..	..	..
	2014	641	641	..	..	..	..	..
	2015	962	962	..	..	..	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
867	865	..	1	9,734	4,197	5,421	..	117
928	925	..	3	10,730	2,384	8,206	..	140
1,280	1,274	..	6	11,728	1,349	9,649	..	730
1,604	1,594	..	9	12,130	1,757	8,268	..	2,105
1,459	1,459	..	..	120,194	38,186	82,008	..	..
1,537	1,537	..	..	121,623	38,078	83,545	..	..
1,476	1,476	..	..	126,256	39,062	87,194	..	..
1,393	1,393	..	..	116,197	41,298	74,899	..	..
<b>936,917</b>	<b>903,600</b>	<b>20,900</b>	<b>12,417</b>	<b>9,373,565</b>	<b>7,461,537</b>	<b>1,379,138</b>	<b>345,675</b>	<b>187,216</b>
<b>1,077,417</b>	<b>1,031,965</b>	<b>22,335</b>	<b>23,116</b>	<b>9,956,423</b>	<b>7,905,683</b>	<b>1,477,824</b>	<b>347,375</b>	<b>225,542</b>
<b>1,098,661</b>	<b>1,041,904</b>	<b>22,404</b>	<b>34,352</b>	<b>10,410,663</b>	<b>8,181,114</b>	<b>1,592,028</b>	<b>380,177</b>	<b>257,344</b>
<b>1,255,831</b>	<b>1,180,435</b>	<b>26,531</b>	<b>48,866</b>	<b>10,585,151</b>	<b>8,178,156</b>	<b>1,666,562</b>	<b>429,177</b>	<b>311,256</b>
301	5	296	..	721	139	582	..	..
*276	*5	*271	..	*746	*213	*533	..	..
*307	*5	*302	..	*742	*149	*593	..	..
*305	*5	*300	..	*729	*139	*590	..	..
..	..	..	..	8,036	3,399	2,311	2,322	4
..	..	..	..	7,710	3,173	2,173	2,360	4
..	..	..	..	7,750	3,289	1,992	2,465	4
..	..	..	..	7,799	2,801	2,206	2,788	4
1,630	1,630	..	..	21,358	19,537	1,821	..	..
1,800	1,798	..	2	21,554	20,065	1,489	..	..
2,027	2,022	..	5	22,701	21,401	1,300	..	..
2,147	2,137	..	10	22,541	20,904	1,637	..	..
10,510	10,510	..	..	14,260	14,260	..	..	..
11,166	11,166	..	..	14,743	14,743	..	..	..
10,989	10,989	..	..	16,264	16,264	..	..	..
11,269	11,269	..	..	18,718	18,718	..	..	..
13,208	13,208	..	..	35,354	34,577	777	..	..
14,363	14,363	..	..	38,757	37,723	894	..	140
15,418	15,418	..	..	40,427	39,690	588	..	149
16,109	16,109	..	..	42,902	42,178	566	..	158
..	..	..	..	6,827	0	6,827	..	..
..	..	..	..	7,640	1	7,640	..	..
..	..	..	..	7,004	1	7,003	..	..
..	..	..	..	7,748	1	7,747	..	..
406	406	..	..	3,524	3,522	..	..	2
460	460	..	..	3,942	3,940	..	..	2
496	496	..	..	4,010	4,008	..	..	2
462	462	..	..	3,738	3,736	..	..	2
..	..	..	..	1,434	914	517	..	3
..	..	..	..	1,778	759	1,016	..	3
..	..	..	..	3,062	1,207	1,852	..	3
..	..	..	..	4,397	2,394	2,000	..	3
315,707	315,707	..	..	4,671,846	3,577,107	872,107	97,394	125,238
344,432	344,432	..	..	5,087,205	3,902,577	920,291	111,613	152,724
346,187	346,187	..	..	5,303,396	3,922,462	1,064,337	132,538	184,059
347,448	347,448	..	..	5,467,125	3,936,740	1,130,270	170,789	229,326
..	..	..	..	38,752	38,752	..	..	..
..	..	..	..	39,063	39,063	..	..	..
..	..	..	..	39,803	39,803	..	..	..
..	..	..	..	37,924	37,924	..	..	..
169	169	..	..	392	392	..	..	..
186	186	..	..	227	227	..	..	..
206	206	..	..	435	435	..	..	..
209	209	..	..	753	753	..	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Cyprus	2012	4,717	4,510	..	..	185	22	..
	2013	4,290	4,012	..	..	231	47	..
	2014	4,350	4,084	..	..	182	84	..
	2015	4,533	4,186	..	..	221	126	..
Georgia	2012	9,698	2,477	7,221	..	..	..	..
	2013	10,059	1,788	8,271	..	..	..	..
	2014	10,370	2,036	8,334	..	..	..	..
	2015	10,833	2,379	8,454	..	..	..	..
India	2012	1,035,264	860,173	113,855	32,871	28,365	..	..
	2013	1,193,480	980,599	141,637	34,228	33,583	3,433	..
	2014	1,308,873	1,111,341	129,353	36,102	27,057	5,020	..
	2015	1,354,382	1,158,338	121,546	37,414	30,045	7,039	..
Indonesia	2012	196,181	173,957	12,799	..	5	3	9,417
	2013	216,186	189,835	16,930	..	1	6	9,414
	2014	220,794	191,991	18,800	..	..	7	9,996
	2015	263,088	240,698	17,595	..	..	5	4,790
Iran (Islamic Rep. of)	2012	254,276	239,752	12,447	1,847	207	0	23
	2013	262,434	242,909	14,582	4,546	376	0	21
	2014	274,437	255,870	13,862	4,472	186	0	47
	2015	280,633	263,393	14,090	2,914	221	1	14
Iraq	2012	46,018	41,626	4,392	..	..	..	..
	2013	58,422	53,665	4,757	..	..	..	..
	2014	67,768	64,837	2,931	..	..	..	..
	2015	*68,688	*66,116	*2,572	..	..	..	..
Israel	2012	63,003	62,595	33	..	6	369	0
	2013	61,322	60,794	28	..	6	494	0
	2014	60,813	59,954	13	..	6	840	..
	2015	64,226	63,080	24	..	7	1,115	..
Japan	2012	1,064,791	950,913	83,645	15,939	4,722	6,963	2,609
	2013	1,066,388	951,001	84,923	9,303	4,286	14,279	2,596
	2014	1,059,369	940,306	86,942	0	5,038	24,506	2,577
	2015	1,041,343	897,036	91,270	9,437	5,160	35,858	2,582
Jordan	2012	16,596	16,532	61	..	3	..	..
	2013	17,263	17,205	55	..	3	..	..
	2014	18,270	18,210	58	..	2	..	..
	2015	19,012	18,834	53	..	123	2	..
Kazakhstan	2012	92,817	85,177	7,637	..	3	..	..
	2013	103,086	95,349	7,731	..	5	1	..
	2014	105,068	96,791	8,263	..	13	1	..
	2015	106,422	97,020	9,269	..	132	1	..
Korea, Dem.Ppl's.Rep.	2012	19,236	5,736	13,500	..	..	..	..
	2013	18,332	4,432	13,900	..	..	..	..
	2014	17,909	4,909	13,000	..	..	..	..
	2015	13,737	3,737	10,000	..	..	..	..
Korea, Republic of	2012	534,618	374,116	7,652	150,327	917	1,103	503
	2013	541,996	390,858	8,394	138,784	1,149	1,605	1,206
	2014	550,934	381,511	7,820	156,407	1,146	2,557	1,493
	2015	552,876	375,110	5,796	164,762	1,201	3,880	2,127
Kuwait	2012	62,655	62,655	..	..	..	..	..
	2013	60,982	60,982	..	..	..	..	..
