

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	362	346	182	109	80	67	61	-5.8
Natural gas	1,839	1,983	2,086	2,079	2,069	2,093	2,170	0.6
Coal	2,201	2,199	2,138	2,129	2,124	2,126	2,145	-0.1
Nuclear	374	419	407	426	431	420	422	0.4
Renewables	2,394	3,580	4,336	4,925	5,691	6,553	7,262	3.8
Hydro	1,120	1,270	1,342	1,372	1,413	1,433	1,454	0.9
Wind	595	937	1,176	1,427	1,686	1,917	2,038	4.2
Geothermal	13	19	26	29	32	33	34	3.2
Solar	511	1,174	1,580	1,869	2,329	2,935	3,496	6.6
Other	155	180	211	228	232	236	240	1.5
Battery storage	3	11	34	60	162	330	506	18.5
Total capacity	7,172	8,537	9,182	9,728	10,558	11,589	12,567	1.9

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843; 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, Low Economic Growth case

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	176	160	95	68	56	51	49	-4.2
Natural gas	948	1,040	1,082	1,074	1,089	1,128	1,192	0.8
Coal	543	466	419	410	405	402	400	-1.0
Nuclear	262	281	241	235	215	185	170	-1.4
Renewables	1,119	1,535	1,821	2,034	2,263	2,541	2,782	3.1
Hydro	387	413	432	438	445	453	458	0.6
Wind	341	490	595	729	871	1,027	1,126	4.1
Geothermal	8	9	11	12	13	14	14	2.0
Solar	287	526	667	729	808	922	1,058	4.4
Other	96	98	117	125	125	126	126	0.9
Battery storage	3	11	13	16	19	49	100	12.2
Total capacity	3,052	3,492	3,671	3,836	4,048	4,357	4,693	1.4

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843; 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, Low Economic Growth case

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	74	57	49	44	42	42	40	-2.0
Natural gas	429	505	546	582	625	678	745	1.9
Coal	221	134	116	110	105	102	100	-2.6
Nuclear	97	92	73	69	68	67	67	-1.2
Renewables	331	490	579	639	700	776	845	3.2
Hydro	79	80	80	80	80	80	80	0.0
Wind	127	200	212	227	228	231	236	2.1
Geothermal	2	3	4	4	5	6	6	3.2
Solar	84	170	245	289	347	419	482	6.0
Other	38	39	39	39	40	40	41	0.2
Battery storage	3	11	13	16	16	18	19	6.2
Total capacity	1,155	1,289	1,376	1,460	1,556	1,683	1,817	1.5

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843; 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, Low 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	-19.8
Natural gas	24	26	26	28	37	39	43	1.9
Coal	8	8	3	0	0	0	0	-36.8
Nuclear	14	14	11	10	7	6	4	-4.1
Renewables	99	110	122	131	140	149	158	1.6
Hydro	81	85	89	89	89	89	89	0.3
Wind	13	19	25	34	43	52	61	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	4	1.6
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	150	162	162	170	184	193	205	1.1

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

Table E5.cap. Electricity installed generating capacity: Mexico and other OECD Americas, Low 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	61	55	54	54	54	-0.2
Coal	12	12	12	12	12	12	12	0.0
Nuclear	2	2	3	4	3	2	2	1.5
Renewables	46	53	58	66	79	102	125	3.3
Hydro	31	37	39	40	40	40	40	0.8
Wind	7	7	7	10	14	18	19	3.7
Geothermal	1	1	1	1	1	1	1	0.0
Solar	5	6	8	13	22	39	61	8.6
Other	3	3	3	3	3	3	3	0.5
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	136	147	143	143	152	171	195	1.2

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	36	36	17	7	4	4	4	-7.0
Natural gas	267	272	272	254	238	238	238	-0.4
Coal	173	175	175	175	175	175	175	0.0
Nuclear	117	117	99	97	90	67	53	-2.6
Renewables	512	708	856	953	1,051	1,171	1,282	3.1
Hydro	160	175	187	192	196	201	207	0.9
Wind	183	233	297	371	454	551	609	4.1
Geothermal	3	3	5	5	5	5	5	2.2
Solar	120	250	305	316	325	344	391	4.0
Other	45	46	62	69	69	69	69	1.4
Battery storage	0	0	0	0	0	26	75	--
Total capacity	1,105	1,308	1,418	1,486	1,558	1,682	1,827	1.7

