Appendix H

Reference case projections for electricity capacity and generation by fuel

THIS PAGE INTENTIONALLY LEFT BLANK

Table H1. World total installed generating capacity by region and country, 2015-50

(gigawatts)

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**1,312**	**1,350**	**1,381**	**1,450**	**1,529**	**1,641**	**1,762**	**1,896**	**1.1**
United States /a	1,075	1,104	1,127	1,179	1,248	1,346	1,454	1,575	1.1
Canada	145	150	153	158	165	171	176	181	0.6
Mexico and Chile	92	96	101	113	117	124	131	139	1.2
OECD Europe	**1,105**	**1,251**	**1,234**	**1,242**	**1,274**	**1,320**	**1,357**	**1,403**	**0.7**
OECD Asia	**480**	**547**	**567**	**577**	**592**	**609**	**627**	**649**	**0.9**
Japan	292	314	318	317	316	314	312	312	0.2
South Korea	111	146	154	159	166	174	182	190	1.6
Australia and New Zealand	78	88	94	102	111	121	133	147	1.8
Total OECD	**2,897**	**3,147**	**3,182**	**3,269**	**3,395**	**3,569**	**3,746**	**3,947**	**0.9**
Non-OECD									
Non-OECD Europe and Eurasia	**461**	**492**	**496**	**499**	**502**	**502**	**499**	**498**	**0.2**
Russia	262	269	268	265	268	266	263	258	0.0
Other	198	223	228	234	234	236	237	240	0.6
Non-OECD Asia	**2,259**	**2,710**	**2,960**	**3,156**	**3,375**	**3,613**	**3,860**	**4,089**	**1.7**
China	1,573	1,835	1,972	2,089	2,206	2,326	2,455	2,582	1.4
India	339	434	501	574	643	719	792	851	2.7
Other	347	441	487	493	527	569	612	656	1.8
Middle East	**275**	**336**	**348**	**388**	**419**	**450**	**476**	**503**	**1.7**
Africa	**180**	**268**	**270**	**308**	**304**	**313**	**331**	**346**	**1.9**
Non-OECD Americas	**311**	**328**	**339**	**350**	**355**	**371**	**389**	**407**	**0.8**
Brazil	147	150	152	158	166	175	184	193	0.8
Other	164	178	187	191	190	196	205	214	0.8
Total Non-OECD	**3,486**	**4,134**	**4,413**	**4,700**	**4,955**	**5,249**	**5,554**	**5,843**	**1.5**
Total World	**6,383**	**7,282**	**7,594**	**7,969**	**8,350**	**8,819**	**9,300**	**9,790**	**1.2**

a/ Includes the 50 states and the District of Columbia

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, Annual Energy Outlook 2017, DOE/EIA-0383(2017) (Washington, DC: January 2017);
AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H2. World installed liquids-fired generating capacity by region and country, 2015-50

gigawatts

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**115**	**96**	**72**	**63**	**57**	**51**	**50**	**46**	**-2.6**
United States /a	94	85	62	53	47	42	42	38	-2.6
Canada	4	4	4	3	3	3	3	3	-1.0
Mexico and Chile	17	7	7	7	6	6	6	5	-3.3
OECD Europe	**46**	**44**	**42**	**40**	**38**	**36**	**35**	**33**	**-0.9**
OECD Asia	**54**	**51**	**48**	**46**	**44**	**42**	**40**	**38**	**-1.0**
Japan	47	44	42	40	38	36	34	33	-1.0
South Korea	6	5	5	5	5	4	4	4	-1.0
Australia and New Zealand	2	2	2	2	1	1	1	1	-1.0
Total OECD	**215**	**192**	**163**	**149**	**139**	**129**	**124**	**117**	**-1.7**
Non-OECD									
Non-OECD Europe and Eurasia	**19**	**18**	**17**	**16**	**16**	**15**	**14**	**13**	**-1.0**
Russia	3	3	3	3	2	2	2	2	-1.0
Other	16	15	15	14	13	13	12	11	-1.0
Non-OECD Asia	**54**	**52**	**50**	**47**	**45**	**43**	**41**	**39**	**-0.9**
China	8	7	7	7	6	6	6	5	-1.0
India	7	7	7	6	6	6	5	5	-1.0
Other	39	38	36	35	33	32	30	29	-0.8
Middle East	**45**	**60**	**63**	**61**	**59**	**58**	**56**	**54**	**0.5**
Africa	**18**	**19**	**18**	**17**	**16**	**16**	**15**	**15**	**-0.6**
Non-OECD Americas	**37**	**37**	**35**	**33**	**32**	**30**	**29**	**28**	**-0.8**
Brazil	8	8	8	7	7	6	6	6	-1.0
Other	29	29	28	26	25	24	23	22	-0.8
Total Non-OECD	**173**	**185**	**183**	**175**	**168**	**162**	**155**	**149**	**-0.4**
Total World	**388**	**377**	**346**	**324**	**307**	**291**	**279**	**265**	**-1.1**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H3. World installed natural-gas-fired generating capacity by region and country, 2015-50

gigawatts

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**442**	**482**	**490**	**531**	**573**	**623**	**670**	**724**	**1.4**
United States /a	383	402	400	437	477	517	556	603	1.3
Canada	23	32	38	43	45	50	53	56	2.5
Mexico and Chile	37	49	53	51	51	56	61	65	1.7
OECD Europe	**248**	**250**	**238**	**235**	**265**	**287**	**320**	**353**	**1.0**
OECD Asia	**153**	**166**	**166**	**170**	**176**	**181**	**187**	**194**	**0.7**
Japan	95	100	100	100	99	97	95	94	0.0
South Korea	37	44	42	43	45	48	50	52	1.0
Australia and New Zealand	21	22	23	27	31	36	42	48	2.4
Total OECD	**844**	**897**	**894**	**936**	**1,013**	**1,091**	**1,177**	**1,271**	**1.2**
Non-OECD									
Non-OECD Europe and Eurasia	**172**	**175**	**169**	**167**	**168**	**167**	**164**	**161**	**-0.2**
Russia	127	125	120	118	119	118	115	112	-0.4
Other	45	49	49	49	49	49	49	49	0.2
Non-OECD Asia	**225**	**255**	**272**	**287**	**330**	**372**	**419**	**455**	**2.0**
China	67	77	94	108	119	135	161	185	3.0
India	28	28	33	36	43	49	53	55	1.9
Other	130	151	145	144	169	188	205	215	1.5
Middle East	**213**	**243**	**239**	**268**	**283**	**297**	**317**	**337**	**1.3**
Africa	**86**	**112**	**108**	**105**	**102**	**107**	**113**	**117**	**0.9**
Non-OECD Americas	**75**	**82**	**82**	**82**	**82**	**87**	**92**	**96**	**0.7**
Brazil	14	14	14	14	14	15	17	18	0.7
Other	62	68	68	68	68	72	75	78	0.7
Total Non-OECD	**771**	**866**	**871**	**910**	**964**	**1,031**	**1,105**	**1,166**	**1.2**
Total World	**1,615**	**1,763**	**1,765**	**1,846**	**1,978**	**2,122**	**2,281**	**2,436**	**1.2**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H4. World installed coal-fired generating capacity by region and country, 2015-50

