Appendix H Reference case projections for electricity capacity and generation by fuel

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Table H1. World total installed generating capacity by region and country, 2011–40 (gigawatts)

(8-8	His	story			Projection	S		Average annual percent change,
Region/country	2011	2012	2020	2025	2030	2035	2040	2012-40
OECD								
OECD Americas	1,258	1,278	1,330	1,371	1,436	1,517	1,622	0.9
United States ^a	1,046	1,063	1,079	1,091	1,133	1,187	1,261	0.6
Canada	133	135	154	165	176	190	204	1.5
Mexico and Chile	79	80	97	115	127	140	156	2.4
OECD Europe	944	985	1,128	1,148	1,179	1,227	1,276	0.9
OECD Asia	412	428	490	516	536	553	569	1.0
Japan	261	267	282	295	299	300	295	0.4
South Korea	80	90	124	132	142	150	159	2.1
Australia and New Zealand	71	72	84	89	95	103	115	1.7
Total OECD	2,614	2,691	2,949	3,035	3,152	3,297	3,467	0.9
Non-OECD								
Non-OECD Europe and Eurasia	411	418	462	468	480	494	499	0.6
Russia	230	233	267	267	272	277	275	0.6
Other	180	185	194	201	208	217	225	0.7
Non-OECD Asia	1,584	1,708	2,383	2,612	2,840	3,079	3,332	2.4
China	1,065	1,153	1,657	1,808	1,937	2,066	2,194	2.3
India	238	255	347	396	459	527	607	3.1
Other	281	300	379	408	444	486	531	2.1
Middle East	204	220	287	333	363	403	434	2.5
Africa	135	141	191	202	232	266	306	2.8
Non-OECD Americas	252	261	305	329	357	386	418	1.7
Brazil	119	122	148	162	180	197	216	2.1
Other	133	139	157	167	177	189	202	1.3
Total Non-OECD	2,587	2,748	3,628	3,946	4,271	4,627	4,988	2.2
Total World	5,202	5,440	6,577	6,981	7,422	7,925	8,455	1.6
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^aIncludes the 50 states and the District of Columbia.

Table H2. World installed liquids-fired generating capacity by region and country, 2011–40 (gigawatts)

(Siguratio)	His	tory			Projections	5		Average annual
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40
OECD								
OECD Americas	125	121	108	98	92	87	85	-1.2
United States ^a	105	101	89	80	75	71	70	-1.3
Canada	4	4	4	4	4	4	3	-1.0
Mexico and Chile	16	16	14	14	13	12	12	-1.0
OECD Europe	50	50	47	45	43	41	39	-0.9
OECD Asia	58	59	54	52	49	47	45	-1.0
Japan	52	52	49	46	44	42	40	-1.0
South Korea	4	5	4	4	4	4	4	-1.0
Australia and New Zealand	1	2	2	1	1	1	1	-0.6
Total OECD	234	229	210	195	184	175	169	-1.1
Non-OECD								
Non-OECD Europe and Eurasia	20	21	20	19	18	17	17	-0.8
Russia	3	3	4	4	4	3	3	-0.1
Other	17	17	16	15	15	14	13	-1.0
Non-OECD Asia	56	56	55	53	50	48	46	-0.7
China	8	8	8	7	7	7	6	-0.9
India	8	7	7	7	7	7	6	-0.5
Other	40	41	40	38	36	35	33	-0.7
Middle East	37	39	53	51	50	48	46	0.6
Africa	15	15	16	15	15	14	13	-0.5
Non-OECD Americas	32	34	34	33	31	30	29	-0.6
Brazil	7	8	8	7	7	7	6	-0.6
Other	25	26	26	25	24	23	22	-0.6
Total Non-OECD	161	165	178	171	164	157	151	-0.3
Total World	394	395	388	366	348	332	320	-0.8

^aIncludes the 50 states and the District of Columbia.

Table H3. World installed natural-gas-fired generating capacity by region and country, 2011–40 (gigawatts)

(gigawatts)	His	story			Projections	S		Average annual
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40
OECD	,							
OECD Americas	410	420	455	488	534	584	640	1.5
United States ^a	358	367	393	409	444	481	525	1.3
Canada	20	20	25	30	36	41	46	3.0
Mexico and Chile	32	32	38	49	54	62	69	2.7
OECD Europe	238	244	244	249	264	278	308	0.8
OECD Asia	129	136	148	158	165	179	194	1.3
Japan	83	86	89	96	97	101	104	0.7
South Korea	26	30	37	37	39	44	49	1.8
Australia and New Zealand	20	21	22	25	29	34	41	2.4
Total OECD	777	799	848	895	963	1,040	1,142	1.3
Non-OECD								
Non-OECD Europe and Eurasia	147	151	165	167	176	184	187	0.8
Russia	107	109	118	113	116	119	117	0.3
Other	40	42	47	54	59	65	70	1.8
Non-OECD Asia	180	186	234	277	315	375	426	3.0
China	39	41	74	107	124	156	186	5.5
India	25	24	25	27	31	40	45	2.2
Other	116	121	135	143	160	179	195	1.7
Middle East	153	165	201	221	241	253	272	1.8
Africa	55	59	74	78	94	115	137	3.1
Non-OECD Americas	58	62	75	79	81	85	88	1.3
Brazil	12	11	17	17	17	17	17	1.4
Other	46	51	58	62	65	68	72	1.2
Total Non-OECD	593	624	749	822	908	1,012	1,111	2.1
Total World	1,370	1,423	1,597	1,717	1,870	2,052	2,252	1.7

^aIncludes the 50 states and the District of Columbia.