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	37	37	20	12	7	4	3	-7.6
Natural gas	103	106	106	94	83	74	65	-1.5
Coal	62	67	44	44	44	44	44	-1.1
Nuclear	9	20	25	25	21	18	18	2.5
Renewables	86	89	93	101	118	146	167	2.2
Hydro	22	22	22	22	22	22	22	0.0
Wind	4	7	11	19	36	64	85	11.0
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	0.1
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	296	319	287	275	274	285	298	0.0

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

Table E8.cap. Electricity installed generating capacity: South Korea, Low 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	-14.0
Natural gas	46	49	49	42	37	35	35	-0.9
Coal	42	44	44	44	44	44	44	0.2
Nuclear	24	36	31	30	26	25	25	0.1
Renewables	13	21	34	53	75	86	88	6.7
Hydro	1	2	2	2	2	2	2	1.1
Wind	1	5	13	30	52	63	65	13.6
Geothermal	0	0	0	0	0	0	0	--
Solar	7	11	15	17	17	17	17	3.0
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	159	171	183	190	191	1.3

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	2	2	0	0	0	0	0	-11.1
Natural gas	22	22	22	17	14	11	11	-2.3
Coal	25	25	25	25	25	25	25	0.0
Nuclear	0	0	0	0	0	0	0	0.0
Renewables	31	63	79	90	100	112	118	4.6
Hydro	11	12	12	13	15	18	18	1.6
Wind	6	19	29	38	44	49	49	7.1
Geothermal	1	1	1	1	1	1	1	0.0
Solar	11	30	35	37	39	43	49	5.0
Other	1	1	1	1	1	1	1	0.0
Battery storage	0	0	0	0	3	5	6	--
Total capacity	79	111	125	132	141	152	159	2.4

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	185	186	86	41	23	16	12	-8.7
Natural gas	891	943	1,004	1,006	980	965	978	0.3
Coal	1,658	1,733	1,719	1,719	1,719	1,723	1,745	0.2
Nuclear	111	138	166	191	216	234	253	2.8
Renewables	1,275	2,044	2,515	2,892	3,428	4,012	4,480	4.3
Hydro	733	857	911	934	968	980	996	1.0
Wind	253	448	581	698	815	889	913	4.4
Geothermal	5	10	15	17	19	20	20	4.4
Solar	224	648	913	1,140	1,521	2,013	2,437	8.3
Other	59	82	95	103	107	110	114	2.2
Battery storage	0	0	22	45	143	281	406	--
Total capacity	4,121	5,045	5,511	5,892	6,510	7,232	7,874	2.2

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	3	3	1	1	1	1	1	-3.8
Natural gas	134	134	134	124	124	123	123	-0.3
Coal	53	53	53	53	53	53	53	0.0
Nuclear	27	33	32	32	32	32	31	0.4
Renewables	54	55	56	59	61	63	64	0.6
Hydro	52	52	52	53	53	53	54	0.1
Wind	0	0	1	2	3	3	4	15.6
Geothermal	0	0	0	0	0	0	0	0.0
Solar	1	1	2	2	3	3	3	6.4
Other	1	1	2	2	3	3	3	2.3
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	271	278	276	270	271	272	272	0.0

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	13	13	8	5	4	4	4	-4.0
Natural gas	47	47	47	46	43	41	40	-0.5
Coal	58	58	45	45	46	47	48	-0.6
Nuclear	18	19	21	22	22	22	23	0.8
Renewables	54	63	70	80	95	110	119	2.7
Hydro	42	43	44	44	44	44	44	0.1
Wind	6	10	13	17	20	21	22	4.7
Geothermal	0	0	0	0	0	0	0	--
Solar	5	10	12	18	29	44	52	8.0
Other	1	1	1	1	1	1	1	2.1
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	189	201	191	198	210	224	234	0.7