gigawatts

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**300**	**249**	**224**	**203**	**191**	**184**	**176**	**173**	**-1.6**
United States /a	281	231	206	189	178	172	165	162	-1.6
Canada	9	7	7	3	3	2	2	2	-4.6
Mexico and Chile	10	11	11	10	10	10	9	9	-0.3
OECD Europe	**201**	**217**	**210**	**204**	**203**	**200**	**200**	**203**	**0.0**
OECD Asia	**118**	**129**	**126**	**125**	**125**	**125**	**126**	**128**	**0.2**
Japan	55	56	55	54	53	52	51	50	-0.2
South Korea	34	45	44	45	46	48	50	53	1.2
Australia and New Zealand	29	28	27	27	26	26	25	25	-0.5
Total OECD	**619**	**596**	**560**	**532**	**518**	**509**	**501**	**504**	**-0.6**
Non-OECD									
Non-OECD Europe and Eurasia	**115**	**119**	**120**	**122**	**123**	**123**	**122**	**121**	**0.1**
Russia	53	53	51	53	54	54	54	53	0.0
Other	63	66	69	69	69	69	69	69	0.3
Non-OECD Asia	**1,256**	**1,388**	**1,425**	**1,423**	**1,440**	**1,461**	**1,490**	**1,520**	**0.5**
China	960	998	1,004	993	976	958	940	923	-0.1
India	211	263	272	281	307	336	370	398	1.8
Other	85	126	150	148	157	168	180	199	2.5
Middle East	**1**	**1**	**1**	**2**	**3**	**4**	**5**	**7**	**6.1**
Africa	**41**	**60**	**59**	**57**	**56**	**57**	**59**	**61**	**1.2**
Non-OECD Americas	**9**	**10**	**10**	**10**	**10**	**11**	**12**	**13**	**1.0**
Brazil	5	4	4	4	4	4	5	5	0.2
Other	5	6	6	6	6	7	7	8	1.5
Total Non-OECD	**1,422**	**1,578**	**1,615**	**1,613**	**1,632**	**1,656**	**1,689**	**1,721**	**0.5**
Total World	**2,041**	**2,174**	**2,175**	**2,146**	**2,150**	**2,165**	**2,190**	**2,225**	**0.2**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H5. World installed nuclear generating capacity by region and country, 2015-50

gigawatts

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**114**	**111**	**109**	**110**	**105**	**99**	**91**	**83**	**-0.9**
United States /a	99	97	97	97	91	88	83	77	-0.7
Canada	14	12	10	11	10	7	6	4	-3.5
Mexico and Chile	2	2	2	3	4	3	2	2	1.1
OECD Europe	**120**	**106**	**96**	**96**	**90**	**87**	**72**	**58**	**-2.1**
OECD Asia	**22**	**43**	**53**	**53**	**55**	**56**	**58**	**60**	**2.9**
Japan	1	17	22	20	20	20	20	20	8.4
South Korea	21	26	32	33	35	37	38	40	1.9
Australia and New Zealand	0	0	0	0	0	0	0	0	0.0
Total OECD	**256**	**260**	**258**	**259**	**250**	**242**	**221**	**200**	**-0.7**
Non-OECD									
Non-OECD Europe and Eurasia	**42**	**51**	**59**	**57**	**56**	**55**	**55**	**56**	**0.8**
Russia	26	33	37	33	32	31	31	31	0.5
Other	17	19	22	24	24	24	24	25	1.2
Non-OECD Asia	**39**	**64**	**90**	**124**	**154**	**185**	**208**	**231**	**5.2**
China	28	49	67	85	113	139	164	187	5.6
India	5	9	17	34	36	41	39	39	5.8
Other	6	6	6	6	6	6	6	6	-0.1
Middle East	**1**	**7**	**8**	**12**	**15**	**17**	**17**	**17**	**8.7**
Africa	**2**	**2**	**2**	**4**	**4**	**4**	**5**	**6**	**3.6**
Non-OECD Americas	**4**	**5**	**6**	**6**	**5**	**5**	**5**	**5**	**0.7**
Brazil	2	3	3	3	3	3	3	3	0.8
Other	2	2	2	2	2	2	2	2	0.6
Total Non-OECD	**87**	**129**	**165**	**203**	**234**	**266**	**289**	**316**	**3.7**
Total World	**343**	**389**	**423**	**462**	**484**	**508**	**510**	**516**	**1.2**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H6. World installed hydroelectric and other renewable generating capacity by region and country, 2015-50