Table H4. World installed coal-fired generating capacity by region and country, 2011–40 (gigawatts)

(8-8	His	story			Projection	S		Average annual
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40
OECD								
OECD Americas	333	327	279	276	272	272	271	-0.7
United States ^a	314	308	263	260	260	260	260	-0.6
Canada	10	10	7	7	3	3	2	-5.2
Mexico and Chile	9	9	9	9	9	9	9	-0.2
OECD Europe	197	198	207	200	194	188	183	-0.3
OECD Asia	109	112	117	113	111	109	110	-0.1
Japan	50	50	49	47	46	44	43	-0.6
South Korea	28	31	39	38	38	39	41	1.0
Australia and New Zealand	31	30	29	28	27	26	26	-0.5
Total OECD	639	637	603	590	577	570	564	-0.4
Non-OECD								
Non-OECD Europe and Eurasia	111	110	112	109	110	112	111	0.0
Russia	49	49	53	51	54	56	56	0.5
Other	62	61	59	58	57	55	55	-0.4
Non-OECD Asia	922	993	1,178	1,195	1,194	1,208	1,235	0.8
China	719	770	888	901	886	865	845	0.3
India	139	153	188	189	197	222	255	1.8
Other	65	71	102	105	112	121	136	2.4
Middle East	0	0	1	1	1	1	1	6.4
Africa	36	36	46	45	46	47	51	1.3
Non-OECD Americas	6	6	8	8	8	8	8	0.8
Brazil	3	4	5	5	5	4	4	0.6
Other	3	3	3	3	3	3	4	1.1
Total Non-OECD	1,076	1,146	1,344	1,358	1,359	1,376	1,406	0.7
Total World	1,715	1,782	1,947	1,947	1,936	1,946	1,970	0.4

^aIncludes the 50 states and the District of Columbia.

Table H5. World installed nuclear generating capacity by region and country, 2011–40 (gigawatts)

(Siguratio)	His	tory			Projections	5		Average annual
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40
OECD								
OECD Americas	115	117	115	113	115	114	118	0.0
United States ^a	102	102	101	101	102	102	105	0.1
Canada	13	14	12	10	10	10	9	-1.5
Mexico and Chile	1	2	2	2	3	3	4	3.2
OECD Europe	123	122	116	120	126	127	120	-0.1
OECD Asia	63	65	56	63	66	64	60	-0.3
Japan	44	44	28	31	30	29	25	-2.0
South Korea	19	21	27	33	36	36	36	2.0
Australia and New Zealand	0	0	0	0	0	0	0	_
Total OECD	301	304	287	297	306	306	298	-0.1
Non-OECD								
Non-OECD Europe and Eurasia	40	40	53	59	58	58	58	1.3
Russia	24	24	33	38	34	33	32	1.1
Other	17	17	20	21	24	25	26	1.6
Non-OECD Asia	22	23	61	89	141	173	206	8.2
China	12	13	41	57	95	123	152	9.2
India	4	4	11	19	34	36	41	8.3
Other	6	6	9	13	13	13	14	3.2
Middle East	1	1	6	9	14	19	22	12.1
Africa	2	2	2	3	4	5	6	4.0
Non-OECD Americas	3	3	5	5	10	11	12	5.3
Brazil	2	2	3	3	7	7	7	5.0
Other	1	1	2	2	3	4	5	5.9
Total Non-OECD	68	69	127	164	227	265	304	5.4
Total World	369	373	414	461	532	570	602	1.7

^aIncludes the 50 states and the District of Columbia.

Table H6. World installed hydroelectric and other renewable generating capacity by region and country, 2011–40 (gigawatts)

(gigawatts)	His	tory			Projections	S		Average annual
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40
OECD								
OECD Americas	273	293	372	396	424	460	507	2.0
United States ^a	168	185	233	240	252	273	301	1.8
Canada	85	87	106	114	123	132	144	1.8
Mexico and Chile	20	21	34	42	48	55	62	3.9
OECD Europe	337	372	514	534	553	594	626	1.9
OECD Asia	54	57	115	129	145	153	161	3.8
Japan	32	33	66	74	82	84	84	3.3
South Korea	3	4	16	21	26	28	30	7.8
Australia and New Zealand	19	20	32	34	37	41	47	3.2
Total OECD	664	721	1,001	1,059	1,122	1,207	1,294	2.1
Non-OECD								
Non-OECD Europe and Eurasia	92	95	112	114	117	124	127	1.0
Russia	47	48	59	61	64	66	66	1.1
Other	44	47	53	53	54	57	60	0.9
Non-OECD Asia	404	449	854	999	1,139	1,275	1,418	4.2
China	287	321	647	736	825	915	1,004	4.2
India	62	66	115	154	191	223	261	5.0
Other	55	62	92	109	122	138	154	3.3
Middle East	13	15	27	51	57	82	92	6.7
Africa	27	29	54	61	74	85	99	4.5
Non-OECD Americas	153	156	183	205	226	252	281	2.1
Brazil	95	97	116	130	144	162	181	2.3
Other	58	59	67	75	82	91	100	1.9
Total Non-OECD	690	745	1,230	1,431	1,613	1,818	2,017	3.6
Total World	1,353	1,466	2,231	2,491	2,736	3,025	3,311	3.0

