

Table E1.cap. Electricity installed generating capacity: World, High Oil Price case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	362	346	182	108	78	64	57	-6.0
Natural gas	1,839	2,066	2,296	2,388	2,505	2,659	2,862	1.5
Coal	2,201	2,202	2,167	2,200	2,304	2,435	2,566	0.5
Nuclear	374	419	411	430	437	427	429	0.5
Renewables	2,394	3,636	4,880	6,352	7,937	9,560	11,213	5.3
Hydro	1,120	1,275	1,374	1,431	1,481	1,557	1,609	1.2
Wind	595	958	1,297	1,753	2,215	2,586	2,841	5.4
Geothermal	13	19	27	30	33	34	35	3.3
Solar	511	1,205	1,968	2,903	3,968	5,133	6,470	8.8
Other	155	180	213	234	241	249	258	1.7
Battery storage	3	11	73	229	530	905	1,359	22.4
Total capacity	7,172	8,679	10,009	11,708	13,792	16,049	18,487	3.2

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813; 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 Oil Price case

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	176	159	96	68	56	49	46	-4.4
Natural gas	948	1,060	1,122	1,157	1,233	1,333	1,454	1.4
Coal	543	465	428	417	414	411	410	-0.9
Nuclear	262	281	246	239	221	193	175	-1.3
Renewables	1,119	1,562	1,968	2,291	2,624	3,006	3,421	3.8
Hydro	387	416	436	443	452	468	473	0.7
Wind	341	497	612	802	1,027	1,263	1,471	5.0
Geothermal	8	9	12	13	14	15	15	2.2
Solar	287	542	791	908	1,004	1,132	1,332	5.3
Other	96	98	118	126	127	128	130	1.0
Battery storage	3	11	14	23	59	133	197	14.8
Total capacity	3,052	3,537	3,873	4,195	4,607	5,124	5,704	2.1

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813; 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 Oil Price case

gigawatts

Fuel	2020	2025	2030	2035	2040	2045	2050	Average annual percentage change, 2020–2050
Liquid fuels	74	57	49	44	44	44	44	-1.7
Natural gas	429	517	564	619	673	737	815	2.2
Coal	221	133	114	106	103	100	99	-2.6
Nuclear	97	92	78	73	74	74	73	-0.9
Renewables	331	512	675	754	809	868	944	3.6
Hydro	79	80	80	80	80	80	80	0.0
Wind	127	206	222	240	244	248	259	2.4
Geothermal	2	3	4	5	6	7	7	3.6
Solar	84	184	330	389	438	491	555	6.5
Other	38	39	40	40	41	42	43	0.4
Battery storage	3	11	13	16	18	21	23	6.9
Total capacity	1,155	1,320	1,492	1,612	1,720	1,844	1,998	1.8

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813; 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 Oil Price case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	4	4	0	0	0	0	0	-13.8
Natural gas	24	32	38	48	67	83	95	4.7
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	5	2.3
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	150	168	174	190	215	238	259	1.8

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

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 Oil Price case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	19	19	9	5	2	1	0	-17.1
Natural gas	57	61	62	65	72	72	74	0.9
Coal	12	12	12	12	12	12	12	0.0
Nuclear	2	2	3	4	3	2	2	1.5
Renewables	46	54	60	70	85	115	159	4.2
Hydro	31	37	39	40	40	40	40	0.8
Wind	7	7	8	11	16	25	28	5.0
Geothermal	1	1	1	1	1	1	1	0.0
Solar	5	7	9	15	25	45	87	9.9
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	176	202	248	2.0

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E6.cap. Electricity installed generating capacity: OECD Europe, High Oil Price case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	36	36	17	7	2	0	0	-15.7
Natural gas	267	272	272	256	261	282	310	0.5
Coal	173	175	175	175	175	175	175	0.0
Nuclear	117	117	99	97	90	67	53	-2.6
Renewables	512	711	895	1,060	1,220	1,388	1,577	3.8
Hydro	160	178	191	196	203	216	221	1.1
Wind	183	233	300	418	555	673	786	5.0
Geothermal	3	3	5	5	5	5	5	2.2
Solar	120	250	336	371	387	424	495	4.8
Other	45	46	62	69	69	69	69	1.4
Battery storage	0	0	0	0	27	92	147	--
Total capacity	1,105	1,311	1,458	1,595	1,775	2,005	2,263	2.4