gigawatts

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**340**	**412**	**486**	**544**	**604**	**684**	**775**	**870**	**2.7**
United States /a	219	289	362	404	455	526	609	696	3.4
Canada	95	95	95	98	103	108	113	117	0.6
Mexico and Chile	27	28	29	42	46	50	53	57	2.2
OECD Europe	**490**	**634**	**647**	**666**	**679**	**710**	**731**	**756**	**1.2**
OECD Asia	**133**	**158**	**173**	**183**	**193**	**204**	**216**	**230**	**1.6**
Japan	94	97	100	103	106	109	112	115	0.6
South Korea	13	25	31	33	35	37	39	42	3.3
Australia and New Zealand	25	36	42	46	52	58	65	73	3.1
Total OECD	**963**	**1,204**	**1,306**	**1,393**	**1,475**	**1,598**	**1,723**	**1,856**	**1.9**
Non-OECD									
Non-OECD Europe and Eurasia	**112**	**129**	**131**	**136**	**140**	**142**	**143**	**146**	**0.8**
Russia	55	55	57	59	61	61	61	60	0.3
Other	57	73	74	77	79	81	83	85	1.2
Non-OECD Asia	**686**	**951**	**1,123**	**1,275**	**1,406**	**1,553**	**1,702**	**1,844**	**2.9**
China	511	705	801	897	993	1,089	1,185	1,281	2.7
India	87	127	172	217	251	289	325	355	4.1
Other	88	120	150	162	162	175	192	208	2.5
Middle East	**15**	**26**	**37**	**44**	**59**	**74**	**81**	**89**	**5.1**
Africa	**34**	**75**	**84**	**125**	**126**	**129**	**139**	**147**	**4.3**
Non-OECD Americas	**186**	**194**	**206**	**219**	**227**	**238**	**252**	**266**	**1.0**
Brazil	119	121	123	130	138	146	154	162	0.9
Other	67	73	83	88	89	91	97	104	1.2
Total Non-OECD	**1,032**	**1,375**	**1,580**	**1,799**	**1,956**	**2,135**	**2,317**	**2,491**	**2.5**
Total World	**1,995**	**2,579**	**2,887**	**3,192**	**3,432**	**3,734**	**4,040**	**4,347**	**2.3**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H7. World installed hydroelectric generating capacity by region and country, 2015-50

gigawatts

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**177**	**178**	**178**	**185**	**191**	**197**	**203**	**209**	**0.5**
United States /a	79	80	80	80	81	81	81	81	0.1
Canada	79	79	79	82	86	91	95	98	0.6
Mexico and Chile	19	19	19	22	24	26	27	29	1.3
OECD Europe	**161**	**211**	**212**	**212**	**212**	**220**	**220**	**220**	**0.9**
OECD Asia	**37**	**40**	**46**	**49**	**51**	**54**	**57**	**61**	**1.5**
Japan	22	22	22	22	22	22	22	22	0.0
South Korea	2	5	5	6	6	7	7	7	4.1
Australia and New Zealand	13	14	19	21	23	25	28	32	2.7
Total OECD	**375**	**429**	**437**	**445**	**454**	**471**	**481**	**490**	**0.8**
Non-OECD									
Non-OECD Europe and Eurasia	**95**	**102**	**104**	**109**	**112**	**114**	**115**	**116**	**0.6**
Russia	52	52	54	56	57	58	58	57	0.3
Other	43	50	50	54	55	56	57	59	0.9
Non-OECD Asia	**402**	**466**	**494**	**513**	**532**	**560**	**590**	**618**	**1.2**
China	298	340	354	368	381	395	409	422	1.0
India	45	48	48	48	54	60	66	71	1.3
Other	59	78	92	97	97	105	115	125	2.2
Middle East	**15**	**17**	**18**	**19**	**19**	**19**	**21**	**22**	**1.2**
Africa	**25**	**42**	**42**	**52**	**53**	**54**	**58**	**62**	**2.7**
Non-OECD Americas	**150**	**155**	**159**	**169**	**175**	**184**	**195**	**206**	**0.9**
Brazil	92	94	95	101	107	113	119	125	0.9
Other	58	62	64	69	69	71	76	81	0.9
Total Non-OECD	**686**	**782**	**817**	**862**	**892**	**931**	**978**	**1,024**	**1.2**
Total World	**1,061**	**1,211**	**1,254**	**1,308**	**1,346**	**1,403**	**1,459**	**1,514**	**1.0**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H8. World installed wind-powered generating capacity by region and country, 2015-50

gigawatts

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**89**	**125**	**171**	**181**	**185**	**194**	**205**	**224**	**2.7**
United States /a	74	110	156	156	159	166	175	193	2.8
Canada	11	11	11	12	12	12	13	13	0.5
Mexico and Chile	4	4	4	13	14	16	17	18	4.4
OECD Europe	**143**	**196**	**204**	**218**	**229**	**242**	**255**	**269**	**1.8**
OECD Asia	**8**	**16**	**20**	**22**	**24**	**27**	**29**	**32**	**3.9**
Japan	3	3	4	4	5	5	6	6	1.9
South Korea	1	4	7	8	9	9	10	11	7.4
Australia and New Zealand	5	8	9	10	11	12	14	16	3.7
Total OECD	**241**	**336**	**395**	**421**	**438**	**463**	**489**	**526**	**2.3**
Non-OECD									
Non-OECD Europe and Eurasia	**5**	**8**	**8**	**8**	**8**	**8**	**8**	**9**	**1.5**
Russia	-	-	-	-	-	-	-	-	1.1
Other	5	8	8	8	8	8	8	9	1.5
Non-OECD Asia	**162**	**255**	**316**	**379**	**438**	**499**	**560**	**619**	**3.9**
China	129	210	260	310	360	409	459	509	4.0
India	25	35	44	53	62	72	82	90	3.7
Other	7	9	12	16	16	17	19	20	3.0
Middle East	**0**	**1**	**1**	**3**	**6**	**9**	**10**	**11**	**11.5**
Africa	**3**	**12**	**13**	**20**	**20**	**22**	**23**	**25**	**6.1**
Non-OECD Americas	**12**	**13**	**18**	**18**	**19**	**20**	**21**	**22**	**1.9**
Brazil	9	9	9	10	10	11	11	12	0.9
Other	3	4	8	9	9	9	9	10	3.7
Total Non-OECD	**182**	**288**	**355**	**428**	**491**	**557**	**622**	**685**	**3.9**
Total World	**422**	**624**	**750**	**849**	**929**	**1,021**	**1,112**	**1,211**	**3.1**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H9. World installed geothermal generating capacity by region and country, 2015-50