^aIncludes the 50 states and the District of Columbia.

Table H7. World installed hydroelectric generating capacity by region and country, 2011–40 (gigawatts)

(gigawatts)								
	His	tory			Projections	5		Average annual percent change,
Region/country	2011	2012	2020	2025	2030	2035	2040	2012-40
OECD								
OECD Americas	171	171	183	187	192	198	210	0.7
United States ^a	78	78	80	80	80	80	80	0.1
Canada	75	75	83	85	88	90	99	1.0
Mexico and Chile	18	18	20	22	24	27	30	2.0
OECD Europe	153	155	168	174	174	174	183	0.6
OECD Asia	37	37	38	39	40	41	43	0.5
Japan	22	22	23	23	23	23	23	0.1
South Korea	2	2	2	2	2	2	2	0.3
Australia and New Zealand	13	13	13	14	15	17	19	1.2
Total OECD	361	364	389	400	405	413	436	0.6
Non-OECD								
Non-OECD Europe and Eurasia	89	89	95	97	99	104	107	0.7
Russia	47	47	51	53	55	57	57	0.7
Other	41	42	44	44	44	47	50	0.6
Non-OECD Asia	322	345	487	515	536	571	609	2.1
China	231	249	347	357	367	377	387	1.6
India	42	43	67	78	87	102	120	3.7
Other	49	53	73	80	82	92	102	2.4
Middle East	13	14	17	17	17	18	19	1.0
Africa	25	27	37	43	45	51	60	3.0
Non-OECD Americas	139	141	155	175	194	217	242	2.0
Brazil	82	84	96	109	121	136	153	2.2
Other	56	57	59	66	73	80	89	1.6
Total Non-OECD	588	615	789	846	890	961	1,037	1.9
Total World	949	979	1,178	1,245	1,296	1,373	1,473	1.5
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^aIncludes the 50 states and the District of Columbia.

Table H8. World installed wind-powered generating capacity by region and country, 2011–40 (gigawatts)

(8-8	His	tory			Projections	5		Average annual percent change,
Region/country	2011	2012	2020	2025	2030	2035	2040	2012-40
OECD								
OECD Americas	53	67	107	117	127	141	159	3.1
United States ^a	47	59	83	84	87	97	110	2.2
Canada	5	6	15	18	20	22	24	5.0
Mexico and Chile	1	2	9	16	19	22	25	10.1
OECD Europe	94	107	189	203	222	263	277	3.5
OECD Asia	6	6	24	29	37	40	44	7.2
Japan	2	3	3	5	8	8	8	4.1
South Korea	0	0	9	12	16	17	18	13.9
Australia and New Zealand	3	3	11	12	13	15	17	6.2
Total OECD	153	180	320	350	386	444	480	3.6
Non-OECD								
Non-OECD Europe and Eurasia	2	4	8	8	8	9	9	3.4
Russia	0	0	4	4	4	4	4	21.7
Other	2	3	4	4	4	5	5	1.1
Non-OECD Asia	62	80	220	272	326	377	429	6.2
China	45	61	183	225	267	308	350	6.4
India	16	18	32	42	52	60	70	4.9
Other	1	1	4	5	7	8	9	8.4
Middle East	0	0	2	6	8	12	14	19.0
Africa	1	1	10	10	11	13	15	9.8
Non-OECD Americas	2	3	9	10	11	13	14	5.1
Brazil	1	3	7	8	8	9	10	5.2
Other	1	1	3	3	3	3	4	4.8
Total Non-OECD	67	89	248	306	365	423	480	6.2
Total World	220	269	569	656	750	867	961	4.7

^aIncludes the 50 states and the District of Columbia.

