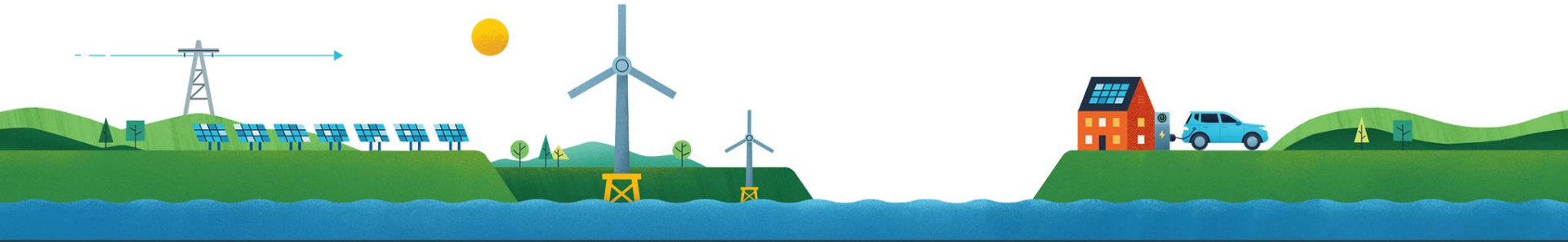
MAY 1, 2026

Final 2026 Electric Vehicle Forecast

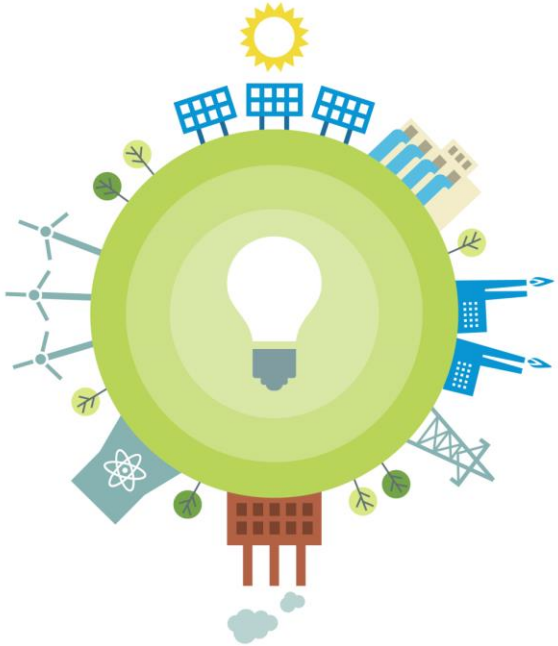


Acronyms

BTMPV	Behind-the-Meter Photovoltaics	**HP**	Heat Pump
BEV	Battery Electric Vehicle	**LFC**	Load Forecast Committee
CELT	Capacity, Energy, Load, and Transmission	**MDV**	Medium-Duty Delivery Vehicle
EV	Electric Vehicle	**PLDV**	Personal Light-Duty Vehicle
EVMC	Electric Vehicle Managed Charging	**VMT**	Vehicle Miles Traveled
FLDV	Fleet Light-Duty Vehicle		

Outline

- Introduction
- Electric Vehicle Adoption Forecast
- Hourly Demand Modeling Methodology
- Energy and Peak Demand Forecast