gigawatts

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**4**	**4**	**6**	**8**	**10**	**11**	**11**	**12**	**3.6**
United States /a	3	3	4	5	6	7	8	8	3.4
Canada	-	-	-	-	-	-	-	-	0.0
Mexico and Chile	1	2	2	3	3	4	4	4	4.0
OECD Europe	**2**	**4**	**6**	**9**	**9**	**9**	**10**	**11**	**4.6**
OECD Asia	**2**	**2**	**3**	**3**	**4**	**4**	**4**	**5**	**3.4**
Japan	1	1	1	1	1	1	1	1	0.0
South Korea	-	-	0	0	0	0	0	0	inf
Australia and New Zealand	1	2	2	3	3	3	4	4	4.3
Total OECD	**7**	**11**	**15**	**20**	**22**	**24**	**26**	**28**	**3.9**
Non-OECD									
Non-OECD Europe and Eurasia	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3.9**
Russia	0	0	0	0	0	0	0	0	0.5
Other	-	0	0	0	0	0	0	0	inf
Non-OECD Asia	**3**	**8**	**10**	**11**	**11**	**12**	**13**	**14**	**4.1**
China	-	-	-	-	-	-	-	-	0.0
India	-	-	-	-	-	-	-	-	0.0
Other	3	8	10	11	11	12	13	14	4.1
Middle East	**-**	**-**	**0**	**0**	**0**	**1**	**1**	**1**	**inf**
Africa	**1**	**4**	**4**	**9**	**9**	**9**	**10**	**10**	**8.4**
Non-OECD Americas	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**2.3**
Brazil	-	-	-	-	-	-	-	-	0.0
Other	1	1	1	1	1	1	1	1	2.3
Total Non-OECD	**5**	**13**	**15**	**21**	**21**	**23**	**25**	**27**	**5.0**
Total World	**12**	**24**	**30**	**41**	**43**	**46**	**50**	**54**	**4.4**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H10. World installed solar generating capacity by region and country, 2015-50

gigawatts

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**29**	**62**	**88**	**128**	**175**	**239**	**312**	**381**	**7.7**
United States /a	25	58	84	124	171	234	307	376	8.0
Canada	2	2	2	3	3	3	3	3	0.4
Mexico and Chile	1	1	2	2	2	3	3	3	2.9
OECD Europe	**96**	**137**	**138**	**140**	**142**	**149**	**156**	**163**	**1.5**
OECD Asia	**44**	**56**	**60**	**65**	**70**	**74**	**79**	**85**	**1.9**
Japan	36	38	41	43	46	49	51	54	1.2
South Korea	3	9	10	11	12	13	14	15	4.5
Australia and New Zealand	5	9	9	10	11	13	14	16	3.3
Total OECD	**168**	**255**	**287**	**333**	**387**	**463**	**547**	**629**	**3.8**
Non-OECD									
Non-OECD Europe and Eurasia	**4**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**1.4**
Russia	0	0	0	0	0	0	0	0	0.0
Other	4	5	5	5	5	6	6	6	1.5
Non-OECD Asia	**52**	**142**	**221**	**289**	**339**	**393**	**445**	**495**	**6.7**
China	43	110	143	175	208	241	273	306	5.8
India	5	29	64	100	117	136	155	170	10.5
Other	4	4	14	14	14	16	18	19	5.0
Middle East	**0**	**8**	**17**	**21**	**31**	**41**	**46**	**51**	**16.8**
Africa	**2**	**11**	**18**	**35**	**35**	**36**	**39**	**41**	**8.9**
Non-OECD Americas	**1**	**2**	**4**	**4**	**4**	**5**	**5**	**5**	**4.4**
Brazil	-	0	0	0	0	0	0	0	7.9
Other	1	1	4	4	4	4	5	5	4.3
Total Non-OECD	**59**	**168**	**265**	**355**	**416**	**480**	**541**	**598**	**6.8**
Total World	**228**	**423**	**551**	**689**	**803**	**943**	**1,088**	**1,227**	**4.9**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H11. World installed other renewable generating capacity by region and country, 2015-50

gigawatts

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**42**	**43**	**43**	**42**	**43**	**43**	**44**	**44**	**0.1**
United States /a	38	39	39	38	38	38	39	39	0.1
Canada	2	2	2	2	2	2	3	3	0.3
Mexico and Chile	2	2	2	2	2	2	2	3	1.1
OECD Europe	**87**	**87**	**87**	**87**	**87**	**89**	**91**	**93**	**0.2**
OECD Asia	**42**	**44**	**44**	**44**	**45**	**45**	**46**	**47**	**0.3**
Japan	33	33	33	33	33	33	33	33	0.0
South Korea	8	8	8	8	8	8	9	9	0.4
Australia and New Zealand	2	3	3	3	4	4	5	5	2.7
Total OECD	**171**	**173**	**173**	**173**	**174**	**177**	**181**	**184**	**0.2**
Non-OECD									
Non-OECD Europe and Eurasia	**8**	**13**	**13**	**13**	**14**	**14**	**14**	**14**	**1.7**
Russia	3	3	3	3	3	3	3	3	0.2
Other	5	11	11	11	11	11	11	12	2.3
Non-OECD Asia	**67**	**81**	**83**	**84**	**86**	**90**	**94**	**98**	**1.1**
China	40	45	45	44	44	44	44	44	0.3
India	12	15	16	16	18	20	22	24	2.1
Other	15	21	23	24	24	26	28	30	1.9
Middle East	**0**	**1**	**1**	**1**	**2**	**4**	**4**	**5**	**8.5**
Africa	**3**	**7**	**7**	**8**	**8**	**8**	**9**	**9**	**3.2**
Non-OECD Americas	**23**	**24**	**24**	**25**	**27**	**28**	**30**	**32**	**1.0**
Brazil	18	18	18	20	21	22	24	25	0.9
Other	5	6	6	6	6	6	6	7	1.0
Total Non-OECD	**101**	**124**	**128**	**131**	**137**	**144**	**151**	**158**	**1.3**
Total World	**272**	**298**	**301**	**305**	**311**	**322**	**332**	**342**	**0.7**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H12. World total net electricity generation by region and country, 2015-50