Table H9. World installed geothermal generating capacity by region and country, 2011–40 (gigawatts)

(gigawatts)	His	tory			Projections	5		Average annual
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40
OECD								
OECD Americas	3	3	5	7	9	10	11	4.3
United States ^a	3	3	4	5	7	8	9	4.6
Canada	0	0	0	0	0	0	0	_
Mexico and Chile	1	1	1	1	2	2	2	3.3
OECD Europe	2	2	3	3	3	3	3	2.6
OECD Asia	1	1	2	2	3	3	3	3.6
Japan	1	1	1	1	1	1	1	0.0
South Korea	0	0	0	0	0	0	0	_
Australia and New Zealand	1	1	2	2	2	2	3	4.5
Total OECD	6	6	10	12	14	16	18	3.8
Non-OECD								
Non-OECD Europe and Eurasia	0	0	2	2	2	2	2	11.0
Russia	0	0	2	2	2	2	2	11.0
Other	0	0	0	0	0	0	0	_
Non-OECD Asia	3	3	6	9	18	20	23	7.2
China	0	0	0	0	0	0	0	4.2
India	0	0	0	0	0	0	0	_
Other	3	3	6	9	18	20	23	7.2
Middle East	0	0	1	2	2	3	3	_
Africa	0	0	2	3	4	5	6	12.4
Non-OECD Americas	1	1	1	1	1	1	1	1.3
Brazil	0	0	0	0	0	0	0	_
Other	1	1	1	1	1	1	1	1.3
Total Non-OECD	4	4	11	16	26	30	34	7.8
Total World	10	10	22	28	41	46	52	5.9

^aIncludes the 50 states and the District of Columbia.

Table H10. World installed solar generating capacity by region and country, 2011–40 (gigawatts)

(gigawatts)	His	tory			Projections	5		Average annual
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40
OECD								
OECD Americas	5	8	32	36	44	54	67	7.7
United States ^a	4	8	28	32	39	48	61	7.7
Canada	1	1	2	3	3	4	4	5.9
Mexico and Chile	0	0	2	2	2	2	3	14.4
OECD Europe	52	70	93	93	93	94	98	1.2
OECD Asia	7	9	45	51	57	59	60	6.9
Japan	5	7	38	43	48	49	49	7.4
South Korea	1	1	2	3	4	4	4	5.1
Australia and New Zealand	1	1	5	5	5	6	7	5.6
Total OECD	64	88	169	181	194	206	225	3.4
Non-OECD								
Non-OECD Europe and Eurasia	1	2	6	6	6	7	7	4.7
Russia	0	0	2	2	2	3	3	_
Other	1	2	4	4	4	4	4	3.0
Non-OECD Asia	4	5	104	144	183	215	247	14.8
China	3	3	92	115	138	161	184	15.4
India	0	1	10	26	41	49	58	14.9
Other	0	1	2	4	4	5	6	7.6
Middle East	0	0	6	24	27	45	51	27.0
Africa	0	0	5	5	12	14	16	15.5
Non-OECD Americas	0	0	3	4	4	4	5	18.1
Brazil	0	0	0	0	0	0	0	0.0
Other	0	0	3	4	4	4	5	20.3
Total Non-OECD	5	7	124	183	233	285	326	14.4
Total World	69	95	293	364	427	491	551	6.5

^aIncludes the 50 states and the District of Columbia.

Table H11. World installed other renewable generating capacity by region and country, 2011–40 (gigawatts)

(gigawatts)	His	tory			Projections	;		Average annual
					0,000			percent change,
Region/country	2011	2012	2020	2025	2030	2035	2040	2012-40
OECD								
OECD Americas	41	42	45	49	52	57	59	1.2
United States ^a	36	37	39	39	39	40	41	0.4
Canada	4	4	5	8	12	15	16	4.9
Mexico and Chile	1	1	1	1	1	2	2	1.6
OECD Europe	35	38	61	61	61	61	65	1.9
OECD Asia	3	3	6	8	10	10	11	4.9
Japan	2	2	2	3	4	4	4	3.5
South Korea	0	0	3	4	4	5	5	10.3
Australia and New Zealand	1	1	1	1	1	2	2	2.2
Total OECD	80	83	112	117	123	128	135	1.7
Non-OECD								
Non-OECD Europe and Eurasia	0	1	2	2	2	2	2	3.2
Russia	0	1	1	1	1	1	1	0.4
Other	0	0	1	1	1	1	1	8.4
Non-OECD Asia	14	16	37	58	76	93	111	7.2
China	8	8	25	39	54	68	83	8.7
India	3	4	6	8	11	12	14	4.8
Other	2	4	7	11	12	13	14	4.6
Middle East	0	1	2	3	3	5	5	7.2
Africa	1	1	1	1	1	2	2	2.1
Non-OECD Americas	12	11	15	16	17	18	20	2.1
Brazil	11	10	13	14	15	16	18	2.0
Other	1	1	1	2	2	2	2	3.0
Total Non-OECD	26	30	57	80	99	120	140	5.7
Total World	105	113	169	198	222	247	275	3.2

^aIncludes the 50 states and the District of Columbia.

