

Table E1.cap. Electricity installed generating capacity: World, High Economic Growth case

gigawatts

Fuel								Average annual percentage change, 2020–2050
	2020	2025	2030	2035	2040	2045	2050	
Liquid fuels	362	348	183	116	90	76	69	-5.4
Natural gas	1,839	2,066	2,269	2,318	2,428	2,549	2,718	1.3
Coal	2,201	2,212	2,177	2,199	2,261	2,339	2,464	0.4
Nuclear	374	419	414	434	441	430	434	0.5
Renewables	2,394	3,612	4,768	6,175	7,745	9,438	10,924	5.2
Hydro	1,120	1,274	1,369	1,424	1,469	1,545	1,601	1.2
Wind	595	950	1,284	1,739	2,193	2,522	2,746	5.2
Geothermal	13	19	26	29	33	34	35	3.3
Solar	511	1,189	1,875	2,749	3,809	5,089	6,283	8.7
Other	155	180	213	234	240	248	258	1.7
Battery storage	3	11	62	196	455	825	1,135	21.7
Total capacity	7,172	8,667	9,873	11,439	13,420	15,657	17,744	3.1

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753; and EIA, *Annual Energy Outlook 2021*, (February 2021), www.eia.gov/aeo

Notes:

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

Table E2.cap. Electricity installed generating capacity: OECD, High Economic Growth case

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	176	162	98	74	64	57	55	-3.8
Natural gas	948	1,055	1,114	1,134	1,205	1,279	1,390	1.3
Coal	543	475	439	430	427	423	422	-0.8
Nuclear	262	281	248	244	226	196	180	-1.3
Renewables	1,119	1,536	1,886	2,214	2,566	2,976	3,379	3.8
Hydro	387	416	436	443	452	468	473	0.7
Wind	341	489	601	790	1,018	1,240	1,417	4.9
Geothermal	8	9	11	13	14	14	15	2.2
Solar	287	525	720	842	954	1,125	1,343	5.3
Other	96	98	118	126	128	129	132	1.1
Battery storage	3	11	13	20	38	124	184	14.5
Total capacity	3,052	3,519	3,798	4,116	4,524	5,055	5,611	2.1

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753; and EIA, *Annual Energy Outlook 2021*, (February 2021), www.eia.gov/aeo

Notes:

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

Table E3.cap. Electricity installed generating capacity: United States, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	74	59	51	47	47	45	45	-1.6
Natural gas	429	515	565	613	674	743	826	2.2
Coal	221	143	125	119	115	112	111	-2.3
Nuclear	97	92	80	78	78	77	77	-0.8
Renewables	331	486	595	680	751	844	951	3.6
Hydro	79	80	80	80	80	80	80	0.0
Wind	127	198	211	227	230	234	246	2.2
Geothermal	2	3	4	5	6	6	7	3.5
Solar	84	167	261	328	394	480	574	6.6
Other	38	39	40	41	42	43	44	0.5
Battery storage	3	11	13	16	16	20	24	7.0
Total capacity	1,155	1,306	1,429	1,553	1,681	1,841	2,035	1.9

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753; and EIA, *Annual Energy Outlook 2021* , (February 2021), www.eia.gov/aeo

Notes:

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

Table E4.cap. Electricity installed generating capacity: Canada, High Economic Growth case

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	4	4	0	0	0	0	0	-13.8
Natural gas	24	31	37	47	64	78	88	4.4
Coal	8	8	3	0	0	0	0	-36.8
Nuclear	14	14	11	10	7	6	4	-4.1
Renewables	99	110	123	132	141	150	160	1.6
Hydro	81	85	89	89	89	89	89	0.3
Wind	13	19	26	35	44	53	62	5.4
Geothermal	0	0	0	0	0	0	0	0.0
Solar	3	3	3	3	3	3	3	0.0
Other	3	3	4	4	4	4	6	2.5
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	150	167	174	189	211	233	252	1.8

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E5.cap. Electricity installed generating capacity: Mexico and other OECD Americas, High Economic Growth case

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual
								percentage change, 2020–2050
Liquid fuels	19	19	9	5	2	1	1	-10.6
Natural gas	57	61	62	62	68	68	68	0.6
Coal	12	12	12	12	12	12	12	0.0
Nuclear	2	2	3	4	3	2	2	1.5
Renewables	46	54	61	72	91	129	160	4.2
Hydro	31	37	39	40	40	40	40	0.8
Wind	7	7	8	11	17	27	33	5.6
Geothermal	1	1	1	1	1	1	1	0.0
Solar	5	7	10	16	30	58	82	9.7
Other	3	3	3	3	3	3	3	1.0
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	136	148	147	155	178	213	244	2.0

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E6.cap. Electricity installed generating capacity: OECD Europe, High Economic Growth case