billion kilowatthours

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**5,101**	**5,266**	**5,457**	**5,647**	**5,908**	**6,230**	**6,553**	**6,893**	**0.9**
United States /a	4,100	4,209	4,331	4,442	4,618	4,856	5,100	5,362	0.8
Canada	636	684	719	755	792	830	864	895	1.0
Mexico and Chile	365	374	408	451	498	545	589	636	1.6
OECD Europe	**3,483**	**3,623**	**3,793**	**3,99**	**4,257**	**4,540**	**4,798**	**5,096**	**1.1**
OECD Asia	**1,822**	**1,955**	**2,093**	**2,198**	**2,307**	**2,420**	**2,544**	**2,685**	**1.1**
Japan	997	1,045	1,070	1,070	1,072	1,066	1,061	1,062	0.2
South Korea	543	599	669	729	781	837	895	956	1.6
Australia and New Zealand	282	312	353	399	454	517	588	668	2.5
Total OECD	**10,407**	**10,844**	**11,343**	**11,843**	**12,472**	**13,190**	**13,895**	**4,673**	**1.0**
Non-OECD									
Non-OECD Europe and Eurasia	**1,602**	**1,623**	**1,667**	**1,710**	**1,768**	**1,801**	**1,818**	**1,840**	**0.4**
Russia	957	966	1,002	1,038	1,077	1,088	1,084	1,073	0.3
Other	645	656	665	672	691	713	734	768	0.5
Non-OECD Asia	**8,493**	**9,807**	**10,969**	**12,034**	**13,196**	**14,475**	**15,789**	**16,974**	**2.0**
China	5,886	6,797	7,457	7,959	8,504	9,112	9,766	10,358	1.6
India	1,244	1,476	1,732	2,009	2,352	2,730	3,096	3,396	2.9
Other	1,363	1,534	1,780	2,066	2,339	2,633	2,927	3,219	2.5
Middle East	**974**	**1,064**	**1,212**	**1,376**	**1,562**	**1,750**	**1,949**	**2,156**	**2.3**
Africa	**742**	**815**	**899**	**1,003**	**1,127**	**1,244**	**1,341**	**1,426**	**1.9**
Non-OECD Americas	**1,212**	**1,208**	**1,314**	**1,392**	**1,487**	**1,589**	**1,688**	**1,787**	**1.1**
Brazil	598	610	676	721	770	825	876	925	1.3
Other	614	598	638	672	717	764	812	862	1.0
Total Non-OECD	**13,023**	**14,516**	**16,061**	**17,516**	**19,139**	**20,859**	**22,585**	**4,184**	**1.8**
Total World	**23,430**	**25,360**	**27,404**	**29,359**	**31,611**	**34,049**	**36,479**	**38,857**	**1.5**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H13. World net liquids-fired electricity generation by region and country, 2015-50

billion kilowatthours

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**70**	**32**	**33**	**30**	**28**	**27**	**24**	**23**	**-3.1**
United States /a	28	14	13	10	10	9	7	7	-3.8
Canada	7	7	7	6	6	6	6	5	-1.0
Mexico and Chile	35	11	14	13	13	12	11	11	-3.3
OECD Europe	**50**	**48**	**45**	**43**	**41**	**39**	**37**	**36**	**-0.9**
OECD Asia	**119**	**78**	**29**	**24**	**23**	**22**	**20**	**19**	**-5.1**
Japan	107	62	11	7	7	6	6	5	-8.3
South Korea	8	11	14	13	13	12	11	11	0.8
Australia and New Zealand	5	5	4	4	4	4	4	4	-1.0
Total OECD	**239**	**158**	**108**	**98**	**92**	**87**	**82**	**78**	**-3.2**
Non-OECD									
Non-OECD Europe and Eurasia	**10**	**1**	**9**	**9**	**15**	**14**	**14**	**13**	**0.8**
Russia	1	1	9	8	8	7	7	7	5.7
Other	9	0	0	0	7	7	7	6	-1.1
Non-OECD Asia	**120**	**106**	**123**	**118**	**113**	**107**	**102**	**98**	**-0.6**
China	9	8	8	8	7	7	7	6	-1.0
India	8	19	18	17	16	15	14	14	1.6
Other	104	79	97	94	89	85	82	78	-0.8
Middle East	**328**	**396**	**328**	**188**	**177**	**176**	**174**	**173**	**-1.8**
Africa	**70**	**31**	**26**	**26**	**25**	**25**	**24**	**24**	**-3.1**
Non-OECD Americas	**148**	**130**	**140**	**134**	**127**	**121**	**116**	**110**	**-0.8**
Brazil	33	30	28	27	26	24	23	22	-1.2
Other	115	100	112	107	102	97	93	89	-0.7
Total Non-OECD	**675**	**665**	**627**	**474**	**458**	**444**	**430**	**417**	**-1.4**
Total World	**914**	**823**	**735**	**572**	**550**	**531**	**512**	**495**	**-1.7**

a/ Includes the 50 states and the District of Columbia

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H14. World net natural-gas-fired electricity generation by region and country, 2015-50

billion kilowatthours

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**1,581**	**1,560**	**1,693**	**1,959**	**2,149**	**2,385**	**2,612**	**2,843**	**1.7**
United States /a	1,341	1,235	1,282	1,499	1,666	1,819	1,979	2,150	1.4
Canada	63	120	172	212	233	277	304	329	4.8
Mexico and Chile	177	205	239	248	250	290	329	364	2.1
OECD Europe	**570**	**640**	**627**	**654**	**924**	**1,139**	**1,422**	**1,709**	**3.2**
OECD Asia	**602**	**626**	**647**	**702**	**764**	**828**	**893**	**960**	**1.3**
Japan	407	410	424	440	443	440	436	438	0.2
South Korea	135	148	140	149	171	196	217	234	1.6
Australia and New Zealand	59	67	83	114	151	193	240	289	4.6
Total OECD	**2,752**	**2,826**	**2,967**	**3,314**	**3,837**	**4,352**	**4,927**	**5,511**	**2.0**
Non-OECD									
Non-OECD Europe and Eurasia	**613**	**587**	**584**	**588**	**621**	**631**	**627**	**616**	**0.0**
Russia	449	422	427	432	454	461	457	448	0.0
Other	164	165	156	156	167	170	170	168	0.1
Non-OECD Asia	**700**	**686**	**971**	**1,120**	**1,464**	**1,804**	**2,182**	**2,478**	**3.7**
China	134	155	302	417	513	648	861	1,054	6.1
India	52	51	89	115	162	205	238	254	4.6
Other	514	480	580	588	790	951	1,083	1,170	2.4
Middle East	**620**	**599**	**756**	**1,011**	**1,150**	**1,289**	**1,465**	**1,639**	**2.8**
Africa	**288**	**335**	**383**	**374**	**363**	**404**	**442**	**471**	**1.4**
Non-OECD Americas	**232**	**225**	**251**	**251**	**251**	**289**	**323**	**353**	**1.2**
Brazil	83	81	81	81	81	88	100	108	0.8
Other	150	144	170	170	170	201	224	245	1.4
Total Non-OECD	**2,454**	**2,430**	**2,944**	**3,343**	**3,849**	**4,418**	**5,039**	**5,557**	**2.4**
Total World	**5,206**	**5,256**	**5,911**	**6,657**	**7,686**	**8,770**	**9,966**	**11,068**	**2.2**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H15. World net coal-fired electricity generation by region and country, 2015-50