	2014	65,140	65,140	..	..	..	..	..
	2015	67,918	67,918	..	..	..	..	..
Kyrgyzstan	2012	15,168	989	14,179	..	..	..	..
	2013	14,011	914	13,097	..	..	..	..
	2014	14,572	1,274	13,298	..	..	..	..
	2015	13,030	1,930	11,100	..	..	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
60	58	..	2	4,657	4,452	..	..	205
60	58	..	2	4,230	3,954	..	..	276
78	58	..	20	4,272	4,026	..	..	246
86	44	..	42	4,447	4,142	..	..	305
..	..	..	..	9,698	2,477	7,221	..	..
..	..	..	..	10,059	1,788	8,271	..	..
..	..	..	..	10,370	2,036	8,334	..	..
..	..	..	..	10,833	2,379	8,454	..	..
*128,401	*128,172	*229	..	906,863	732,001	113,626	32,871	28,365
190,737	188,122	129	2,486	1,002,743	792,477	141,508	34,228	34,530
*162,057	*159,837	*109	*2,111	1,146,816	951,504	129,244	36,102	29,966
*218,948	*215,325	*169	*3,454	1,135,434	943,013	121,377	37,414	33,630
40,566	38,287	2,274	5	155,615	135,670	10,525	..	9,420
47,150	43,233	3,916	1	169,036	146,602	13,014	..	9,420
45,497	41,513	3,984	..	175,297	150,478	14,816	..	10,003
106,061	98,471	7,590	..	157,027	142,227	10,005	..	4,796
10,740	10,740	..	..	243,536	229,012	12,447	1,847	230
6,549	6,549	..	..	255,885	236,360	14,582	4,546	397
6,270	6,270	..	..	268,167	249,600	13,862	4,472	233
6,440	6,440	..	..	274,193	256,953	14,090	2,914	236
..	..	..	..	46,018	41,626	4,392	..	..
..	..	..	..	58,422	53,665	4,757	..	..
..	..	..	..	67,768	64,837	2,931	..	..
..	..	..	..	*68,688	*66,116	*2,572	..	..
1,515	1,142	4	369	61,488	61,453	29	..	6
2,296	1,797	5	494	59,026	58,997	23	..	6
3,335	2,490	5	840	57,478	57,464	8	..	6
3,743	2,619	9	1,115	60,483	60,461	15	..	7
163,002	135,020	16,285	11,697	901,789	815,893	67,360	15,939	2,597
167,907	132,992	16,322	18,593	898,481	818,009	68,601	9,303	2,568
195,866	149,600	16,687	29,579	863,503	790,706	70,255	0	2,542
208,371	150,852	16,469	41,050	832,972	746,184	74,801	9,437	2,550
241	241	..	..	16,355	16,291	61	..	3
286	286	..	..	16,977	16,919	55	..	3
383	383	..	..	17,887	17,827	58	..	2
471	471	..	..	18,540	18,363	53	..	125
..	..	..	..	92,817	85,177	7,637	..	3
1	..	..	1	103,085	95,349	7,731	..	5
1	..	..	1	105,067	96,791	8,263	..	13
1	..	..	1	106,421	97,020	9,269	..	132
..	..	..	..	19,236	5,736	13,500	..	..
..	..	..	..	18,332	4,432	13,900	..	..
..	..	..	..	17,909	4,909	13,000	..	..
..	..	..	..	13,737	3,737	10,000	..	..
30,958	30,637	..	321	503,660	343,479	7,652	150,327	2,202
28,163	27,712	..	451	513,833	363,146	8,394	138,784	3,509
32,972	32,467	..	505	517,962	349,044	7,820	156,407	4,691
29,862	29,219	..	643	523,014	345,891	5,796	164,762	6,565
..	..	..	..	62,655	62,655	..	..	..
..	..	..	..	60,982	60,982	..	..	..
..	..	..	..	65,140	65,140	..	..	..
..	..	..	..	67,918	67,918	..	..	..
..	..	..	..	15,168	989	14,179	..	..
7	7	..	..	14,004	907	13,097	..	..
20	20	..	..	14,552	1,254	13,298	..	..
24	24	..	..	13,006	1,906	11,100	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Lao People's Dem. Rep.	2012	12,760	..	12,760	..	..	..	..
	2013	15,512	5	15,506	..	..	..	..
	2014	15,639	5	15,633	..	..	..	..
	2015	16,501	2,249	14,252	..	..	..	..
Lebanon	2012	14,826	13,819	1,007	..	..	..	..
	2013	17,487	16,218	1,269	..	..	..	..
	2014	17,952	17,759	193	..	..	..	..
	2015	18,396	17,917	479	..	..	..	..
Malaysia	2012	134,421	125,319	9,054	..	..	48	..
	2013	138,331	127,604	10,586	..	..	141	..
	2014	147,461	133,846	13,388	..	..	227	..
	2015	150,123	135,175	13,924	..	..	273	751
Maldives	2012	299	297	..	..	..	2	..
	2013	304	303	..	..	..	1	..
	2014	329	327	..	..	..	2	..
	2015	391	386	..	..	..	5	..
Mongolia	2012	4,816	4,816	..	..	..	..	..
	2013	5,020	5,020	..	..	..	..	..
	2014	5,376	5,376	..	..	..	..	..
	2015	5,513	5,513	..	..	..	..	..
Myanmar	2012	10,965	3,199	7,766	..	..	..	..
	2013	12,247	3,424	8,823	..	..	..	..
	2014	14,156	5,327	8,829	..	..	..	..
	2015	15,970	6,463	9,507	..	..	..	..
Nepal	2012	3,543	10	3,533	..	..	..	..
	2013	3,130	10	3,120	..	..	..	..
	2014	3,508	10	3,498	..	..	..	..
	2015	3,503	..	3,496	..	6	1	..
Oman	2012	25,017	25,017	..	..	..	..	..
	2013	26,240	26,240	..	..	..	..	..
	2014	29,128	29,128	..	..	..	..	..
	2015	32,758	32,758	..	..	..	..	..
Other Asia	2012	250,336	199,770	8,606	40,422	1,262	276	..
	2013	252,351	200,124	8,610	41,639	1,640	338	..
	2014	260,025	208,145	7,439	42,389	1,500	552	..
	2015	258,025	211,648	7,505	36,471	1,525	876	..
Pakistan	2012	*98,535	*63,739	30,243	4,553	..	..	..
	2013	*105,248	*68,251	31,698	4,902	397	..	..
	2014	*108,482	*69,885	32,286	5,804	507	..	..
	2015	*115,073	*75,009	33,913	4,602	1,549	..	..
Philippines	2012	72,956	52,360	10,269	..	75	1	10,250
	2013	75,300	55,592	10,036	..	66	1	9,605
	2014	77,295	57,664	9,154	..	152	17	10,308
	2015	82,447	61,835	8,682	..	748	139	11,044
Qatar	2012	34,787	34,787	..	..	..	..	..
	2013	34,668	34,668	..	..	..	..	..
	2014	38,692	38,692	..	..	..	..	..
	2015	41,499	41,499	..	..	..	..	..
Saudi Arabia	2012	271,680	271,679	..	..	..	1	..
	2013	284,017	284,016	..	..	..	1	..
	2014	311,806	311,805	..	..	..	1	..
	2015	338,336	338,336	..	..	..	..	..
Singapore	2012	46,936	46,936	..	..	..	..	..
	2013	47,963	47,963	..	..	..	..	..
	2014	49,310	49,310	..	..	..	..	..
	2015	50,272	50,272	..	..	..	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
..	..	..	..	12,760	..	12,760	..	..
..	..	..	..	15,512	5	15,506	..	..
..	..	..	..	15,639	5	15,633	..	..
..	..	..	..	16,501	2,249	14,252	..	..