Table H12. World total net electricity generation by region and country, 2011–40 (billion kilowatthours)

	Hi	story			Projection	S		Average annual percent change,
Region/country	2011	2012	2020	2025	2030	2035	2040	2012-40
OECD								
OECD Americas	5,071	5,017	5,449	5,724	6,036	6,359	6,727	1.1
United States ^a	4,102	4,055	4,351	4,513	4,691	4,860	5,056	0.8
Canada	627	616	692	748	809	880	958	1.6
Mexico and Chile	342	346	406	463	535	618	713	2.6
OECD Europe	3,455	3,483	3,858	4,090	4,328	4,590	4,889	1.2
OECD Asia	1,808	1,748	2,014	2,142	2,261	2,398	2,536	1.3
Japan	1,033	968	1,058	1,097	1,124	1,149	1,149	0.6
South Korea	491	501	628	680	735	794	856	1.9
Australia and New Zealand	284	279	328	364	402	455	530	2.3
Total OECD	10,334	10,248	11,321	11,956	12,625	13,347	14,152	1.2
Non-OECD								
Non-OECD Europe and Eurasia	1,636	1,650	1,688	1,823	1,951	2,081	2,147	0.9
Russia	998	1,013	1,033	1,095	1,151	1,206	1,205	0.6
Other	638	637	655	728	800	875	943	1.4
Non-OECD Asia	6,689	7,020	9,618	10,978	12,197	13,521	14,909	2.7
China	4,547	4,771	6,685	7,497	8,145	8,794	9,426	2.5
India	1,006	1,052	1,387	1,669	1,966	2,336	2,769	3.5
Other	1,135	1,196	1,546	1,811	2,086	2,391	2,714	3.0
Middle East	797	848	1,079	1,261	1,448	1,660	1,882	2.9
Africa	659	682	827	970	1,129	1,328	1,550	3.0
Non-OECD Americas	1,087	1,111	1,232	1,366	1,491	1,644	1,814	1.8
Brazil	530	538	615	694	770	863	966	2.1
Other	557	574	617	672	721	781	848	1.4
Total Non-OECD	10,867	11,312	14,444	16,399	18,215	20,234	22,302	2.5
Total World	21,201	21,559	25,765	28,354	30,840	33,581	36,454	1.9

^aIncludes the 50 states and the District of Columbia.

Table H13. World net liquids-fired electricity generation by region and country, 2011–40 (billion kilowatthours)

(omion knowatthours)	His	tory		Projections					
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40	
OECD	_								
OECD Americas	88	88	66	37	36	35	35	-3.3	
United States ^a	30	23	18	18	18	18	18	-0.9	
Canada	6	7	6	6	6	5	5	-1.0	
Mexico and Chile	51	58	43	14	13	12	12	-5.5	
OECD Europe	65	75	71	68	65	62	59	-0.9	
OECD Asia	161	194	70	21	19	18	17	-8.3	
Japan	142	170	49	2	1	1	1	-18.3	
South Korea	16	20	17	16	15	14	13	-1.4	
Australia and New Zealand	4	4	4	4	4	3	3	-0.6	
Total OECD	315	357	208	126	120	115	111	-4.1	
Non-OECD									
Non-OECD Europe and Eurasia	37	38	17	35	33	32	30	-0.8	
Russia	26	26	8	27	26	24	23	-0.4	
Other	11	11	9	8	8	7	7	-1.7	
Non-OECD Asia	153	141	139	133	127	121	115	-0.7	
China	8	6	6	6	6	5	5	-0.9	
India	23	21	22	21	20	19	18	-0.6	
Other	123	113	111	106	101	97	92	-0.7	
Middle East	288	307	274	185	137	131	125	-3.2	
Africa	65	76	78	75	72	68	66	-0.5	
Non-OECD Americas	134	138	141	134	128	123	117	-0.6	
Brazil	16	17	17	17	16	15	14	-0.6	
Other	118	121	123	118	112	108	103	-0.6	
Total Non-OECD	677	699	648	562	497	475	453	-1.5	
Total World	992	1,056	856	688	618	590	564	-2.2	

^aIncludes the 50 states and the District of Columbia.

Table H14. World net natural gas-fired electricity generation by region and country, 2011–40 (billion kilowatthours)

	History			Projections						
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40		
OECD										
OECD Americas	1,234	1,446	1,396	1,600	1,840	2,048	2,237	1.6		
United States ^a	1,014	1,228	1,117	1,223	1,371	1,478	1,569	0.9		
Canada	61	63	97	136	187	230	272	5.3		
Mexico and Chile	160	154	182	240	282	340	396	3.4		
OECD Europe	766	645	655	746	905	1,056	1,321	2.6		
OECD Asia	516	534	567	662	731	852	978	2.2		
Japan	353	373	387	450	471	507	539	1.3		
South Korea	109	105	111	112	128	172	213	2.5		
Australia and New Zealand	55	55	69	100	132	173	227	5.2		
Total OECD	2,516	2,624	2,618	3,008	3,477	3,957	4,537	2.0		
Non-OECD										
Non-OECD Europe and Eurasia	643	653	601	649	734	814	857	1.0		
Russia	488	494	457	442	480	511	508	0.1		
Other	155	159	144	206	254	303	349	2.8		
Non-OECD Asia	605	620	829	1,184	1,495	1,964	2,360	4.9		
China	81	81	245	509	647	901	1,136	9.9		
India	107	88	62	77	111	169	202	3.0		
Other	417	451	521	597	737	894	1,021	3.0		
Middle East	488	517	691	875	1,059	1,175	1,347	3.5		
Africa	222	236	295	330	440	579	718	4.1		
Non-OECD Americas	151	178	223	249	270	295	322	2.1		
Brazil	27	41	68	68	68	68	68	1.8		
Other	124	137	154	181	201	226	254	2.2		
Total Non-OECD	2,110	2,204	2,639	3,287	3,997	4,827	5,604	3.4		
Total World	4,626	4,828	5,257	6,295	7,475	8,784	10,141	2.7		

^aIncludes the 50 states and the District of Columbia.