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E7.cap. Electricity installed generating capacity: Japan, High Oil Price 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	-10.1
Natural gas	103	107	112	100	94	94	94	-0.3
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	174	219	3.2
Hydro	22	22	22	22	22	22	22	0.0
Wind	4	7	12	23	45	92	136	12.8
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	0.3
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	296	321	305	296	305	345	387	0.9

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E8.cap. Electricity installed generating capacity: South Korea, High Oil Price 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	-14.3
Natural gas	46	50	53	49	47	47	48	0.2
Coal	42	44	44	44	44	44	44	0.2
Nuclear	24	36	31	30	26	25	25	0.1
Renewables	13	21	34	56	94	140	160	8.8
Hydro	1	2	2	2	2	2	2	1.1
Wind	1	5	13	30	66	112	133	16.3
Geothermal	0	0	0	0	0	0	0	--
Solar	7	11	15	20	22	22	22	3.8
Other	3	3	4	4	4	4	4	1.1
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	130	157	163	180	211	256	277	2.6

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E9.cap. Electricity installed generating capacity: Australia and New Zealand, High Oil Price 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	-11.5
Natural gas	22	22	23	21	19	18	18	-0.6
Coal	25	25	25	25	25	25	25	0.0
Nuclear	0	0	0	0	0	0	0	0.0
Renewables	31	64	86	115	147	172	202	6.5
Hydro	11	12	12	13	15	18	18	1.6
Wind	6	19	30	45	56	60	68	8.2
Geothermal	1	1	1	1	1	1	1	0.0
Solar	11	32	42	55	74	91	114	8.1
Other	1	1	1	1	1	1	1	0.8
Battery storage	0	0	1	7	14	20	27	--
Total capacity	79	112	135	167	205	234	272	4.2

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E10.cap. Electricity installed generating capacity: Non-OECD, High Oil Price case

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	185	186	86	40	23	15	11	-9.0
Natural gas	891	1,006	1,174	1,231	1,272	1,325	1,408	1.5
Coal	1,658	1,738	1,739	1,783	1,890	2,024	2,156	0.9
Nuclear	111	138	166	191	216	234	254	2.8
Renewables	1,275	2,074	2,912	4,060	5,313	6,554	7,792	6.2
Hydro	733	858	938	988	1,029	1,089	1,136	1.5
Wind	253	461	686	952	1,188	1,323	1,370	5.8
Geothermal	5	10	15	17	19	20	20	4.4
Solar	224	663	1,177	1,996	2,964	4,002	5,138	11.0
Other	59	82	96	108	114	120	128	2.6
Battery storage	0	0	60	207	471	772	1,162	--
Total capacity	4,121	5,143	6,136	7,512	9,185	10,925	12,783	3.8

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E11.cap. Electricity installed generating capacity: Russia, High Oil Price 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	-14.3
Natural gas	134	139	141	141	141	141	141	0.2
Coal	53	57	57	57	57	61	66	0.7
Nuclear	27	33	32	32	32	32	31	0.4
Renewables	54	55	60	75	102	142	177	4.1
Hydro	52	52	52	53	53	53	54	0.1
Wind	0	0	2	9	21	30	32	23.9
Geothermal	0	0	0	0	0	0	0	0.0
Solar	1	1	4	11	26	55	88	18.5
Other	1	1	2	2	3	3	3	2.6
Battery storage	0	0	0	0	0	0	0	0.0
Total capacity	271	288	290	306	333	376	416	1.4