6,000	6,000	..	..	8,826	7,819	1,007	..	..
7,000	7,000	..	..	10,487	9,218	1,269	..	..
5,565	5,565	..	..	12,387	12,194	193	..	..
5,565	5,565	..	..	12,831	12,352	479	..	..
6,154	6,154	..	..	128,267	119,165	9,054	..	48
5,020	5,020	..	..	133,311	122,584	10,586	..	141
4,673	4,673	..	..	142,788	129,173	13,388	..	227
4,986	4,565	..	421	145,137	130,610	13,924	..	603
..	..	..	..	299	297	..	..	2
..	..	..	..	304	303	..	..	1
..	..	..	..	329	327	..	..	2
..	..	..	..	391	386	..	..	5
..	..	..	..	4,816	4,816	..	..	..
..	..	..	..	5,020	5,020	..	..	..
..	..	..	..	5,376	5,376	..	..	..
..	..	..	..	5,513	5,513	..	..	..
42	..	42	..	10,923	3,199	7,725	..	..
945	495	450	..	11,302	2,929	8,373	..	..
2,959	2,281	678	..	11,197	3,046	8,151	..	..
*1,814	*1,136	*678	..	14,156	5,327	8,829	..	..
84	..	84	..	3,459	10	3,449	..	..
137	..	137	..	2,993	10	2,983	..	..
*140	..	*140	..	3,368	10	3,358	..	..
154	..	154	..	3,349	..	3,342	..	7
..	..	..	..	25,017	25,017	..	..	..
..	..	..	..	26,240	26,240	..	..	..
..	..	..	..	29,128	29,128	..	..	..
..	..	..	..	32,758	32,758	..	..	..
34,223	34,223	..	..	216,113	165,547	8,606	40,422	1,538
37,192	37,192	..	..	215,159	162,932	8,610	41,639	1,978
38,071	38,071	..	..	221,954	170,074	7,439	42,389	2,052
35,544	35,544	..	..	222,481	176,104	7,505	36,471	2,401
*41,491	*41,491	..	..	57,044	*22,248	30,243	4,553	..
*44,167	*44,167	..	..	61,081	*24,084	31,698	4,902	397
*45,224	*45,224	..	..	63,258	*24,661	32,286	5,804	507
*48,540	*48,540	..	..	66,533	*26,469	33,913	4,602	1,549
*34	*17	*17	..	72,922	52,343	10,252	..	10,327
*34	*17	*17	..	75,266	55,575	10,019	..	9,672
*34	*17	*17	..	77,261	57,647	9,137	..	10,477
*34	*17	*17	..	82,413	61,818	8,665	..	11,931
31,799	31,799	..	..	2,988	2,988	..	..	..
31,578	31,578	..	..	3,090	3,090	..	..	..
35,190	35,190	..	..	3,502	3,502	..	..	..
38,998	38,998	..	..	2,501	2,501	..	..	..
64,548	64,548	..	..	207,132	207,131	..	..	1
85,117	85,117	..	..	198,900	198,899	..	..	1
97,218	97,218	..	..	214,588	214,587	..	..	1
122,666	122,666	..	..	215,670	215,670	..	..	..
1,717	1,717	..	..	45,219	45,219	..	..	..
2,804	2,804	..	..	45,160	45,160	..	..	..
2,974	2,974	..	..	46,336	46,336	..	..	..
3,240	3,240	..	..	47,031	47,031	..	..	..



Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Sri Lanka	2012	11,908	8,439	3,302	..	147	21	..
	2013	12,060	4,870	6,929	..	236	25	..
	2014	12,861	7,986	4,563	..	273	39	..
	2015	13,227	6,854	5,969	..	344	60	..
State of Palestine	2012	461	461	..	..	..	..	..
	2013	536	536	..	..	..	..	..
	2014	337	337	..	..	..	..	..
	2015	515	515	..	..	..	..	..
Syrian Arab Republic	2012	31,188	27,951	3,237	..	..	..	..
	2013	25,933	22,933	3,000	..	..	..	..
	2014	21,726	18,726	3,000	..	..	..	..
	2015	17,881	17,468	413	..	..	..	..
Tajikistan	2012	16,998	74	16,924	..	..	..	..
	2013	17,115	44	17,071	..	..	..	..
	2014	16,472	160	16,312	..	..	..	..
	2015	17,162	262	16,900	..	..	..	..
Thailand	2012	166,471	158,013	8,431	..	*3	*23	1
	2013	175,531	168,397	5,748	..	305	1,080	1
	2014	180,862	173,631	5,540	..	305	1,385	1
	2015	177,760	170,313	4,739	..	329	2,378	1
Timor-Leste	2012	126	126	..	..	..	..	..
	2013	295	295	..	..	..	..	..
	2014	349	349	..	..	..	..	..
	2015	350	350	..	..	..	..	..
Turkey	2012	239,496	174,872	57,865	..	5,860	..	899
	2013	240,154	171,622	59,420	..	7,557	..	1,555
	2014	251,963	200,171	40,645	..	8,520	17	2,610
	2015	261,783	178,958	67,146	..	11,652	194	3,833
Turkmenistan	2012	17,750	17,750	..	..	..	..	..
	2013	18,870	18,870	..	..	..	..	..
	2014	20,400	20,400	..	..	..	..	..
	2015	22,534	22,534	..	..	..	..	..
United Arab Emirates	2012	106,222	106,222	..	..	..	..	..
	2013	109,979	109,979	..	..	..	..	..
	2014	116,528	116,528	..	..	..	..	..
	2015	127,366	127,366	..	..	..	..	..
Uzbekistan	2012	52,500	41,290	11,210	..	..	..	..
	2013	54,200	42,640	11,560	..	..	..	..
	2014	55,400	43,570	11,830	..	..	..	..
	2015	57,280	45,450	11,830	..	..	..	..
Viet Nam	2012	118,940	65,676	53,172	..	*92	..	..
	2013	128,549	70,287	58,170	..	*92	..	..
	2014	145,730	83,950	61,480	..	*300	..	..
	2015	*157,949	*100,434	57,254	..	*261	..	..
Yemen	2012	7,073	7,073	..	..	..	..	..
	2013	8,501	8,501	..	..	..	..	..
	2014	7,646	7,646	..	..	..	..	..
	2015	5,326	5,326	..	..	..	..	..
<b>Europe</b>	<b>2012</b>	<b>4,893,277</b>	<b>2,659,511</b>	<b>762,087</b>	<b>1,175,478</b>	<b>207,779</b>	<b>71,810</b>	<b>16,613</b>
	<b>2013</b>	<b>4,849,364</b>	<b>2,536,671</b>	<b>811,318</b>	<b>1,158,537</b>	<b>239,167</b>	<b>86,777</b>	<b>16,895</b>
	<b>2014</b>	<b>4,766,004</b>	<b>2,412,467</b>	<b>807,334</b>	<b>1,172,996</b>	<b>256,595</b>	<b>99,161</b>	<b>17,450</b>
	<b>2015</b>	<b>4,797,460</b>	<b>2,434,633</b>	<b>766,730</b>	<b>1,163,315</b>	<b>305,722</b>	<b>109,783</b>	<b>17,278</b>
Albania	2012	4,725	..	4,725	..	..	..	..
	2013	6,956	..	6,956	..	..	..	..
	2014	4,724	..	4,724	..	..	..	..
	2015	5,895	..	5,895	..	..	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
29	0	11	19	11,879	8,439	3,291	..	149
36	0	*11	25	12,024	4,870	6,918	..	236
49	0	*11	38	12,812	7,986	4,552	..	274
1,181	57	1,065	59	12,046	6,796	4,904	..	345
..	..	..	..	461	461	..	..	..
..	..	..	..	536	536	..	..	..
..	..	..	..	337	337	..	..	..