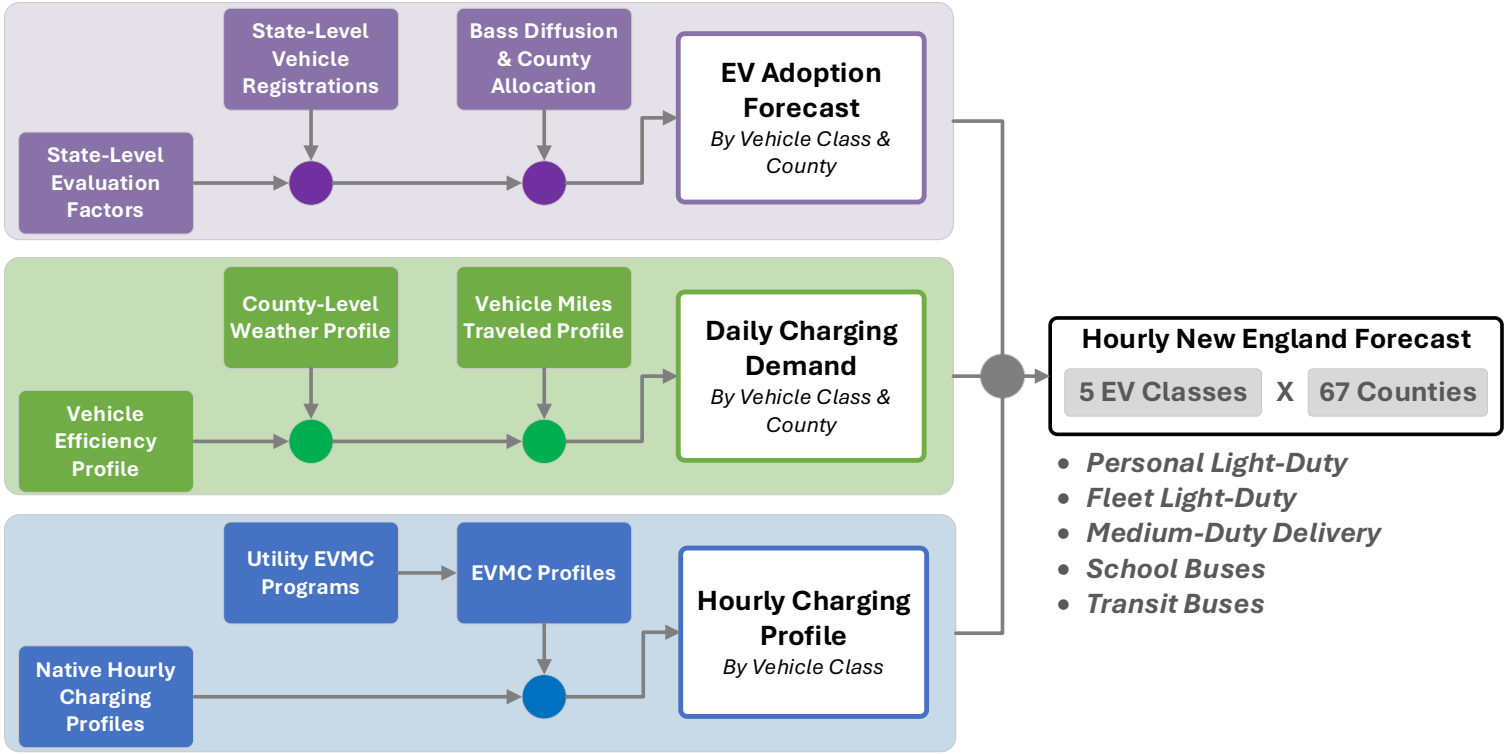
Introduction

- The electric vehicle (EV) forecast is intended to forecast the state and regional energy and demand impacts of EV adoption across five vehicle classes in New England as part of the 2026 Capacity, Energy, Loads, and Transmission (CELT) forecast:
  - Personal light-duty vehicles (PLDV)
  - Fleet light-duty vehicles (FLDV)
  - Medium-duty delivery vehicles (MDV)
  - School buses
  - Transit buses
- Forecast Methodology:
  1. Adoption forecasting
     - Inventories the New England vehicle population and policy landscape and forecasts the adoption of each class
  2. Hourly demand modeling
     - Captures the electricity demand impacts of EV adoption in each vehicle class
     - Reflects increased levels of PLDV managed charging (EVMC)
  3. Energy and peak demand calculation
     - Energy stems from a direct summation of the simulated hourly demand
     - Peak demand impacts are derived from a “waterfall” approach to compile the gross- and net-load forecasts
       - Peak demand and monthly energy incorporate gross-ups to account for transmission and distribution losses

