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Load Curves

Sources on load shapes

DCFC from EVI-Pro

Scenarios 2-6 adapted from LBNL load profiles

Source: Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite, Alternative Fuels Data Center, US Department of Energy.

Source: Lawrence Berkeley National Laboratory. "HEVI-Pro load profiles," provided to Synapse Energy Economics in August 2022

#	Scenario	Hours	summer on pk hours																							Daily Sum	
			12am-1am	1am-2am	2am-3am	3am-4am	4am-5am	5am-6am	6am-7am	7am-8am	8am-9am	winter on pk hours		summer on pk hours		winter on pk hours											
Hour	Beginning	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23		
1	DCFC - shape only (1 vehicle for shape only)	kW	-	-	-	-	-	-	-	29	2	5	8	-	-	-	-	15	3	-	0	-	-	-	-	62	
2	Medium-duty truck (10 vehicles)	kW	13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20	55	78	104	71	52	393	
3	School bus (10 vehicles)	kW	250	300	215	85	30	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	140	1,075
4	School bus (30 vehicles)	kW	750	900	645	255	90	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	420	3,225	
5	Tractor trailer (5 vehicles)	kW	-	-	-	-	-	-	-	-	350	650	500	660	860	550	430	330	320	100	-	-	-	-	-	-	4,750
6	100% Off-peak tractor trailer (5 veh)	kW	500	660	860	550	430	330	320	100	-	-	-	-	-	-	-	-	-	-	-	-	-	350	650	4,750	

Scenario	Scenario Code	# of Vehicles	Peak Demand	Daily kWh	Monthly kWh	Load Factor
DCFC @ 5% Load Factor	DCFC-5	4	600		21,900	5%
DCFC @ 10% Load Factor	DCFC-10	4	600		43,800	10%
Medium-duty truck (10 vehicles)	MD-10	10	104	393	11,987	16%
School bus (10 vehicles)	SB-10	10	300	1,075	32,788	15%
School bus (30 vehicles)	SB-30	30	900	3,225	98,363	15%
Tractor trailer (5 vehicles)	TT-5	5	860	4,750	144,875	23%
100% Off-peak tractor trailer (5 veh)	TT-5off	5	860	4,750	144,875	23%

LBNL LOAD CURVES

Lawrence Berkeley National Laboratory. "HEVI-Pro load profiles," provided to Synapse Energy Economics in August 2022

Single Vehicle (kW)	Medium-Duty	Tractor-trailer	School Bus	DCFC**	
12am-1am	0	0.84	53.41	8.10	-
1am-2am	1	0.72	53.05	6.32	-
2am-3am	2	0.37	42.88	5.27	-
3am-4am	3	3.62	33.69	4.08	-
4am-5am	4	2.41	34.26	4.41	-
5am-6am	5	2.59	32.31	3.80	-
6am-7am	6	2.34	36.84	1.66	-
7am-8am	7	0.68	34.77	0.55	29
8am-9am	8	0.01	11.40	2.42	2
9am-10am	9	-	33.78	6.64	5
10am-11am	10	-	39.61	7.07	8
11am-12pm	11	-	61.86	14.15	-
12pm-1pm	12	0.72	52.96	11.07	-
1pm-2pm	13	-	50.71	8.92	-
2pm-3pm	14	0.01	53.34	7.98	-
3pm-4pm	15	0.12	41.55	2.13	15
4pm-5pm	16	0.14	38.13	1.16	3
5pm-6pm	17	0.07	39.95	0.95	-
6pm-7pm	18	2.00	30.48	1.46	0
7pm-8pm	19	6.66	26.70	2.28	-
8pm-9pm	20	6.08	18.18	1.98	-
9pm-10pm	21	7.76	17.68	1.88	-
10pm-11pm	22	5.15	13.76	2.80	-
11pm-12am	23	0.84	53.41	8.10	-

**Note: DCFC load curves from Electric Vehicle Infrastructure Projection Tool (EVI-Pro) Lite, Alternative Fuels Data Center, US Department of Energy.

Total	43.14	904.70	115.20	61.61
Peak Demand (kW)	7.76	61.86	14.15	29.24
Hour Peak Demand (HB)	21	11	11	7