..	..	..	..	515	515	..	..	..
752	752	..	..	30,436	27,199	3,237	..	..
498	498	..	..	25,435	22,435	3,000	..	..
497	497	..	..	21,229	18,229	3,000	..	..
498	498	..	..	17,383	16,970	413	..	..
..	..	..	..	16,998	74	16,924	..	..
..	..	..	..	17,115	44	17,071	..	..
..	..	..	..	16,472	160	16,312	..	..
..	..	..	..	17,162	262	16,900	..	..
15,134	15,134	..	..	151,337	142,879	8,431	..	*27
29,532	28,668	..	864	145,999	139,729	5,748	..	522
34,890	33,782	..	1,108	145,972	139,849	5,540	..	583
36,052	33,989	..	2,063	141,708	136,324	4,739	..	645
..	..	..	..	126	126	..	..	..
..	..	..	..	295	295	..	..	..
..	..	..	..	349	349	..	..	..
..	..	..	..	350	350	..	..	..
13,254	11,594	1,658	2	226,242	163,278	56,207	..	6,757
13,071	11,800	1,076	195	227,083	159,822	58,344	..	8,917
4,441	3,907	391	143	247,522	196,264	40,254	..	11,004
35	29	0	6	261,748	178,929	67,146	..	15,673
..	..	..	..	17,750	17,750	..	..	..
..	..	..	..	18,870	18,870	..	..	..
..	..	..	..	20,400	20,400	..	..	..
..	..	..	..	22,534	22,534	..	..	..
..	..	..	..	106,222	106,222	..	..	..
..	..	..	..	109,979	109,979	..	..	..
..	..	..	..	116,528	116,528	..	..	..
..	..	..	..	127,366	127,366	..	..	..
193	193	..	..	52,307	41,097	11,210	..	..
199	199	..	..	54,001	42,441	11,560	..	..
204	204	..	..	55,196	43,366	11,830	..	..
213	213	..	..	57,067	45,237	11,830	..	..
*3,703	*3,700	*1	*2	115,237	61,976	53,171	..	*90
*4,003	*4,000	*1	*2	124,546	66,287	58,169	..	*90
*4,182	*4,100	*80	*2	141,548	79,850	61,400	..	*298
*4,182	*4,100	*80	*2	*153,767	*96,334	57,174	..	*259
346	346	..	..	6,727	6,727	..	..	..
245	245	..	..	8,256	8,256	..	..	..
240	240	..	..	7,406	7,406	..	..	..
173	173	..	..	5,153	5,153	..	..	..
<b>352,185</b>	<b>321,107</b>	<b>15,464</b>	<b>15,614</b>	<b>4,541,093</b>	<b>2,338,405</b>	<b>746,623</b>	<b>1,175,478</b>	<b>280,587</b>
<b>344,454</b>	<b>307,491</b>	<b>16,176</b>	<b>20,787</b>	<b>4,504,910</b>	<b>2,229,180</b>	<b>795,142</b>	<b>1,158,537</b>	<b>322,052</b>
<b>343,350</b>	<b>300,642</b>	<b>16,731</b>	<b>25,977</b>	<b>4,422,653</b>	<b>2,111,825</b>	<b>790,603</b>	<b>1,172,996</b>	<b>347,229</b>
<b>369,201</b>	<b>321,775</b>	<b>16,191</b>	<b>31,235</b>	<b>4,428,259</b>	<b>2,112,858</b>	<b>750,539</b>	<b>1,163,315</b>	<b>401,547</b>
..	..	..	..	4,725	..	4,725	..	..
..	..	..	..	6,956	..	6,956	..	..
..	..	..	..	4,724	..	4,724	..	..
..	..	..	..	5,895	..	5,895	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Andorra	2012	88	12	76	..	..	..	..
	2013	115	13	102	..	..	..	..
	2014	127	13	113	..	..	..	..
	2015	99	14	86	..	..	..	..
Austria	2012	72,601	22,094	47,696	..	2,462	337	12
	2013	68,312	18,758	45,805	..	3,153	582	14
	2014	65,442	15,962	44,836	..	3,846	785	13
	2015	65,299	18,915	40,592	..	4,840	937	15
Belarus	2012	30,799	30,723	70	..	6	..	..
	2013	31,507	31,361	138	..	8	..	..
	2014	34,735	34,602	121	..	11	1	..
	2015	34,077	33,941	107	..	26	3	..
Belgium	2012	82,923	35,843	1,659	40,295	2,751	2,148	227
	2013	83,488	32,408	1,704	42,644	3,665	2,644	423
	2014	72,672	29,610	1,462	33,703	4,615	2,883	399
	2015	70,648	34,036	1,418	26,103	5,574	3,065	452
Bosnia and Herzegovina	2012	14,082	9,867	4,215	..	..	..	..
	2013	17,451	10,215	7,236	..	..	..	..
	2014	16,160	10,225	5,935	..	..	..	..
	2015	15,629	10,078	5,551	..	..	..	..
Bulgaria	2012	47,329	25,518	3,976	15,785	1,221	814	15
	2013	43,784	22,067	4,795	14,171	1,374	1,361	16
	2014	47,485	23,858	5,163	15,867	1,331	1,252	14
	2015	49,228	24,840	6,147	15,383	1,452	1,383	23
Croatia	2012	10,755	5,425	4,999	..	329	2	..
	2013	14,052	4,797	8,727	..	517	11	..
	2014	13,554	3,664	9,125	..	730	35	..
	2015	11,403	3,994	6,556	..	796	57	..
Czechia	2012	87,418	51,595	2,860	30,324	416	2,149	74
	2013	86,913	49,940	3,639	30,745	481	2,033	75
	2014	86,148	50,174	2,961	30,325	477	2,123	88
	2015	83,892	51,063	3,071	26,841	573	2,264	80
Denmark	2012	30,701	20,310	17	..	10,270	104	..
	2013	34,743	23,089	13	..	11,123	518	..
	2014	32,184	18,494	15	..	13,079	596	..
	2015	28,947	14,192	18	..	14,133	604	..
Estonia	2012	11,967	11,491	42	..	434	..	..
	2013	13,275	12,720	26	..	529	..	..
	2014	12,446	11,815	27	..	604	..	..
	2015	10,417	9,675	27	..	715	..	..
Faeroe Islands	2012	292	181	100	..	11	..	..
	2013	293	180	91	..	22	..	..
	2014	305	150	121	..	34	..	..
	2015	314	126	133	..	56	..	..
Finland	2012	70,411	29,746	16,859	22,987	494	6	319
	2013	71,257	33,744	12,838	23,606	774	6	289
	2014	68,094	29,712	13,397	23,580	1,107	8	290
	2015	68,597	25,999	16,769	23,245	2,327	9	248
France	2012	564,897	55,916	63,594	425,406	14,913	4,016	1,052
	2013	572,299	50,869	75,867	423,685	16,033	4,735	1,110
	2014	563,694	34,397	68,627	436,474	17,249	5,913	1,034
	2015	568,454	42,295	59,400	437,428	21,249	7,259	823
Germany	2012	629,812	423,424	27,849	99,460	50,670	26,380	2,029
	2013	638,729	428,094	28,782	97,290	51,708	31,010	1,845
	2014	627,795	409,688	25,444	97,129	57,357	36,056	2,121
	2015	646,888	410,315	24,898	91,786	79,206	38,726	1,957

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
..	..	..	..	88	12	76	..	..
..	..	..	..	115	13	102	..	..
..	..	..	..	127	13	113	..	..
..	..	..	..	99	14	86	..	..