billion kilowatthours

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**1,469**	**1,478**	**1,308**	**1,101**	**1,057**	**1,012**	**977**	**945**	**-1.3**
United States /a	1,355	1,372	1,205	1,024	981	946	912	882	-1.2
Canada	59	44	43	20	20	12	12	11	-4.6
Mexico and Chile	56	62	60	58	56	54	53	51	-0.2
OECD Europe	**901**	**976**	**944**	**921**	**926**	**923**	**942**	**982**	**0.2**
OECD Asia	**701**	**687**	**683**	**681**	**686**	**691**	**702**	**724**	**0.1**
Japan	328	324	318	312	306	301	295	290	-0.4
South Korea	229	225	230	236	249	262	280	306	0.8
Australia and New Zealand	144	138	135	133	131	128	126	128	-0.3
Total OECD	**3,072**	**3,140**	**2,934**	**2,703**	**2,668**	**2,626**	**2,621**	**2,651**	**-0.4**
Non-OECD									
Non-OECD Europe and Eurasia	**369**	**360**	**345**	**354**	**375**	**382**	**384**	**381**	**0.1**
Russia	154	142	127	147	168	176	177	176	0.4
Other	216	219	218	207	207	207	207	205	-0.2
Non-OECD Asia	**5,676**	**6,119**	**6,408**	**6,482**	**6,703**	**6,944**	**7,246**	**7,548**	**0.8**
China	4,253	4,347	4,430	4,422	4,358	4,287	4,218	4,156	-0.1
India	957	1,084	1,166	1,255	1,464	1,694	1,964	2,187	2.4
Other	466	689	812	806	881	963	1,063	1,205	2.8
Middle East	**2**	**1**	**3**	**13**	**20**	**27**	**35**	**44**	**10.1**
Africa	**244**	**311**	**353**	**347**	**339**	**350**	**365**	**381**	**1.3**
Non-OECD Americas	**50**	**56**	**54**	**53**	**51**	**60**	**68**	**76**	**1.2**
Brazil	25	23	22	21	20	22	26	29	0.4
Other	25	33	32	32	31	37	42	48	1.8
Total Non-OECD	**6,341**	**6,847**	**7,162**	**7,248**	**7,487**	**7,763**	**8,097**	**8,430**	**0.8**
Total World	**9,413**	**9,987**	**10,096**	**9,951**	**10,155**	**10,388**	**10,718**	**11,081**	**0.5**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H16. World net nuclear electricity generation by region and country, 2015-50

billion kilowatthours

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**903**	**858**	**854**	**863**	**820**	**775**	**716**	**652**	**-0.9**
United States /a	797	762	773	768	721	702	660	608	-0.8
Canada	94	85	70	76	71	50	39	27	-3.5
Mexico and Chile	11	11	11	20	28	23	17	17	1.1
OECD Europe	**828**	**728**	**662**	**663**	**620**	**594**	**494**	**401**	**-2.1**
OECD Asia	**168**	**305**	**376**	**378**	**391**	**404**	**417**	**430**	**2.7**
Japan	7	99	126	115	115	115	115	115	8.4
South Korea	161	206	250	263	276	289	302	315	1.9
Australia and New Zealand	-	-	-	-	-	-	-	-	0.0
Total OECD	**1,899**	**1,891**	**1,893**	**1,904**	**1,832**	**1,773**	**1,627**	**1,483**	**-0.7**
Non-OECD									
Non-OECD Europe and Eurasia	**293**	**356**	**408**	**398**	**388**	**382**	**382**	**392**	**0.8**
Russia	180	228	261	233	222	216	216	216	0.5
Other	113	128	147	165	165	165	165	175	1.3
Non-OECD Asia	**275**	**409**	**571**	**787**	**1,037**	**1,329**	**1,547**	**1,730**	**5.4**
China	197	308	428	545	779	1,044	1,275	1,458	5.9
India	33	57	106	206	222	249	236	236	5.8
Other	46	45	36	36	36	36	36	36	-0.7
Middle East	**4**	**47**	**55**	**77**	**100**	**115**	**115**	**124**	**10.6**
Africa	**14**	**14**	**14**	**24**	**20**	**20**	**30**	**40**	**3.1**
Non-OECD Americas	**26**	**36**	**41**	**41**	**39**	**39**	**34**	**34**	**0.7**
Brazil	14	23	23	23	23	23	19	19	0.8
Other	12	12	18	18	15	15	15	15	0.6
Total Non-OECD	**611**	**862**	**1,088**	**1,327**	**1,583**	**1,884**	**2,108**	**2,320**	**3.9**
Total World	**2,510**	**2,753**	**2,981**	**3,231**	**3,414**	**3,657**	**3,735**	**3,804**	**1.2**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H17. World net hydroelectric and other renewable electricity generation by region and country, 2015-50

billion kilowatthours

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**1,078**	**1,337**	**1,569**	**1,694**	**1,854**	**2,031**	**2,225**	**2,430**	**2.3**
United States /a	580	825	1,057	1,141	1,240	1,381	1,541	1,714	3.1
Canada	412	427	428	441	462	484	504	522	0.7
Mexico and Chile	86	85	83	112	151	166	179	193	2.3
OECD Europe	**1,135**	**1,232**	**1,515**	**1,718**	**1,747**	**1,845**	**1,902**	**1,968**	**1.6**
OECD Asia	**232**	**259**	**358**	**413**	**442**	**476**	**512**	**551**	**2.5**
Japan	149	149	192	196	201	205	209	214	1.0
South Korea	9	9	35	68	73	79	84	90	6.8
Australia and New Zealand	74	102	131	148	169	192	218	248	3.5
Total OECD	**2,445**	**2,829**	**3,441**	**3,825**	**4,043**	**4,351**	**4,639**	**4,950**	**2.0**
Non-OECD									
Non-OECD Europe and Eurasia	**317**	**318**	**322**	**361**	**370**	**391**	**412**	**439**	**0.9**
Russia	173	174	178	217	225	228	227	225	0.8
Other	144	144	144	144	144	164	185	214	1.1
Non-OECD Asia	**1,721**	**2,487**	**2,897**	**3,527**	**3,879**	**4,290**	**4,712**	**5,120**	**3.2**
China	1,292	1,980	2,289	2,568	2,847	3,126	3,405	3,684	3.0
India	195	265	353	417	488	567	643	705	3.7
Other	234	242	254	542	543	597	664	730	3.3
Middle East	**21**	**21**	**70**	**88**	**115**	**143**	**159**	**176**	**6.2**
Africa	**126**	**125**	**123**	**233**	**380**	**446**	**481**	**511**	**4.1**
Non-OECD Americas	**755**	**762**	**828**	**914**	**1,019**	**1,080**	**1,147**	**1,213**	**1.4**
Brazil	443	453	521	568	620	667	709	748	1.5
Other	313	309	306	346	399	413	439	465	1.1
Total Non-OECD	**2,942**	**3,713**	**4,239**	**5,123**	**5,763**	**6,351**	**6,911**	**7,459**	**2.7**
Total World	**5,386**	**6,541**	**7,681**	**8,948**	**9,806**	**10,702**	**11,550**	**12,409**	**2.4**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H18. World net hydroelectric electricity generation by region and country, 2015-50