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	36	36	17	11	8	7	7	-5.1
Natural gas	267	272	272	254	254	254	274	0.1
Coal	173	175	175	175	175	175	175	0.0
Nuclear	117	117	99	97	90	67	53	-2.6
Renewables	512	711	895	1,062	1,228	1,388	1,565	3.8
Hydro	160	178	191	196	203	216	221	1.1
Wind	183	233	300	420	563	674	767	4.9
Geothermal	3	3	5	5	5	5	5	2.2
Solar	120	250	336	371	387	423	502	4.9
Other	45	46	62	69	69	69	69	1.4
Battery storage	0	0	0	0	12	89	141	--
Total capacity	1,105	1,311	1,458	1,599	1,767	1,981	2,216	2.3

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E7.cap. Electricity installed generating capacity: Japan, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	37	37	20	12	7	4	2	-9.3
Natural gas	103	106	106	94	86	80	78	-0.9
Coal	62	67	55	55	55	55	55	-0.4
Nuclear	9	20	25	25	21	18	18	2.5
Renewables	86	89	94	105	128	170	207	3.0
Hydro	22	22	22	22	22	22	22	0.0
Wind	4	7	12	23	45	87	124	12.5
Geothermal	0	0	0	0	0	0	0	0.0
Solar	55	55	55	55	55	55	55	0.0
Other	4	4	4	4	4	4	4	0.2
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	296	320	299	290	297	327	360	0.6

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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Table E8.cap. Electricity installed generating capacity: South Korea, High Economic Growth case

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	5	5	1	0	0	0	0	-13.9
Natural gas	46	49	50	46	43	42	42	-0.3
Coal	42	44	44	44	44	44	44	0.2
Nuclear	24	36	31	30	26	25	25	0.1
Renewables	13	21	34	58	98	142	160	8.8
Hydro	1	2	2	2	2	2	2	1.1
Wind	1	5	13	30	66	110	128	16.2
Geothermal	0	0	0	0	0	0	0	--
Solar	7	11	15	22	26	26	26	4.4
Other	3	3	4	4	4	4	4	1.1
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	130	156	160	179	212	254	271	2.5

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E9.cap. Electricity installed generating capacity: Australia and New Zealand, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	2	2	0	0	0	0	0	-11.0
Natural gas	22	22	22	18	16	13	13	-1.7
Coal	25	25	25	25	25	25	25	0.0
Nuclear	0	0	0	0	0	0	0	0.0
Renewables	31	64	84	105	128	154	176	6.0
Hydro	11	12	12	13	15	18	18	1.6
Wind	6	19	30	44	52	55	57	7.6
Geothermal	1	1	1	1	1	1	1	0.0
Solar	11	32	40	46	59	79	100	7.6
Other	1	1	1	1	1	1	1	0.5
Battery storage	0	0	0	4	9	14	20	--
Total capacity	79	112	131	152	177	206	234	3.7

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E10.cap. Electricity installed generating capacity: Non-OECD, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	185	186	85	41	25	18	14	-8.2
Natural gas	891	1,011	1,156	1,184	1,224	1,270	1,328	1.3
Coal	1,658	1,737	1,738	1,769	1,834	1,916	2,042	0.7
Nuclear	111	138	166	191	216	234	254	2.8
Renewables	1,275	2,075	2,882	3,961	5,179	6,462	7,544	6.1
Hydro	733	858	933	981	1,018	1,077	1,129	1.4
Wind	253	461	683	948	1,175	1,282	1,329	5.7
Geothermal	5	10	15	17	19	20	20	4.4
Solar	224	664	1,155	1,907	2,855	3,964	4,940	10.9
Other	59	82	96	107	113	119	126	2.6
Battery storage	0	0	49	177	418	701	951	--
Total capacity	4,121	5,148	6,076	7,323	8,896	10,602	12,133	3.7

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E11.cap. Electricity installed generating capacity: Russia, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	3	3	0	0	0	0	0	-5.9
Natural gas	134	136	137	137	136	136	136	0.1
Coal	53	56	57	57	57	57	76	1.2
Nuclear	27	33	32	32	32	32	31	0.4
Renewables	54	55	60	76	105	148	183	4.2
Hydro	52	52	52	53	53	53	54	0.1
Wind	0	0	2	9	21	31	37	24.5
Geothermal	0	0	0	0	0	0	0	0.0
Solar	1	1	4	12	28	61	89	18.6
Other	1	1	2	2	3	3	3	2.9
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	271	283	285	302	331	375	427	1.5

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E12.cap. Electricity installed generating capacity: Other Europe and Eurasia, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	13	13	8	7	7	7	7	-2.4
Natural gas	47	48	50	50	49	51	54	0.5
Coal	58	60	60	62	65	68	76	0.9
Nuclear	18	19	21	22	22	22	23	0.8
Renewables	54	67	84	117	157	189	214	4.7
Hydro	42	43	44	44	44	44	44	0.2
Wind	6	10	14	21	36	56	78	9.2
Geothermal	0	0	0	0	0	0	0	--
Solar	5	13	25	50	76	87	91	10.0
Other	1	1	1	1	1	1	1	2.2
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	189	207	222	257	300	336	374	2.3