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

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

gigawatts

Fuel								Average annual
	2020	2025	2030	2035	2040	2045	2050	percentage change, 2020–2050
Liquid fuels	13	13	8	5	4	4	4	-4.0
Natural gas	47	49	50	52	53	55	59	0.8
Coal	58	60	60	63	66	70	80	1.1
Nuclear	18	19	21	22	22	22	23	0.8
Renewables	54	67	84	118	159	191	219	4.8
Hydro	42	43	44	44	44	44	44	0.2
Wind	6	10	14	22	39	60	84	9.5
Geothermal	0	0	0	0	0	0	0	--
Solar	5	13	25	50	75	85	89	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	223	260	304	342	385	2.4

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E13.cap. Electricity installed generating capacity: China, High Oil Price 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	-14.9
Natural gas	88	159	310	362	384	420	454	5.6
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	1,084	1,427	1,912	2,423	2,933	3,354	5.4
Hydro	322	365	398	417	417	417	417	0.9
Wind	184	304	405	480	480	480	480	3.2
Geothermal	0	0	0	0	0	0	0	0.0
Solar	169	399	602	988	1,499	2,009	2,430	9.3
Other	15	15	22	27	27	27	27	1.9
Battery storage	0	0	0	70	245	413	549	--
Total capacity	1,921	2,409	2,916	3,541	4,265	4,996	5,600	3.6

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E14.cap. Electricity installed generating capacity: India, High Oil Price 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	-15.5
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	629	983	1,365	1,752	2,302	10.4
Hydro	45	73	93	98	99	101	103	2.8
Wind	35	77	139	258	420	513	523	9.4
Geothermal	0	0	0	0	0	0	0	--
Solar	27	168	379	605	819	1,104	1,637	14.6
Other	12	16	17	22	27	33	40	4.2
Battery storage	0	0	60	136	226	333	504	--
Total capacity	439	680	1,035	1,460	1,933	2,426	3,152	6.8

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E15.cap. Electricity installed generating capacity: Other Non-OECD Asia, High Oil Price 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	-18.5
Natural gas	155	170	170	152	135	120	120	-0.9
Coal	124	151	152	192	296	423	539	5.0
Nuclear	6	6	5	5	5	5	5	-0.2
Renewables	92	172	240	342	423	478	513	5.9
Hydro	66	96	114	127	141	163	165	3.1
Wind	3	14	32	63	89	93	97	11.8
Geothermal	4	7	9	9	9	9	9	2.7
Solar	9	28	56	111	153	183	210	11.0
Other	9	27	30	31	31	31	31	4.2
Battery storage	0	0	0	0	0	27	108	--
Total capacity	419	541	590	702	865	1,055	1,285	3.8

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E16.cap. Electricity installed generating capacity: Middle East, High Oil Price 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	260	275	299	333	1.0
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	272	311	336	10.2
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	24	63	144	230	268	292	17.5
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	480	574	633	691	2.5

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E17.cap. Electricity installed generating capacity: Africa, High Oil Price 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	-16.5
Natural gas	120	123	136	171	198	209	220	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	116	155	234	366	456	7.9
Hydro	33	42	43	47	53	67	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	34	66	133	248	309	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	314	385	490	633	736	3.8

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E18.cap. Electricity installed generating capacity: Brazil, High Oil Price 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	-14.8
Natural gas	14	16	16	12	9	7	7	-2.3
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	222	242	261	2.2
Hydro	104	107	111	117	129	145	161	1.5
Wind	14	21	34	53	67	70	73	5.6
Geothermal	0	0	0	0	0	0	0	0.0
Solar	2	7	9	10	10	10	11	5.6
Other	15	15	16	17	17	17	17	0.4
Battery storage	0	0	0	0	0	0	1	--
Total capacity	165	181	195	216	239	255	276	1.7

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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

Table E19.cap. Electricity installed generating capacity: Other Non-OECD Americas, High Oil Price 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	113	140	173	3.3
Hydro	54	66	67	70	76	83	83	1.4
Wind	4	7	8	9	12	12	12	3.4
Geothermal	1	1	1	1	1	1	1	2.0
Solar	2	4	6	10	19	39	72	11.9
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	164	182	209	243	1.5

Sources: U.S. Energy Information Administration (EIA), World Energy Projection System (2021), run hp_210719.163813.

Notes:

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