Updates to the EV Forecast for CELT 2026

- For CELT 2026, the EV adoption forecast was updated to a Bass Diffusion approach
  - Presented at the November 7th, 2025 *Updates to the EV Adoption Forecast Methodology* presentation
- The EV adoption forecast was revised downward relative to CELT 2025 to account for recent policy changes pertaining to transportation electrification over the previous year
  - The updated adoption forecasts account for the removal of federal incentives and revisions to state policies and expectations for each vehicle class
- While no updates were made to the structure of the EV managed charging implementation, updates to initial EVMC program participation rates were incorporated
  - Current participation rates in each state were increased to align with state-specific program evaluation data

Electric Vehicle Forecast Process



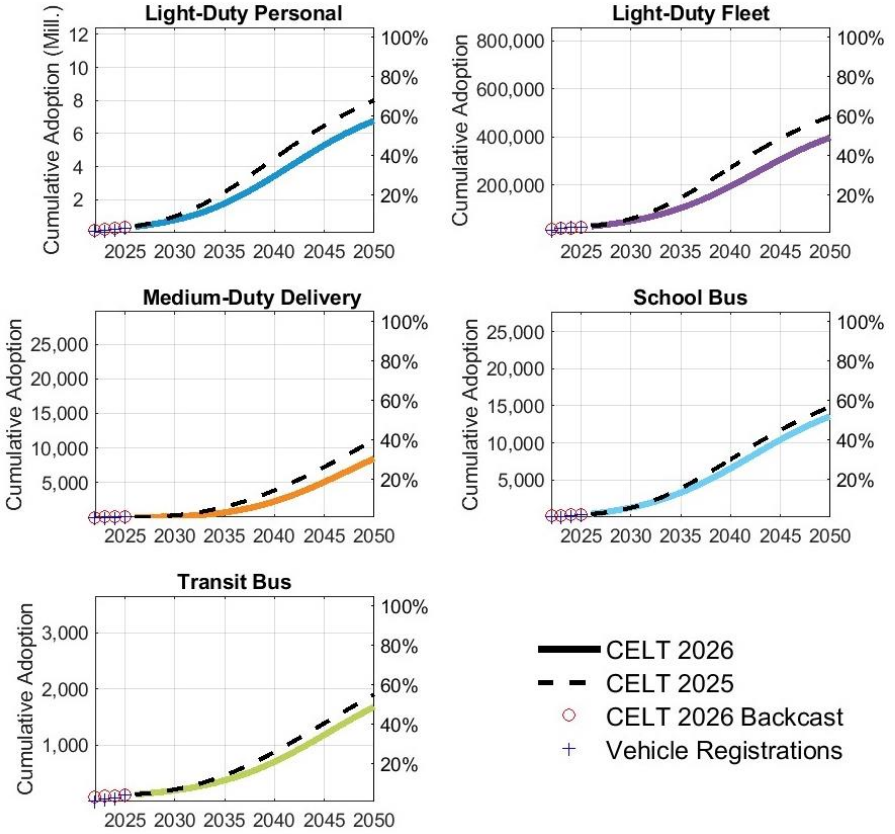
ELECTRIC VEHICLE ADOPTION FORECAST

CELT 2026 EV Adoption Forecast

Cumulative EV Stock in New England

- After reviewing the states' feedback, the CELT 2026 EV adoption forecast was revised downward to more holistically reflect the significant degree of state and federal policy changes since CELT 2025

Federal Factors	Elimination of the EV tax credit
	Relaxed Corporate Average Fuel Economy standards
	EPA repeal of the endangerment finding
State Factors	Reduced expectations for existing state programs and targets
	Relaxed near-term enforcement of the ACC II/ACT rules in select states
	Right-sizing with recent EV adoption trends
	Scaling-back of EV incentive programs in select states