8,571	8,022	538	11	64,030	14,072	47,158	..	2,800
8,097	7,531	552	14	60,215	11,227	45,253	..	3,735
7,701	7,125	563	13	57,741	8,837	44,273	..	4,631
7,833	7,339	479	15	57,466	11,576	40,113	..	5,777
3,050	3,042	6	2	27,749	27,681	64	..	4
2,976	2,967	7	2	28,531	28,394	131	..	6
3,072	3,061	7	4	31,663	31,541	114	..	8
3,401	3,387	6	8	30,676	30,554	101	..	21
8,496	6,103	..	2,393	74,427	29,740	1,659	40,295	2,733
9,125	6,049	..	3,076	74,363	26,359	1,704	42,644	3,656
9,797	6,496	..	3,301	62,875	23,114	1,462	33,703	4,596
10,072	6,536	..	3,536	60,576	27,500	1,418	26,103	5,555
343	343	..	..	13,739	9,524	4,215	..	..
369	369	..	..	17,082	9,846	7,236	..	..
403	403	..	..	15,757	9,822	5,935	..	..
485	485	..	..	15,144	9,593	5,551	..	..
270	255	..	15	47,059	25,263	3,976	15,785	2,035
268	252	..	16	43,516	21,815	4,795	14,171	2,735
253	239	..	14	47,232	23,619	5,163	15,867	2,583
388	365	..	23	48,840	24,475	6,147	15,383	2,835
388	383	5	..	10,367	5,042	4,994	..	331
332	327	5	..	13,720	4,470	8,722	..	528
345	338	7	..	13,209	3,326	9,118	..	765
316	310	6	..	11,087	3,684	6,550	..	853
7,945	7,370	523	52	79,473	44,225	2,337	30,324	2,587
8,659	7,988	621	50	78,254	41,952	3,018	30,745	2,539
9,123	8,498	564	61	77,025	41,676	2,397	30,325	2,627
9,255	8,636	566	53	74,637	42,427	2,505	26,841	2,864
2,047	1,943	..	104	28,654	18,367	17	..	10,270
2,428	1,910	..	518	32,315	21,179	13	..	11,123
2,612	2,016	..	596	29,572	16,478	15	..	13,079
2,656	2,052	..	604	26,291	12,140	18	..	14,133
98	97	..	1	11,869	11,394	42	..	433
91	86	..	5	13,184	12,634	26	..	524
57	42	1	14	12,389	11,773	26	..	590
157	143	0	14	10,260	9,532	27	..	701
..	..	..	..	292	181	100	..	11
..	..	..	..	293	180	91	..	22
..	..	..	..	305	150	121	..	34
..	..	..	..	314	126	133	..	56
10,255	8,791	1,244	220	60,156	20,955	15,615	22,987	599
10,122	8,960	979	183	61,135	24,784	11,859	23,606	886
10,094	8,977	927	190	58,000	20,735	12,470	23,580	1,215
10,022	8,773	1,079	170	58,575	17,226	15,690	23,245	2,414
20,887	16,330	654	3,903	544,010	39,586	62,940	425,406	16,078
18,609	13,225	743	4,641	553,690	37,644	75,124	423,685	17,237
18,696	12,731	751	5,214	544,998	21,666	67,876	436,474	18,982
18,956	12,833	599	5,524	549,498	29,462	58,801	437,428	23,807
44,094	42,421	350	1,323	585,718	381,003	27,499	99,460	77,756
44,892	43,466	182	1,244	593,837	384,628	28,600	97,290	83,319
45,450	43,874	162	1,414	582,345	365,814	25,282	97,129	94,120
50,214	48,833	157	1,224	596,674	361,482	24,741	91,786	118,665

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Gibraltar	2012	176	176	..	..	..	..	..
	2013	189	189	..	..	..	..	..
	2014	198	198	..	..	..	..	..
	2015	207	207	..	..	..	..	..
Greece	2012	60,959	50,824	4,591	..	3,850	1,694	..
	2013	57,152	42,981	6,384	..	4,139	3,648	..
	2014	50,474	38,386	4,607	..	3,689	3,792	..
	2015	51,874	37,203	6,150	..	4,621	3,900	..
Guernsey	2012	68	68	..	..	..	..	..
	2013	289	289	..	..	..	..	..
	2014	227	227	..	..	..	..	..
	2015	157	157	..	..	..	..	..
Hungary	2012	34,635	17,851	213	15,793	770	8	..
	2013	30,294	13,936	213	15,370	718	25	32
	2014	29,392	12,674	301	15,649	657	56	55
	2015	30,342	13,395	234	15,834	693	123	63
Iceland	2012	17,549	3	12,337	..	..	..	5,209
	2013	18,116	5	12,863	..	3	..	5,245
	2014	18,123	3	12,873	..	8	..	5,239
	2015	18,799	4	13,781	..	11	..	5,003
Ireland	2012	27,353	22,328	1,014	..	4,010	1	..
	2013	25,920	20,433	944	..	4,542	1	..
	2014	26,087	19,958	988	..	5,140	1	..
	2015	28,387	20,717	1,095	..	6,573	2	..
Isle of Man	2012	296	292	4	..	..	..	..
	2013	*504	*500	*4	..	..	..	..
	2014	*504	*500	*4	..	..	..	..
	2015	*504	*500	4	..	..	..	..
Italy	2012	299,277	216,811	43,854	..	13,407	18,862	6,343
	2013	289,807	192,237	54,672	..	14,897	21,589	6,412
	2014	279,827	175,510	60,256	..	15,178	22,306	6,577
	2015	282,994	191,458	46,970	..	14,844	22,942	6,780
Jersey	2012	114	114	..	..	..	..	..
	2013	157	157	..	..	..	..	..
	2014	108	108	..	..	..	..	..
	2015	48	48	..	..	..	..	..
Latvia	2012	6,167	2,346	3,707	..	114	..	..
	2013	6,209	3,177	2,912	..	120	..	..
	2014	5,141	3,006	1,994	..	141	..	..
	2015	5,533	3,526	1,860	..	147	..	..
Liechtenstein	2012	86	4	74	..	..	9	..
	2013	85	3	69	..	..	13	..
	2014	41	3	22	..	..	17	..
	2015	70	2	49	..	..	19	..
Lithuania	2012	5,043	3,337	937	..	540	2	227
	2013	4,762	2,808	1,069	..	603	45	237
	2014	4,397	2,354	1,088	..	639	73	243
	2015	4,933	2,761	1,024	..	810	73	265
Luxembourg	2012	3,818	2,543	1,160	..	77	38	..
	2013	2,888	1,573	1,158	..	83	74	..
	2014	2,966	1,622	1,169	..	80	95	..
	2015	2,762	1,026	1,530	..	102	104	..
Malta	2012	2,307	2,277	..	..	..	30	..
	2013	2,251	2,222	..	..	..	29	..
	2014	2,245	2,177	..	..	..	68	..
	2015	1,303	1,210	..	..	..	93	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
..	..	..	..	176	176	..	..	..
..	..	..	..	189	189	..	..	..
..	..	..	..	198	198	..	..	..
..	..	..	..	207	207	..	..	..
2,351	2,351	..	..	58,608	48,473	4,591	..	5,544
1,885	1,885	..	..	55,267	41,096	6,384	..	7,787
1,792	1,792	..	..	48,682	36,594	4,607	..	7,481
2,340	2,340	..	..	49,534	34,863	6,150	..	8,521
..	..	..	..	68	68	..	..	..
..	..	..	..	289	289	..	..	..
..	..	..	..	227	227	..	..	..
..	..	..	..	157	157	..	..	..