Table H15. World net coal-fired electricity generation by region and country, 2011–40 (billion kilowatthours)

(omion knowatinours)	His	History			Projection	ıs		Average annual
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40
OECD								
OECD Americas	1,857	1,630	1,808	1,820	1,786	1,778	1,769	0.3
United States ^a	1,733	1,514	1,709	1,724	1,713	1,704	1,702	0.4
Canada	73	60	43	42	20	21	14	-5.1
Mexico and Chile	51	56	55	53	53	53	54	-0.1
OECD Europe	871	930	923	942	915	889	872	-0.2
OECD Asia	641	674	662	642	627	624	630	-0.2
Japan	265	285	270	260	251	242	233	-0.7
South Korea	211	225	235	228	227	236	251	0.4
Australia and New Zealand	165	164	157	154	150	146	146	-0.4
Total OECD	3,369	3,234	3,392	3,404	3,329	3,290	3,272	0.0
Non-OECD								
Non-OECD Europe and Eurasia	391	389	362	352	380	404	414	0.2
Russia	154	159	152	141	170	196	203	0.9
Other	237	230	209	211	209	209	211	-0.3
Non-OECD Asia	4,609	4,718	5,658	5,981	6,068	6,259	6,547	1.2
China	3,576	3,587	4,212	4,392	4,353	4,273	4,194	0.6
India	674	753	944	1,016	1,087	1,281	1,536	2.6
Other	359	377	502	574	629	704	817	2.8
Middle East	0	0	1	3	4	5	7	_
Africa	242	239	283	303	308	322	346	1.3
Non-OECD Americas	23	24	31	31	31	32	34	1.3
Brazil	13	12	18	18	17	17	16	1.0
Other	9	11	13	14	14	16	18	1.7
Total Non-OECD	5,266	5,369	6,335	6,670	6,792	7,023	7,349	1.1
Total World	8,635	8,604	9,727	10,074	10,121	10,313	10,621	0.8

^aIncludes the 50 states and the District of Columbia.

Table H16. World net nuclear electricity generation by region and country, 2011–40 (billion kilowatthours)

	History			Average annual percent change,				
Region/country	2011	2012	2020	2025	2030	2035	2040	2012-40
OECD								
OECD Americas	888	867	902	891	901	900	924	0.2
United States ^a	790	769	804	808	808	812	833	0.3
Canada	88	89	86	72	72	67	62	-1.3
Mexico and Chile	9	8	12	12	20	20	29	4.5
OECD Europe	861	837	845	879	930	948	896	0.2
OECD Asia	304	161	381	437	457	450	427	3.5
Japan	156	17	167	180	175	169	146	7.9
South Korea	148	144	214	258	281	281	281	2.4
Australia and New Zealand	0	0	0	0	0	0	0	_
Total OECD	2,053	1,865	2,127	2,208	2,287	2,298	2,246	0.7
Non-OECD								
Non-OECD Europe and Eurasia	275	279	376	415	411	412	413	1.4
Russia	162	166	234	267	239	228	223	1.0
Other	113	112	141	148	171	183	190	1.9
Non-OECD Asia	156	166	459	662	1,051	1,297	1,559	8.3
China	83	93	329	452	754	983	1,212	9.6
India	29	30	67	117	206	222	248	7.9
Other	44	44	63	93	92	92	98	2.9
Middle East	0	1	40	63	95	128	152	18.4
Africa	13	12	14	21	28	35	42	4.5
Non-OECD Americas	21	21	35	35	74	81	89	5.3
Brazil	15	15	23	23	54	54	54	4.7
Other	6	6	12	12	20	27	34	6.5
Total Non-OECD	465	480	924	1,196	1,659	1,953	2,255	5.7
Total World	2,518	2,345	3,051	3,404	3,946	4,251	4,501	2.4

^aIncludes the 50 states and the District of Columbia.

Table H17. World net hydroelectric and other renewable electricity generation by region and country, 2011–40 (billion kilowatthours)