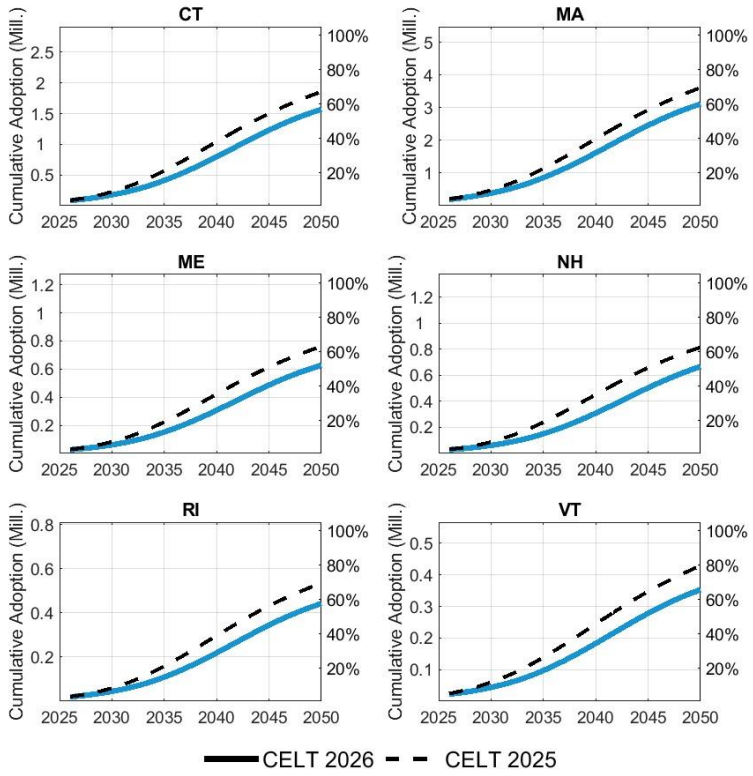


CELT 2026 EV Adoption Forecast

Cumulative EV Stock in New England

	Personal Light-Duty	Fleet Light-Duty	Medium-Duty Delivery	School Buses	Transit Buses
Actual – 2025	296,823	23,408	3	321	115
% of Stock	2.5%	2.9%	0.0%	1.2%	3.3%
Forecast – 2035	1,779,023	103,113	684	3,304	378
% of Stock	15.0%	12.6%	2.4%	12.5%	10.9%
Forecast – 2040	3,435,021	194,205	2,277	6,586	707
% of Stock	29.0%	23.8%	8.0%	25.0%	20.3%
Forecast – 2045	5,306,487	305,198	5,096	10,437	1,185
% of Stock	44.8%	37.4%	18.0%	39.6%	34.1%
Forecast – 2050	6,774,942	397,316	8,494	13,590	1,682
% of Stock	57.3%	48.7%	30.0%	51.6%	48.4%