516	508	..	8	34,119	17,343	213	15,793	770
615	558	..	57	29,679	13,378	213	15,370	718
655	544	..	111	28,737	12,130	301	15,649	657
789	603	..	186	29,553	12,792	234	15,834	693
..	..	..	..	17,549	3	12,337	..	5,209
..	..	..	..	18,116	5	12,863	..	5,248
..	..	..	..	18,123	3	12,873	..	5,247
..	..	..	..	18,799	4	13,781	..	5,014
2,125	2,124	..	1	25,228	20,204	1,014	..	4,010
2,056	2,055	..	1	23,864	18,378	944	..	4,542
2,073	2,072	..	1	24,014	17,886	988	..	5,140
2,160	2,158	..	2	26,227	18,559	1,095	..	6,573
..	..	..	..	296	292	4	..	..
..	..	..	..	*504	*500	*4	..	..
..	..	..	..	*504	*500	*4	..	..
..	..	..	..	*504	*500	4	..	..
16,057	15,025	573	459	283,220	201,786	43,281	..	38,153
16,073	15,124	627	322	273,734	177,113	54,045	..	42,576
15,742	14,749	738	255	264,085	160,761	59,518	..	43,806
19,082	18,209	609	264	263,912	173,249	46,361	..	44,302
43	43	..	..	71	71	..	..	..
34	34	..	..	123	123	..	..	..
37	37	..	..	71	71	..	..	..
41	41	..	..	7	7	..	..	..
183	176	7	0	5,984	2,170	3,700	..	114
257	251	3	3	5,952	2,926	2,909	..	117
257	246	7	4	4,884	2,760	1,987	..	137
259	253	2	4	5,274	3,273	1,858	..	143
..	..	..	..	86	4	74	..	9
..	..	..	..	85	3	69	..	13
..	..	..	..	41	3	22	..	17
..	..	..	..	70	2	49	..	19
787	560	..	227	4,256	2,777	937	..	542
621	384	..	237	4,141	2,424	1,069	..	648
736	493	..	243	3,661	1,861	1,088	..	712
931	666	..	265	4,002	2,095	1,024	..	883
225	182	5	38	3,593	2,361	1,155	..	77
265	185	6	74	2,623	1,388	1,152	..	83
271	170	6	95	2,695	1,452	1,163	..	80
270	160	6	104	2,492	866	1,524	..	102
26	9	..	17	2,281	2,268	..	..	13
35	6	..	29	2,216	2,216	..	..	0
75	7	..	68	2,170	2,170	..	..	..
100	7	..	93	1,203	1,203	..	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
Montenegro	2012	2,844	1,367	1,477	..	..	..	..
	2013	3,945	1,441	2,504	..	..	..	..
	2014	3,173	1,421	1,752	..	..	..	..
	2015	3,003	1,512	1,491	..	..	..	..
Netherlands	2012	103,298	93,925	104	3,915	4,981	226	147
	2013	101,736	92,494	114	2,891	5,627	487	123
	2014	103,418	92,488	112	4,091	5,797	785	145
	2015	110,070	97,078	93	4,077	7,550	1,122	150
Norway	2012	147,716	3,354	142,812	..	1,548	..	2
	2013	133,981	3,158	128,699	..	1,881	..	243
	2014	141,968	3,267	136,182	..	2,216	..	303
	2015	145,021	3,197	139,013	..	2,515	..	296
Poland	2012	162,139	154,845	2,465	..	4,747	1	81
	2013	164,580	155,467	2,997	..	6,004	1	111
	2014	159,059	148,500	2,734	..	7,676	7	142
	2015	164,944	151,478	2,435	..	10,858	57	116
Portugal	2012	46,614	29,151	6,660	..	10,259	393	151
	2013	51,672	24,110	14,868	..	12,014	479	201
	2014	52,802	23,440	16,412	..	12,111	627	212
	2015	52,420	30,005	9,799	..	11,608	796	212
Republic of Moldova	2012	932	898	34	..	0	..	..
	2013	905	859	45	..	1	..	..
	2014	963	902	59	..	1	1	..
	2015	939	886	50	..	2	1	..
Romania	2012	59,045	32,594	12,337	11,466	2,640	8	..
	2013	58,887	27,021	15,308	11,618	4,520	420	..
	2014	65,676	26,903	19,280	11,676	6,201	1,616	..
	2015	66,296	28,604	17,007	11,640	7,063	1,982	..
Russian Federation	2012	1,070,734	725,399	167,319	177,534	5	..	477
	2013	1,059,092	703,481	182,654	172,508	5	..	444
	2014	1,064,207	705,598	177,141	180,757	96	160	455
	2015	1,067,544	701,220	169,914	195,470	148	335	457
Serbia	2012	36,799	26,885	9,914	..	..	..	..
	2013	39,877	29,024	10,853	..	..	..	..
	2014	34,060	22,437	11,617	..	..	6	..
	2015	38,298	27,504	10,783	..	..	11	..
Slovakia	2012	28,664	8,231	4,439	15,495	6	424	69
	2013	28,832	7,283	5,166	15,720	6	588	69
	2014	27,401	6,719	4,462	15,499	6	597	118
	2015	26,903	7,008	4,137	15,146	6	506	100
Slovenia	2012	15,736	5,958	4,087	5,528	0	163	..
	2013	16,103	5,661	4,923	5,300	4	215	..
	2014	17,437	4,440	6,366	6,370	4	257	..
	2015	15,100	5,081	4,091	5,648	6	274	..
Spain	2012	297,559	150,312	24,162	61,470	49,472	11,968	175
	2013	285,632	119,111	41,052	56,726	55,646	13,097	0
	2014	278,750	112,789	42,970	57,305	52,013	13,673	0
	2015	281,020	128,947	31,368	57,305	49,325	13,859	216
Sweden	2012	166,562	16,283	79,058	64,037	7,165	19	..
	2013	153,166	15,336	61,496	66,457	9,842	35	..
	2014	153,662	13,632	63,872	64,877	11,234	47	..
	2015	162,058	13,906	75,439	56,348	16,268	97	..
Switzerland	2012	69,893	3,739	40,305	25,441	88	320	..
	2013	70,312	3,720	39,968	25,990	90	544	..
	2014	71,767	3,566	39,701	27,557	101	842	..
	2015	67,720	3,521	39,881	23,089	110	1,119	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
..	..	..	..	2,844	1,367	1,477	..	..
..	..	..	..	3,945	1,441	2,504	..	..
..	..	..	..	3,173	1,421	1,752	..	..
..	..	..	..	3,003	1,512	1,491	..	..
25,148	23,881	..	1,267	78,150	70,044	104	3,915	4,087
24,608	22,998	..	1,610	77,128	69,496	114	2,891	4,627
21,960	20,048	..	1,912	81,458	72,440	112	4,091	4,815
22,592	20,200	..	2,392	87,478	76,878	93	4,077	6,430
8,619	2,897	5,720	2	139,097	457	137,092	..	1,548
8,478	2,676	5,559	243	125,503	482	123,140	..	1,881
8,442	2,651	5,488	303	133,526	616	130,694	..	2,216
8,459	2,675	5,488	296	136,562	522	133,525	..	2,515
8,449	8,365	2	82	153,690	146,480	2,463	..	4,747
8,917	8,802	3	112	155,663	146,665	2,994	..	6,004
8,881	8,729	3	149	150,178	139,771	2,731	..	7,676
9,419	9,243	3	173	155,525	142,235	2,432	..	10,858
8,344	8,184	10	150	38,270	20,967	6,650	..	10,653
9,010	8,780	20	210	42,662	15,330	14,848	..	12,484
8,435	8,117	23	295	44,367	15,323	16,389	..	12,655
8,294	7,929	15	350	44,126	22,076	9,784	..	12,266
32	32	..	..	900	866	34	..	0
44	44	..	..	861	815	45	..	1
72	71	..	1	891	831	59	..	1
41	41	..	0	898	845	50	..	3
4,252	3,908	158	186	54,793	28,686	12,179	11,466	2,462
6,519	5,918	246	355	52,368	21,103	15,062	11,618	4,585
6,095	5,037	327	731	59,581	21,866	18,953	11,676	7,086
7,407	6,389	404	614	58,889	22,215	16,603	11,640	8,431
67,181	66,158	1,023	..	1,003,553	659,241	166,296	177,534	482
64,495	63,047	1,448	..	994,597	640,434	181,206	172,508	449
66,732	65,186	1,546	..	997,475	640,412	175,595	180,757	711
71,996	70,501	1,495	..	995,548	630,719	168,419	195,470	940
171	171	..	..	36,628	26,714	9,914	..	..