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E13.cap. Electricity installed generating capacity: China, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	7	7	1	0	0	0	0	-14.5
Natural gas	88	168	298	335	358	389	413	5.3
Coal	1,087	1,101	1,101	1,101	1,101	1,101	1,103	0.0
Nuclear	48	59	77	96	113	129	143	3.7
Renewables	691	1,084	1,428	1,914	2,445	2,936	3,292	5.3
Hydro	322	365	398	417	417	417	417	0.9
Wind	184	304	403	473	473	473	473	3.2
Geothermal	0	0	0	0	0	0	0	0.0
Solar	169	399	605	997	1,528	2,019	2,375	9.2
Other	15	15	22	27	27	27	27	1.9
Battery storage	0	0	0	80	252	416	529	--
Total capacity	1,921	2,419	2,904	3,526	4,269	4,971	5,480	3.6

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E14.cap. Electricity installed generating capacity: India, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	6	6	2	0	0	0	0	-15.3
Natural gas	30	30	30	25	21	18	16	-2.1
Coal	278	302	302	302	302	302	302	0.3
Nuclear	6	9	12	13	18	22	26	4.9
Renewables	119	333	601	879	1,202	1,638	2,083	10.0
Hydro	45	73	93	98	99	101	103	2.8
Wind	35	77	139	260	410	477	486	9.1
Geothermal	0	0	0	0	0	0	0	--
Solar	27	168	351	500	667	1,028	1,456	14.2
Other	12	16	17	21	25	31	38	4.0
Battery storage	0	0	49	97	166	286	422	--
Total capacity	439	680	995	1,316	1,709	2,266	2,849	6.4

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E15.cap. Electricity installed generating capacity: Other Non-OECD Asia, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	42	42	23	11	6	2	0	-18.4
Natural gas	155	170	170	152	135	120	107	-1.3
Coal	124	151	151	179	241	319	417	4.1
Nuclear	6	6	5	5	5	5	5	-0.2
Renewables	92	173	239	347	436	498	549	6.1
Hydro	66	96	109	122	132	149	162	3.0
Wind	3	14	32	65	93	95	99	11.9
Geothermal	4	7	9	9	9	9	9	2.7
Solar	9	29	59	120	172	213	248	11.6
Other	9	27	30	31	31	31	31	4.2
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	419	541	588	694	823	945	1,078	3.2

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E16.cap. Electricity installed generating capacity: Middle East, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	60	60	32	16	7	3	1	-13.2
Natural gas	244	261	261	249	263	289	323	0.9
Coal	2	8	8	8	8	8	8	5.1
Nuclear	1	6	9	11	12	12	12	9.1
Renewables	18	50	99	184	269	306	330	10.1
Hydro	15	15	15	15	15	15	15	0.0
Wind	1	10	20	24	25	27	29	13.8
Geothermal	0	0	0	0	0	0	0	--
Solar	2	24	63	144	228	263	286	17.4
Other	0	0	0	0	0	0	0	3.8
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	325	385	409	468	560	619	674	2.5

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E17.cap. Electricity installed generating capacity: Africa, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	21	21	7	2	0	0	0	-14.2
Natural gas	120	123	135	169	196	204	218	2.0
Coal	48	50	50	50	50	50	50	0.2
Nuclear	2	2	4	6	7	7	9	5.3
Renewables	47	82	115	154	230	364	459	7.9
Hydro	33	42	44	47	55	70	93	3.5
Wind	5	18	30	33	35	38	41	6.9
Geothermal	1	2	5	6	9	9	9	9.1
Solar	6	18	33	64	127	242	312	14.0
Other	2	2	3	4	4	4	4	3.4
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	237	279	312	380	484	626	736	3.8

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E18.cap. Electricity installed generating capacity: Brazil, High Economic Growth case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	9	9	3	0	0	0	0	-14.7
Natural gas	14	16	16	12	9	7	6	-3.1
Coal	4	4	4	4	4	4	4	0.0
Nuclear	2	2	3	3	3	2	2	0.9
Renewables	136	150	170	196	220	242	260	2.2
Hydro	104	106	110	115	125	143	158	1.4
Wind	14	21	35	54	68	71	74	5.6
Geothermal	0	0	0	0	0	0	0	0.0
Solar	2	7	10	10	10	11	11	5.7
Other	15	15	16	17	17	17	17	0.4
Battery storage	0	0	0	0	0	0	0	--
Total capacity	165	181	195	215	237	256	273	1.7

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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

Table E19.cap. Electricity installed generating capacity: Other Non-OECD Americas, High Economic Growth case

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	24	24	10	6	6	6	6	-4.6
Natural gas	58	60	60	56	56	56	56	-0.1
Coal	5	5	5	5	5	5	5	0.0
Nuclear	2	2	2	2	2	2	2	0.9
Renewables	66	82	87	95	114	141	173	3.3
Hydro	54	66	67	70	76	83	83	1.4
Wind	4	7	8	10	13	13	13	3.7
Geothermal	1	1	1	1	1	1	1	2.0
Solar	2	4	6	10	19	39	72	11.8
Other	4	4	4	5	5	5	5	0.4
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	155	173	164	165	184	210	242	1.5

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hm_210719.163753.

Notes:

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