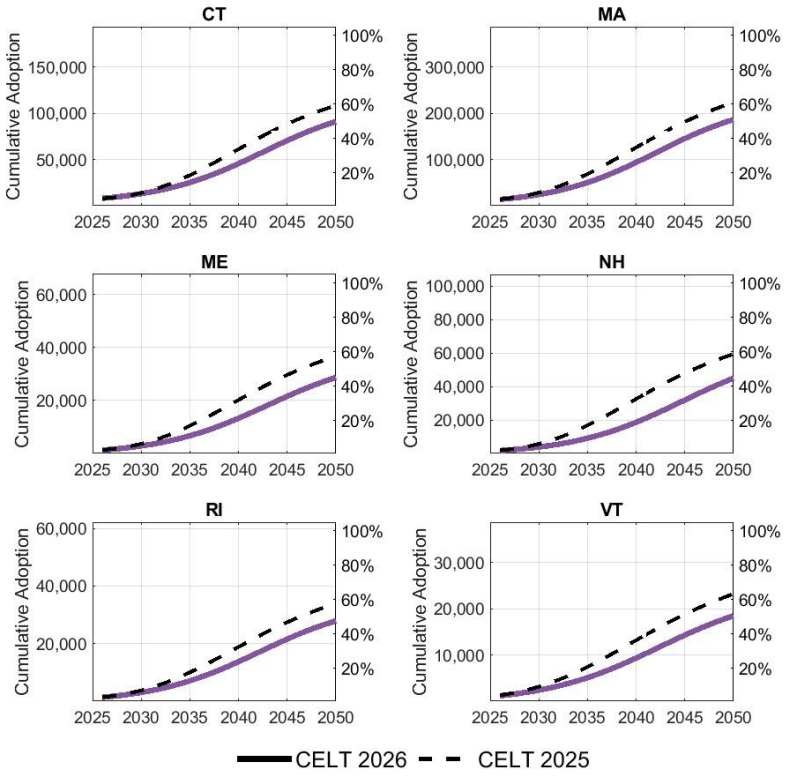
Personal Light-Duty EV Adoption



Annual Incremental Increase in EV Stock

Year	CT	MA	ME	NH	RI	VT	NE
2026	16,700	34,560	6,003	5,744	4,344	3,924	71,275
2027	18,496	38,367	6,735	6,450	4,853	4,325	79,226
2028	21,483	44,166	7,871	7,554	5,678	5,006	91,758
2029	25,006	51,230	9,252	8,900	6,664	5,801	106,853
2030	29,274	59,754	10,938	10,553	7,865	6,760	125,144
2031	34,291	69,730	12,942	12,532	9,288	7,882	146,665
2032	40,043	81,109	15,266	14,848	10,936	9,162	171,364
2033	46,485	93,777	17,902	17,505	12,798	10,587	199,054
2034	53,518	107,520	20,818	20,483	14,852	12,133	229,324
2035	60,991	122,019	23,960	23,745	17,056	13,766	261,537
Cumulative Adoption (2026-2035)	**346,287**	**702,232**	**131,687**	**128,314**	**94,334**	**79,346**	**1,482,200**