	History			Average annual percent change,				
Region/country	2011	2012	2020	2025	2030	2035	2040	2012-40
OECD								
OECD Americas	1,004	987	1,278	1,376	1,472	1,598	1,763	2.1
United States ^a	535	520	704	741	781	848	934	2.1
Canada	398	397	459	491	524	557	606	1.5
Mexico and Chile	71	69	115	144	167	193	223	4.3
OECD Europe	892	996	1,363	1,455	1,513	1,635	1,741	2.0
OECD Asia	186	185	335	378	427	454	483	3.5
Japan	118	122	185	205	226	231	231	2.3
South Korea	8	7	52	67	83	90	97	9.8
Australia and New Zealand	60	55	98	106	117	133	155	3.7
Total OECD	2,081	2,168	2,976	3,210	3,412	3,687	3,987	2.2
Non-OECD								
Non-OECD Europe and Eurasia	289	291	334	373	393	419	433	1.4
Russia	168	168	181	217	235	247	247	1.4
Other	121	123	152	155	158	173	186	1.5
Non-OECD Asia	1,166	1,375	2,533	3,018	3,455	3,880	4,327	4.2
China	801	1,004	1,892	2,139	2,385	2,632	2,878	3.8
India	173	160	292	439	543	645	764	5.7
Other	192	212	349	440	527	604	685	4.3
Middle East	20	22	72	135	153	222	252	9.1
Africa	117	120	157	242	281	323	377	4.2
Non-OECD Americas	758	751	803	916	987	1,112	1,251	1.8
Brazil	459	451	488	568	614	708	812	2.1
Other	299	299	314	348	373	404	439	1.4
Total Non-OECD	2,350	2,559	3,898	4,683	5,270	5,957	6,641	3.5
Total World	4,431	4,727	6,874	7,893	8,682	9,644	10,628	2.9

^aIncludes the 50 states and the District of Columbia.

Table H18. World net hydroelectric electricity generation by region and country, 2011–40 (billion kilowatthours)

	His	tory		Projections						
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40		
OECD										
OECD Americas	747	703	764	784	806	831	887	0.8		
United States ^a	319	275	292	294	295	295	297	0.3		
Canada	372	377	403	414	425	437	475	0.8		
Mexico and Chile	57	51	68	76	86	99	114	2.9		
OECD Europe	498	556	592	617	617	617	657	0.6		
OECD Asia	128	115	127	131	135	143	153	1.0		
Japan	82	75	83	83	83	85	85	0.5		
South Korea	5	4	4	4	4	4	5	0.7		
Australia and New Zealand	41	37	39	43	47	54	63	1.9		
Total OECD	1,374	1,375	1,482	1,532	1,558	1,592	1,696	0.8		
Non-OECD										
Non-OECD Europe and Eurasia	281	280	310	326	341	364	376	1.1		
Russia	164	164	177	190	204	213	214	0.9		
Other	117	116	134	136	138	150	162	1.2		
Non-OECD Asia	994	1,160	1,620	1,747	1,825	1,959	2,105	2.2		
China	691	856	1,162	1,198	1,234	1,270	1,306	1.5		
India	142	125	196	255	287	341	405	4.3		
Other	161	179	261	294	303	348	394	2.9		
Middle East	20	22	38	39	39	42	47	2.8		
Africa	110	113	129	177	185	213	248	2.8		
Non-OECD Americas	709	695	715	806	868	977	1,098	1.6		
Brazil	424	411	428	491	531	611	701	1.9		
Other	285	284	287	315	338	366	397	1.2		
Total Non-OECD	2,114	2,270	2,812	3,095	3,258	3,554	3,875	1.9		
Total World	3,488	3,645	4,294	4,626	4,816	5,146	5,571	1.5		

^aIncludes the 50 states and the District of Columbia.

Table H19. World net wind-powered electricity generation by region and country, 2011–40 (billion kilowatthours)

(omion knowavinours)	His	tory			Projection	S		Average annual
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40
OECD								
OECD Americas	142	156	295	327	354	404	460	3.9
United States ^a	120	141	232	235	245	278	319	3.0
Canada	20	11	39	46	53	60	66	6.5
Mexico and Chile	2	4	25	47	57	65	75	11.0
OECD Europe	180	208	445	499	556	678	722	4.5
OECD Asia	13	14	66	83	106	116	127	8.2
Japan	4	5	6	13	20	21	21	5.4
South Korea	1	1	27	35	47	51	55	15.8
Australia and New Zealand	8	8	33	35	38	44	51	6.7
Total OECD	334	379	806	910	1,017	1,198	1,310	4.5
Non-OECD								
Non-OECD Europe and Eurasia	3	5	8	18	20	21	22	5.2
Russia	0	0	0	10	12	13	13	32.3
Other	3	5	8	8	8	9	9	2.0
Non-OECD Asia	101	126	462	605	742	870	1,002	7.7
China	73	96	391	491	592	692	793	7.8
India	26	28	59	100	130	155	183	6.9
Other	2	2	13	14	20	23	26	9.2
Middle East	0	0	5	18	24	36	41	_
Africa	3	2	13	28	33	38	44	11.0
Non-OECD Americas	5	7	17	24	26	30	34	5.7
Brazil	3	5	10	16	18	20	23	5.6
Other	2	2	6	8	9	9	10	5.7
Total Non-OECD	112	142	506	693	845	995	1,143	7.7
Total World	447	520	1,312	1,603	1,863	2,192	2,452	5.7

^aIncludes the 50 states and the District of Columbia.