202	202	..	..	39,675	28,822	10,853	..	..
289	289	..	..	33,771	22,148	11,617	..	6
318	318	..	..	37,980	27,186	10,783	..	11
2,536	2,039	88	409	26,128	6,192	4,351	15,495	90
2,470	1,825	106	539	26,362	5,458	5,060	15,720	124
3,040	2,317	116	607	24,361	4,402	4,346	15,499	114
3,068	2,519	85	464	23,835	4,489	4,052	15,146	148
534	251	126	157	15,202	5,707	3,961	5,528	6
622	247	166	209	15,481	5,414	4,757	5,300	10
749	271	228	250	16,688	4,169	6,138	6,370	11
688	268	154	266	14,412	4,813	3,937	5,648	14
41,427	40,752	462	213	256,132	109,560	23,700	61,470	61,402
38,128	37,145	943	40	247,504	81,966	40,109	56,726	68,703
32,111	31,006	1,064	41	246,639	81,783	41,906	57,305	65,645
33,480	32,473	748	259	247,540	96,474	30,620	57,305	63,141
6,350	6,333	17	..	160,212	9,950	79,041	64,037	7,184
5,854	5,844	10	..	147,312	9,492	61,486	66,457	9,877
5,797	5,785	12	..	147,865	7,847	63,860	64,877	11,281
5,827	5,816	11	..	156,231	8,090	75,428	56,348	16,365
6,065	2,927	2,818	320	63,828	812	37,487	25,441	88
6,397	3,020	2,833	544	63,915	700	37,135	25,990	90
6,865	3,109	2,914	842	64,902	457	36,787	27,557	101
7,095	3,096	2,880	1,119	60,625	425	37,001	23,089	110



Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
T.F.Yug.Rep. Macedonia	2012	6,262	5,218	1,041	..	..	3	..
	2013	6,094	4,501	1,584	..	..	9	..
	2014	5,374	4,082	1,207	..	71	14	..
	2015	5,646	3,617	1,865	..	121	23	20
Ukraine	2012	198,878	97,126	10,994	90,137	288	333	..
	2013	194,377	95,487	14,472	83,209	639	570	..
	2014	182,815	83,549	9,318	88,389	1,130	429	..
	2015	163,682	67,523	6,971	87,627	1,084	477	..
United Kingdom	2012	362,955	263,108	8,251	70,405	19,835	1,352	4
	2013	358,377	249,752	7,608	70,607	28,396	2,008	6
	2014	338,176	229,644	8,776	63,748	31,966	4,040	2
	2015	339,095	211,849	9,028	70,345	40,310	7,561	2
<b>Oceania</b>	<b>2012</b>	<b>306,066</b>	<b>248,572</b>	<b>39,143</b>	<b>..</b>	<b>9,117</b>	<b>2,579</b>	<b>6,655</b>
	<b>2013</b>	<b>304,053</b>	<b>239,719</b>	<b>43,537</b>	<b>..</b>	<b>10,045</b>	<b>3,851</b>	<b>6,901</b>
	<b>2014</b>	<b>303,601</b>	<b>233,691</b>	<b>44,714</b>	<b>..</b>	<b>12,531</b>	<b>4,904</b>	<b>7,761</b>
	<b>2015</b>	<b>308,316</b>	<b>240,036</b>	<b>40,005</b>	<b>..</b>	<b>13,896</b>	<b>6,044</b>	<b>8,335</b>
American Samoa	2012	157	156	..	..	..	1	..
	2013	*156	*155	..	..	..	*1	..
	2014	157	156	..	..	..	*1	..
	2015	169	168	..	..	..	2	..
Australia	2012	251,165	227,552	14,083	..	6,970	2,559	1
	2013	249,720	219,663	18,270	..	7,960	3,826	1
	2014	248,299	214,767	18,421	..	10,252	4,858	1
	2015	252,360	221,479	13,445	..	11,467	5,968	1
Cook Islands	2012	*33	*32	..	..	..	*1	..
	2013	*33	*31	..	..	..	*1	..
	2014	*32	*29	..	..	..	*3	..
	2015	*29	*27	..	..	..	*2	..
Fiji	2012	803	271	525	..	7	..	..
	2013	858	325	527	..	5	..	..
	2014	859	454	401	..	4	..	..
	2015	914	503	406	..	6	..	..
French Polynesia	2012	*768	*553	*209	..	..	*6	..
	2013	*744	*542	*195	..	..	*7	..
	2014	*721	*492	*219	..	..	*10	..
	2015	*718	*488	*219	..	..	11	..
Guam	2012	1,784	1,784	..	..	..	..	..
	2013	1,736	1,736	..	..	..	..	..
	2014	*1,750	*1,750	..	..	..	..	..
	2015	*1,731	*1,731	..	..	..	..	..
Kiribati	2012	25	25	..	..	..	..	..
	2013	25	25	..	..	..	..	..
	2014	*26	*26	..	..	..	..	..
	2015	*28	*26	..	..	..	*2	..
Marshall Islands	2012	78	78	..	..	..	0	..
	2013	84	83	..	..	..	0	..
	2014	*85	*85	..	..	..	0	..
	2015	*86	*86	..	..	..	0	..
Micronesia (Fed. States of)	2012	*66	*65	..	..	..	1	..
	2013	*67	*66	..	..	..	1	..
	2014	69	68	0	..	..	1	..
	2015	*69	*68	0	..	..	*1	..
Nauru	2012	24	24	..	..	..	0	..
	2013	*24	*24	..	..	..	0	..
	2014	*25	*25	..	..	..	0	..
	2015	*25	*25	..	..	..	0	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
2	2	..	..	6,260	5,217	1,041	..	3
2	2	..	..	6,092	4,499	1,584	..	9
1	1	..	..	5,373	4,081	1,207	..	85
0	0	..	..	5,646	3,617	1,865	..	164
3,773	3,753	20	..	195,105	93,373	10,974	90,137	621
3,200	3,177	22	1	191,177	92,310	14,450	83,209	1,208
2,927	2,905	19	3	179,888	80,644	9,299	88,389	1,556
2,214	2,195	17	2	161,468	65,328	6,954	87,627	1,559
40,545	35,376	1,115	4,054	322,410	227,732	7,136	70,405	17,137
37,699	30,152	1,095	6,452	320,678	219,600	6,513	70,607	23,958
41,714	31,211	1,258	9,245	296,462	198,433	7,518	63,748	26,763
48,576	33,983	1,382	13,211	290,519	177,866	7,646	70,345	34,662
<b>23,974</b>	<b>20,532</b>	<b>364</b>	<b>3,078</b>	<b>282,092</b>	<b>228,039</b>	<b>38,779</b>	..	<b>15,273</b>
<b>27,918</b>	<b>23,186</b>	<b>362</b>	<b>4,370</b>	<b>276,135</b>	<b>216,533</b>	<b>43,175</b>	..	<b>16,427</b>
<b>29,073</b>	<b>23,288</b>	<b>369</b>	<b>5,417</b>	<b>274,527</b>	<b>210,404</b>	<b>44,345</b>	..	<b>19,779</b>
<b>30,225</b>	<b>23,390</b>	<b>368</b>	<b>6,467</b>	<b>278,091</b>	<b>216,646</b>	<b>39,637</b>	..	<b>21,808</b>
..	..	..	..	157	156	..	..	1
..	..	..	..	*156	*155	..	..	*1
..	..	..	..	157	156	..	..	*1
..	..	..	..	169	168	..	..	2
19,667	17,112	..	2,555	231,498	210,440	14,083	..	6,975
23,364	19,543	..	3,821	226,356	200,120	18,270	..	7,966
24,355	19,504	..	4,851	223,944	195,263	18,421	..	10,260
25,489	19,607	..	5,882	226,871	201,872	13,445	..	11,554
..	..	..	..	*33	*32	..	..	*1
..	..	..	..	*33	*31	..	..	*1
..	..	..	..	*32	*29	..	..	*3
..	..	..	..	*29	*27	..	..	*2
48	48	..	..	755	223	525	..	7
47	47	..	..	811	278	527	..	5
50	50	..	..	810	404	401	..	4
22	22	..	..	892	480	406	..	6
..	..	..	..	*768	*553	*209	..	*6
..	..	..	..	*744	*542	*195	..	*7
..	..	..	..	*721	*492	*219	..	*10
..	..	..	..	*718	*488	*219	..	11
..	..	..	..	1,784	1,784	..	..	..