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	7	7	1	0	0	0	0	-14.5
Natural gas	88	102	164	233	233	233	233	3.3
Coal	1,087	1,101	1,101	1,101	1,101	1,101	1,101	0.0
Nuclear	48	59	77	96	113	129	143	3.7
Renewables	691	1,077	1,249	1,350	1,503	1,631	1,671	3.0
Hydro	322	365	385	398	417	417	417	0.9
Wind	184	298	333	333	333	333	333	2.0
Geothermal	0	0	0	0	0	0	0	0.0
Solar	169	399	509	592	726	853	894	5.7
Other	15	15	22	27	27	27	27	1.9
Battery storage	0	0	0	0	61	132	167	--
Total capacity	1,921	2,346	2,591	2,780	3,012	3,225	3,315	1.8

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	6	6	2	0	0	0	0	-15.3
Natural gas	30	30	30	25	21	18	18	-1.7
Coal	278	302	302	302	302	302	302	0.3
Nuclear	6	9	12	13	18	22	26	4.9
Renewables	119	333	517	662	824	1,062	1,346	8.4
Hydro	45	73	93	96	98	99	101	2.7
Wind	35	77	139	226	299	334	344	7.9
Geothermal	0	0	0	0	0	0	0	--
Solar	27	168	268	323	408	606	875	12.3
Other	12	16	16	17	20	23	26	2.8
Battery storage	0	0	22	45	82	149	239	--
Total capacity	439	680	884	1,048	1,248	1,554	1,931	5.1

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	42	42	23	11	5	2	0	-18.6
Natural gas	155	170	170	151	135	120	120	-0.9
Coal	124	151	150	150	150	152	173	1.1
Nuclear	6	6	5	5	5	5	5	-0.2
Renewables	92	162	197	240	327	424	468	5.6
Hydro	66	96	107	112	120	123	126	2.1
Wind	3	11	16	27	50	73	76	10.9
Geothermal	4	7	9	9	9	9	9	2.7
Solar	9	22	35	62	117	188	227	11.2
Other	9	27	30	31	31	31	31	4.2
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	419	531	545	557	622	704	767	2.0

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	60	60	32	16	7	3	1	-13.2
Natural gas	244	261	261	234	221	221	221	-0.3
Coal	2	8	8	8	8	8	8	5.1
Nuclear	1	6	9	11	12	12	12	9.1
Renewables	18	48	81	123	191	234	255	9.2
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	22	45	83	150	192	211	16.2
Other	0	0	0	0	0	0	0	3.8
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	325	383	391	392	440	479	498	1.4

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	21	21	7	2	0	0	0	-16.1
Natural gas	120	123	123	127	141	149	166	1.1
Coal	48	50	50	50	50	50	50	0.2
Nuclear	2	2	4	6	7	7	7	4.7
Renewables	47	82	114	138	172	219	270	6.0
Hydro	33	42	43	45	48	53	62	2.1
Wind	5	18	30	33	35	38	41	6.9
Geothermal	1	2	5	6	9	9	9	9.1
Solar	6	18	33	50	77	115	154	11.4
Other	2	2	3	4	4	4	4	3.1
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	237	279	300	323	371	426	494	2.5

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

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

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	9	9	3	0	0	0	0	-15.0
Natural gas	14	16	16	12	9	7	5	-3.2
Coal	4	4	4	4	4	4	4	0.0
Nuclear	2	2	3	3	3	2	2	0.9
Renewables	136	142	147	156	168	178	186	1.1
Hydro	104	105	106	106	106	106	106	0.1
Wind	14	18	21	29	41	51	58	4.7
Geothermal	0	0	0	0	0	0	0	0.0
Solar	2	4	4	4	5	5	5	3.3
Other	15	15	16	17	17	17	17	0.4
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	165	173	172	175	185	192	197	0.6

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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

Table E19.cap. Electricity installed generating capacity: Other Non-OECD Americas, Low 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	53	53	53	53	-0.3
Coal	5	5	5	5	5	5	5	0.0
Nuclear	2	2	2	2	2	2	2	0.9
Renewables	66	82	84	84	86	91	101	1.4
Hydro	54	66	66	66	67	69	72	0.9
Wind	4	7	8	8	8	8	8	2.0
Geothermal	1	1	1	1	1	1	1	2.0
Solar	2	4	4	4	5	9	15	6.3
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	161	150	152	157	167	0.2

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run Im_210719.163843.

Notes:

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