Table H20. World net geothermal electricity generation by region and country, 2011–40 (billion kilowatthours)

	History			Average annual percent change,				
Region/country	2011	2012	2020	2025	2030	2035	2040	2012-40
OECD								
OECD Americas	22	21	37	49	64	75	85	5.0
United States ^a	15	16	27	39	52	62	70	5.5
Canada	0	0	0	0	0	0	0	_
Mexico and Chile	7	6	10	10	11	13	15	3.5
OECD Europe	11	12	21	23	23	23	25	2.7
OECD Asia	9	9	17	18	20	22	25	3.9
Japan	3	3	3	3	3	3	3	0.1
South Korea	0	0	1	1	2	2	2	_
Australia and New Zealand	6	6	13	14	16	18	20	4.4
Total OECD	42	42	74	90	107	121	135	4.2
Non-OECD								
Non-OECD Europe and Eurasia	1	0	1	11	13	13	13	12.6
Russia	1	0	1	11	13	13	13	12.6
Other	0	0	0	0	0	0	0	_
Non-OECD Asia	20	20	43	69	134	153	174	8.0
China	0	0	1	1	1	1	1	5.2
India	0	0	0	0	0	0	0	_
Other	20	20	42	69	133	152	173	8.0
Middle East	0	0	9	12	18	21	24	_
Africa	2	2	7	21	33	37	43	12.5
Non-OECD Americas	3	4	4	5	5	6	6	1.6
Brazil	0	0	0	0	0	0	0	_
Other	3	4	4	5	5	6	6	1.6
Total Non-OECD	25	26	65	118	202	230	261	8.6
Total World	67	68	139	208	309	352	395	6.5

^aIncludes the 50 states and the District of Columbia.

Table H21. World net solar electricity generation by region and country, 2011–40 (billion kilowatthours)

(billion knowatthours)	His	torv			Projections	;		Average annual
	- 1110	,			,			percent change,
Region/country	2011	2012	2020	2025	2030	2035	2040	2012-40
OECD								
OECD Americas	6	12	57	65	79	96	120	8.7
United States ^a	6	11	51	59	71	88	110	8.5
Canada	0	0	3	3	4	5	5	10.3
Mexico and Chile	0	0	3	3	4	4	5	16.4
OECD Europe	48	71	105	106	106	106	113	1.7
OECD Asia	7	10	66	76	85	89	91	8.4
Japan	5	7	55	62	69	71	71	8.6
South Korea	1	1	4	6	6	7	7	7.0
Australia and New Zealand	1	1	8	8	9	11	12	7.8
Total OECD	61	92	228	247	270	291	324	4.6
Non-OECD								
Non-OECD Europe and Eurasia	0	1	4	7	7	8	8	7.1
Russia	0	0	0	3	3	4	4	
Other	0	1	4	4	4	4	5	5.0
Non-OECD Asia	4	9	195	278	355	416	480	15.2
China	3	6	175	218	262	306	350	15.4
India	1	2	17	53	85	101	120	15.6
Other	0	1	4	7	8	9	10	10.2
Middle East	0	0	12	50	56	95	107	35.9
Africa	0	0	4	10	25	29	34	18.0
Non-OECD Americas	0	0	5	7	7	8	9	
Brazil	0	0	0	0	0	0	0	
Other	0	0	5	7	7	8	9	
Total Non-OECD	4	11	219	352	452	556	638	15.7
Total World	65	103	448	599	722	847	962	8.3

^aIncludes the 50 states and the District of Columbia.

Table H22. World net other renewable electricity generation by region and country, 2011–40 (billion kilowatthours)

(omion knowatthours)	His	tory			Projections					
Region/country	2011	2012	2020	2025	2030	2035	2040	percent change, 2012-40		
OECD										
OECD Americas	87	94	125	151	169	191	210	2.9		
United States ^a	75	77	103	115	119	125	138	2.1		
Canada	6	9	14	28	41	55	60	7.0		
Mexico and Chile	6	8	8	8	9	11	13	1.8		
OECD Europe	155	149	201	210	210	210	224	1.5		
OECD Asia	28	37	60	71	80	84	87	3.1		
Japan	23	33	38	44	50	51	51	1.5		
South Korea	1	1	17	21	24	26	28	12.0		
Australia and New Zealand	4	3	6	6	7	7	9	3.9		
Total OECD	270	281	385	432	460	485	522	2.2		
Non-OECD										
Non-OECD Europe and Eurasia	3	4	10	11	12	13	14	4.4		
Russia	3	3	3	3	4	4	4	0.8		
Other	1	1	7	8	9	10	10	8.0		
Non-OECD Asia	47	59	212	319	399	482	566	8.4		
China	34	45	164	230	296	363	429	8.4		
India	4	5	20	31	40	47	56	9.0		
Other	9	10	29	58	63	72	82	7.9		
Middle East	0	0	9	16	16	28	32	_		
Africa	2	2	4	5	5	7	8	4.5		
Non-OECD Americas	41	44	61	74	80	92	105	3.1		
Brazil	32	35	50	61	66	76	88	3.3		
Other	9	9	12	14	15	16	17	2.4		
Total Non-OECD	94	110	296	425	513	622	725	7.0		
Total World	364	391	681	857	973	1,107	1,247	4.2		

^aIncludes the 50 states and the District of Columbia.