..	..	..	..	1,736	1,736	..	..	..
..	..	..	..	*1,750	*1,750	..	..	..
..	..	..	..	*1,731	*1,731	..	..	..
*2	*2	..	..	23	23	..	..	..
*2	*2	..	..	23	23	..	..	..
*2	*2	..	..	*24	*24	..	..	..
*2	*2	..	..	*26	*24	..	..	*2
..	..	..	..	78	78	..	..	0
..	..	..	..	84	83	..	..	0
..	..	..	..	*85	*85	..	..	0
..	..	..	..	*86	*86	..	..	0
..	..	..	..	*66	*65	..	..	1
..	..	..	..	*67	*66	..	..	1
..	..	..	..	69	68	0	..	1
..	..	..	..	*69	*68	0	..	*1
..	..	..	..	24	24	..	..	0
..	..	..	..	*24	*24	..	..	0
..	..	..	..	*25	*25	..	..	0
..	..	..	..	*25	*25	..	..	0

Table 32

## Production of electricity - by type

Gigawatt-hours

Country or area	Year	Total producers						
		Total	Combustible fuels	Hydro	Nuclear	Wind	Solar	Other
New Caledonia	2012	2,288	1,828	398	..	57	5	..
	2013	2,506	1,992	456	..	52	5	..
	2014	3,011	2,660	289	..	57	5	..
	2015	2,903	2,494	340	..	62	7	..
New Zealand	2012	44,264	13,046	22,901	..	2,080	5	6,232
	2013	43,268	11,718	23,041	..	2,024	7	6,478
	2014	43,505	9,619	24,317	..	2,214	17	7,338
	2015	44,205	9,368	24,535	..	2,356	34	7,912
Niue	2012	3	3	..	..	..	0	..
	2013	3	3	..	..	..	0	..
	2014	3	3	..	..	..	0	..
	2015	3	3	..	..	..	0	..
Northern Mariana Islands	2012	*411	*411	..	..	..	..	..
	2013	*415	*415	..	..	..	..	..
	2014	*419	*419	..	..	..	..	..
	2015	*430	*430	..	..	..	..	..
Palau	2012	*95	*95	..	..	..	..	..
	2013	*95	*95	..	..	..	..	..
	2014	*95	*95	..	..	..	..	..
	2015	*95	*95	..	..	..	..	..
Papua New Guinea	2012	3,764	2,359	983	..	..	..	422
	2013	3,964	2,546	996	..	..	..	422
	2014	4,176	2,734	1,020	..	..	..	422
	2015	*4,176	*2,734	*1,020	..	..	..	*422
Samoa	2012	112	75	37	..	..	..	..
	2013	121	77	44	..	..	0	..
	2014	*130	*86	40	..	..	*4	..
	2015	134	93	32	..	0	8	..
Solomon Islands	2012	83	83	..	..	..	..	..
	2013	89	89	..	..	..	..	..
	2014	94	92	..	..	..	*2	..
	2015	97	95	..	..	..	*2	..
Tonga	2012	52	52	..	..	..	..	..
	2013	53	51	..	..	0	2	..
	2014	55	52	..	..	0	2	..
	2015	55	52	..	..	0	3	..
Tuvalu	2012	*5	*5	..	..	..	..	..
	2013	*5	*5	..	..	..	..	..
	2014	*5	*5	..	..	..	..	..
	2015	*7	*5	..	..	..	2	..
Vanuatu	2012	67	57	7	..	3	0	..
	2013	*68	*58	*7	..	*3	0	..
	2014	*67	*56	*7	..	*3	0	..
	2015	*64	*50	*7	..	*6	*1	..
Wallis and Futuna Is.	2012	19	19	..	..	..	..	..
	2013	19	19	..	..	..	..	..
	2014	19	19	..	..	..	..	..
	2015	18	18	..	..	..	..	..

Table 32

## Production of electricity - by type

Gigawatt-hours

Autoproducers				Main activity producers				
Total	Combustible fuels	Hydro	Other	Total	Combustible fuels	Hydro	Nuclear	Other
*1	..	..	*1	2,287	1,828	398	..	62
1	..	..	1	2,505	1,992	456	..	57
*1	..	..	*1	3,011	2,660	289	..	62
*1	..	..	*1	2,903	2,494	340	..	68
1,374	1,261	13	100	42,890	11,785	22,888	..	8,217
1,431	1,294	11	126	41,837	10,424	23,030	..	8,383
1,416	1,264	9	143	42,089	8,355	24,308	..	9,426
1,460	1,290	8	162	42,745	8,078	24,527	..	10,140
..	..	..	..	3	3	..	..	0
..	..	..	..	3	3	..	..	0
..	..	..	..	3	3	..	..	0
..	..	..	..	3	3	..	..	0
..	..	..	..	*411	*411	..	..	..
..	..	..	..	*415	*415	..	..	..
..	..	..	..	*419	*419	..	..	..
..	..	..	..	*430	*430	..	..	..
*6	*6	..	..	*89	*89	..	..	..
*6	*6	..	..	*89	*89	..	..	..
*6	*6	..	..	*89	*89	..	..	..
*6	*6	..	..	*89	*89	..	..	..
2,868	2,095	351	422	896	264	632	..	..
3,059	2,286	351	422	905	260	645	..	..
3,236	2,454	360	422	940	280	660	..	..
*3,236	*2,454	*360	*422	*940	*280	*660	..	..
..	..	..	..	112	75	37	..	..
..	..	..	..	121	77	44	..	0
..	..	..	..	*130	*86	40	..	*4
..	..	..	..	134	93	32	..	8
*8	*8	..	..	75	75	..	..	..
*8	*8	..	..	81	81	..	..	..
*8	*8	..	..	86	84	..	..	*2
*9	*9	..	..	88	86	..	..	*2
..	..	..	..	52	52	..	..	..
..	..	..	..	53	51	..	..	2
..	..	..	..	55	52	..	..	2
..	..	..	..	55	52	..	..	3
..	..	..	..	*5	*5	..	..	..
..	..	..	..	*5	*5	..	..	..
..	..	..	..	*5	*5	..	..	..
..	..	..	..	*7	*5	..	..	2
..	..	..	..	67	57	7	..	3
..	..	..	..	*68	*58	*7	..	*3
..	..	..	..	*67	*56	*7	..	*3
..	..	..	..	*64	*50	*7	..	*7
..	..	..	..	19	19	..	..	..
..	..	..	..	19	19	..	..	..
..	..	..	..	19	19	..	..	..
..	..	..	..	18	18	..	..	..