billion kilowatthours

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**691**	**760**	**761**	**783**	**819**	**848**	**875**	**900**	**0.8**
United States /a	249	310	312	314	315	316	317	318	0.7
Canada	381	389	389	401	421	441	459	475	0.6
Mexico and Chile	61	61	60	68	84	91	99	107	1.6
OECD Europe	**563**	**603**	**740**	**795**	**795**	**831**	**831**	**831**	**1.1**
OECD Asia	**126**	**125**	**156**	**176**	**187**	**201**	**215**	**232**	**1.8**
Japan	81	80	80	80	80	80	80	80	0.0
South Korea	3	3	11	22	24	25	27	29	7.0
Australia and New Zealand	42	42	65	73	83	95	108	123	3.1
Total OECD	**1,380**	**1,487**	**1,658**	**1,753**	**1,802**	**1,879**	**1,920**	**1,962**	**1.0**
Non-OECD									
Non-OECD Europe and Eurasia	**301**	**302**	**304**	**335**	**343**	**357**	**368**	**384**	**0.7**
Russia	173	173	176	207	215	217	216	215	0.6
Other	128	128	128	128	128	139	152	169	0.8
Non-OECD Asia	**1,363**	**1,641**	**1,748**	**1,991**	**2,101**	**2,248**	**2,402**	**2,552**	**1.8**
China	1,042	1,300	1,396	1,479	1,562	1,645	1,728	1,811	1.6
India	128	143	148	148	173	201	228	251	1.9
Other	194	198	204	364	366	402	446	491	2.7
Middle East	**21**	**20**	**41**	**48**	**48**	**48**	**53**	**59**	**3.0**
Africa	**113**	**112**	**111**	**154**	**212**	**240**	**258**	**275**	**2.6**
Non-OECD Americas	**672**	**677**	**725**	**781**	**857**	**908**	**964**	**1,020**	**1.2**
Brazil	380	389	439	476	519	558	593	626	1.4
Other	292	289	287	304	338	349	371	394	0.9
Total Non-OECD	**2,471**	**2,753**	**2,929**	**3,308**	**3,561**	**3,799**	**4,046**	**4,289**	**1.6**
Total World	**3,850**	**4,239**	**4,587**	**5,062**	**5,363**	**5,678**	**5,966**	**6,251**	**1.4**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H19. World net wind-powered electricity generation by region and country, 2015-50

billion kilowatthours

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**226**	**354**	**528**	**541**	**562**	**590**	**622**	**684**	**3.2**
United States /a	193	318	492	495	503	527	555	613	3.4
Canada	24	27	27	28	29	31	32	33	1.0
Mexico and Chile	9	9	8	18	30	33	35	38	4.3
OECD Europe	**265**	**296**	**385**	**466**	**491**	**524**	**553**	**587**	**2.3**
OECD Asia	**19**	**30**	**43**	**60**	**66**	**73**	**81**	**89**	**4.6**
Japan	5	5	7	8	9	9	10	11	2.2
South Korea	1	1	11	24	25	27	29	31	9.9
Australia and New Zealand	13	24	25	28	32	36	41	47	3.9
Total OECD	**509**	**679**	**955**	**1,066**	**1,119**	**1,186**	**1,256**	**1,360**	**2.8**
Non-OECD									
Non-OECD Europe and Eurasia	**10**	**10**	**10**	**11**	**11**	**12**	**14**	**17**	**1.4**
Russia	-	-	-	0	0	0	0	0	inf
Other	10	10	10	10	10	12	14	17	1.4
Non-OECD Asia	**199**	**485**	**668**	**860**	**1,025**	**1,194**	**1,364**	**1,531**	**6.0**
China	159	430	593	743	893	1,043	1,193	1,343	6.3
India	37	53	72	86	101	117	133	146	4.0
Other	3	3	4	31	31	34	38	42	8.0
Middle East	**0**	**0**	**4**	**9**	**18**	**26**	**29**	**33**	**13.7**
Africa	**6**	**5**	**5**	**22**	**42**	**53**	**57**	**60**	**7.0**
Non-OECD Americas	**18**	**18**	**24**	**38**	**50**	**53**	**56**	**59**	**3.5**
Brazil	14	14	20	23	25	27	28	30	2.3
Other	4	4	4	15	25	26	28	29	5.8
Total Non-OECD	**233**	**520**	**712**	**939**	**1,144**	**1,338**	**1,521**	**1,700**	**5.8**
Total World	**742**	**1,199**	**1,668**	**2,006**	**2,263**	**2,525**	**2,776**	**3,060**	**4.1**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H20. World net geothermal electricity generation by region and country, 2015-50

billion kilowatthours

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**23**	**26**	**36**	**56**	**74**	**81**	**88**	**94**	**4.1**
United States /a	16	18	29	39	48	53	57	61	3.9
Canada	-	-	-	-	-	-	-	-	0.0
Mexico and Chile	7	7	7	16	26	28	30	33	4.4
OECD Europe	**15**	**21**	**32**	**69**	**69**	**73**	**78**	**82**	**5.1**
OECD Asia	**10**	**14**	**20**	**23**	**26**	**29**	**32**	**36**	**3.8**
Japan	3	3	3	3	3	3	3	3	0.2
South Korea	-	-	0	1	1	1	1	1	inf
Australia and New Zealand	7	12	17	20	22	25	29	33	4.4
Total OECD	**48**	**61**	**89**	**148**	**169**	**184**	**198**	**212**	**4.4**
Non-OECD									
Non-OECD Europe and Eurasia	**-**	**0**	**0**	**1**	**1**	**2**	**2**	**2**	**inf**
Russia	-	0	0	1	1	1	1	1	inf
Other	-	-	-	-	-	0	1	1	inf
Non-OECD Asia	**20**	**22**	**25**	**78**	**78**	**85**	**95**	**104**	**4.8**
China	-	0	0	0	0	0	0	0	6.7
India	-	-	-	-	-	-	-	-	0.0
Other	20	22	25	77	77	85	94	104	4.8
Middle East	**-**	**-**	**1**	**2**	**3**	**4**	**4**	**4**	**inf**
Africa	**4**	**4**	**4**	**28**	**58**	**70**	**76**	**81**	**8.9**
Non-OECD Americas	**4**	**4**	**4**	**7**	**9**	**9**	**10**	**10**	**2.8**
Brazil	-	-	-	-	-	-	-	-	0.0
Other	4	4	4	7	9	9	10	10	2.8
Total Non-OECD	**28**	**30**	**34**	**115**	**148**	**170**	**186**	**202**	**5.8**
Total World	**76**	**91**	**122**	**262**	**317**	**353**	**384**	**414**	**5.0**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H21. World net solar electricity generation by region and country, 2015-50

billion kilowatthours

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**44**	**101**	**145**	**213**	**296**	**406**	**530**	**638**	**7.9**
United States /a	41	96	140	207	289	397	521	629	8.2
Canada	2	3	3	3	3	3	3	4	1.6
Mexico and Chile	2	2	2	3	5	5	5	6	3.5
OECD Europe	**101**	**127**	**171**	**195**	**199**	**212**	**224**	**238**	**2.5**
OECD Asia	**34**	**43**	**70**	**82**	**88**	**96**	**103**	**111**	**3.4**
Japan	25	26	49	53	56	60	64	67	2.9
South Korea	3	2	7	12	13	14	15	16	5.5
Australia and New Zealand	7	15	15	17	19	21	24	28	4.1
Total OECD	**179**	**271**	**386**	**490**	**584**	**714**	**857**	**987**	**5.0**
Non-OECD									
Non-OECD Europe and Eurasia	**3**	**3**	**3**	**3**	**3**	**4**	**5**	**7**	**2.0**
Russia	0	0	0	0	0	0	0	0	--
Other	3	3	3	3	3	4	5	7	2.0
Non-OECD Asia	**39**	**179**	**287**	**394**	**465**	**540**	**613**	**683**	**8.6**
China	31	145	195	242	288	335	382	428	7.8
India	5	32	89	139	162	189	214	235	11.7
Other	2	2	3	14	14	16	18	20	6.4
Middle East	**0**	**0**	**23**	**28**	**42**	**56**	**63**	**69**	**16.8**
Africa	**2**	**2**	**2**	**23**	**55**	**68**	**73**	**78**	**11.5**
Non-OECD Americas	**0**	**0**	**1**	**5**	**8**	**9**	**9**	**10**	**23.0**
Brazil	0	0	0	1	1	1	1	1	13.6
Other	0	0	0	4	8	8	9	9	--
Total Non-OECD	**44**	**184**	**315**	**454**	**574**	**677**	**764**	**846**	**8.8**
Total World	**223**	**455**	**702**	**944**	**1,158**	**1,390**	**1,621**	**1,833**	**6.2**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.

Table H22. World net other renewable electricity generation by region and country, 2015-50

billion kilowatthours

Region	2015	2020	2025	2030	2035	2040	2045	2050	Average annual percent change (2015-50)
OECD									
OECD Americas	**94**	**98**	**100**	**102**	**103**	**106**	**110**	**114**	**0.6**
United States /a	81	82	85	86	85	88	90	93	0.4
Canada	6	9	9	9	9	10	10	11	1.5
Mexico and Chile	7	7	7	7	8	9	10	11	1.1
OECD Europe	**191**	**186**	**186**	**192**	**192**	**205**	**217**	**230**	**0.5**
OECD Asia	**44**	**48**	**68**	**73**	**75**	**78**	**81**	**84**	**1.9**
Japan	36	36	53	53	53	53	53	53	1.1
South Korea	3	3	6	10	11	11	12	13	4.6
Australia and New Zealand	5	10	10	11	12	14	16	18	3.5
Total OECD	**329**	**331**	**354**	**368**	**370**	**389**	**408**	**428**	**0.8**
Non-OECD									
Non-OECD Europe and Eurasia	**2**	**3**	**4**	**11**	**11**	**17**	**22**	**29**	**7.3**
Russia	0	1	2	9	9	9	9	9	--
Other	2	2	2	2	2	8	13	20	6.2
Non-OECD Asia	**101**	**160**	**168**	**204**	**211**	**224**	**238**	**251**	**2.6**
China	60	105	105	105	104	103	103	102	1.5
India	25	38	44	44	51	60	68	74	3.1
Other	15	17	19	56	56	61	68	75	4.6
Middle East	**0**	**0**	**1**	**1**	**5**	**9**	**11**	**12**	**29.2**
Africa	**1**	**1**	**1**	**7**	**13**	**16**	**17**	**18**	**7.7**
Non-OECD Americas	**62**	**62**	**74**	**84**	**95**	**102**	**108**	**114**	**1.8**
Brazil	49	50	62	69	76	82	87	92	1.8
Other	13	12	12	15	19	20	21	22	1.6
Total Non-OECD	**166**	**226**	**249**	**307**	**335**	**367**	**395**	**423**	**2.7**
Total World	**495**	**557**	**602**	**675**	**706**	**756**	**803**	**851**	**1.6**

a/ Includes the 50 states and the District of Columbia.

Notes: Totals may not equal sum of components due to independent rounding.

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System Plus (2017), run IEO2017_d2017.08.23_153156 and EIA, *Annual Energy Outlook 2017*, DOE/EIA-0383(2017) (Washington, DC: January 2017); AEO2017 National Energy Modeling System, run ref2017.d120816a, www.eia.gov/aeo.