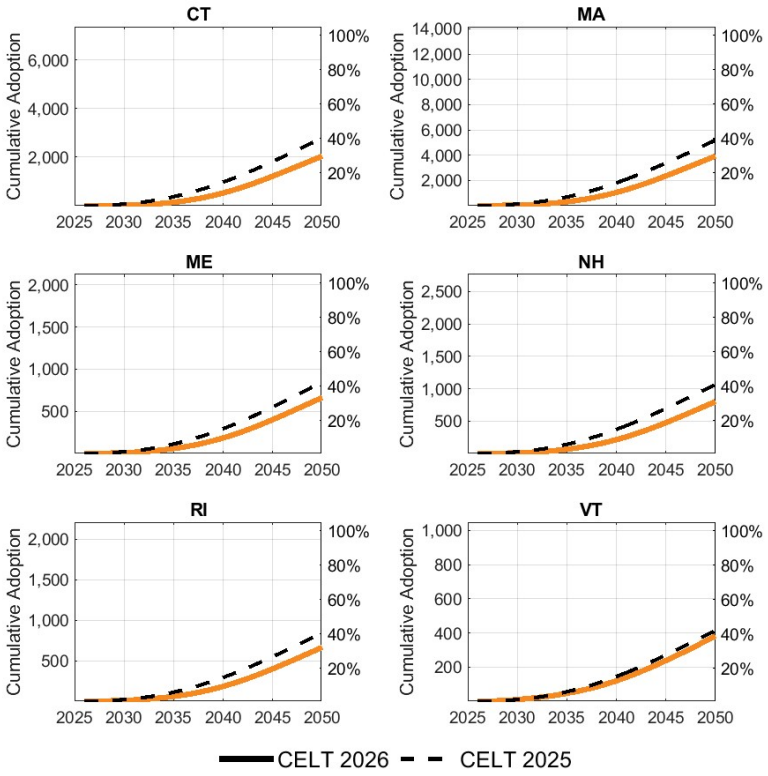
Fleet Light-Duty EV Adoption



Annual Incremental Increase in EV Stock

Year	CT	MA	ME	NH	RI	VT	NE
2026	811	1,730	257	350	280	207	3,635
2027	959	2,049	303	414	330	241	4,296
2028	1,130	2,420	358	485	388	279	5,060
2029	1,326	2,844	419	570	453	322	5,934
2030	1,550	3,330	491	666	527	369	6,933
2031	1,802	3,875	571	775	610	421	8,054
2032	2,082	4,481	660	900	702	478	9,303
2033	2,390	5,142	758	1,037	801	539	10,667
2034	2,721	5,852	865	1,190	906	603	12,137
2035	3,069	6,595	978	1,357	1,018	669	13,686
Cumulative Adoption (2026-2035)	**17,840**	**38,318**	**5,660**	**7,744**	**6,015**	**4,128**	**79,705**

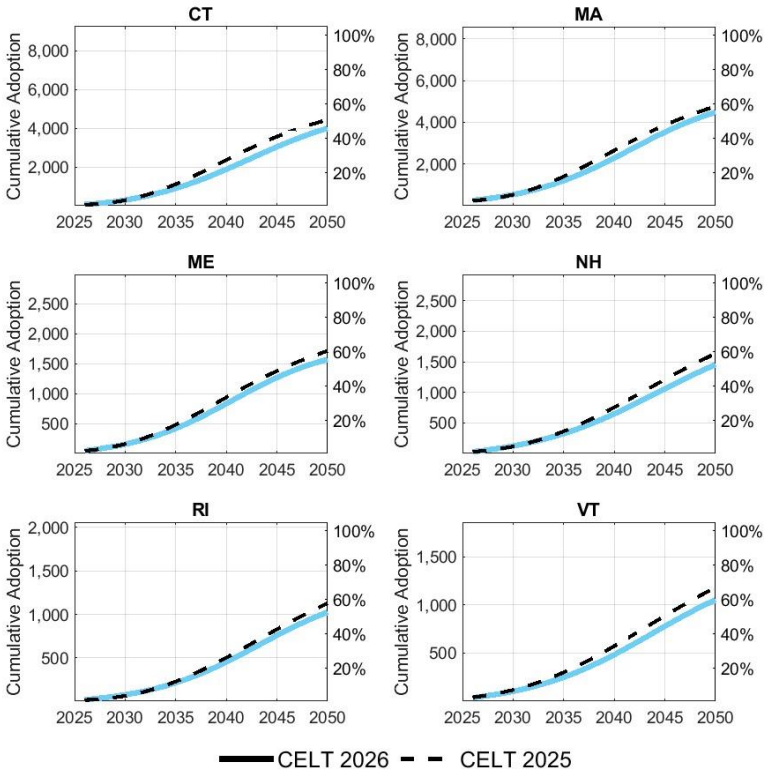
Medium-Duty Delivery EV Adoption



Annual Incremental Increase in EV Stock

Year	CT	MA	ME	NH	RI	VT	NE
2026	1	3	0	0	0	0	4
2027	2	6	1	1	1	1	12
2028	3	9	2	2	2	2	20
2029	4	12	3	3	3	3	28
2030	5	15	4	4	4	4	36
2031	11	26	5	6	6	6	60
2032	16	38	8	8	7	6	83
2033	25	51	9	11	10	7	113
2034	32	66	12	13	12	8	143
2035	42	83	15	17	15	10	182
Cumulative Adoption (2026-2035)	**141**	**309**	**59**	**65**	**60**	**47**	**681**

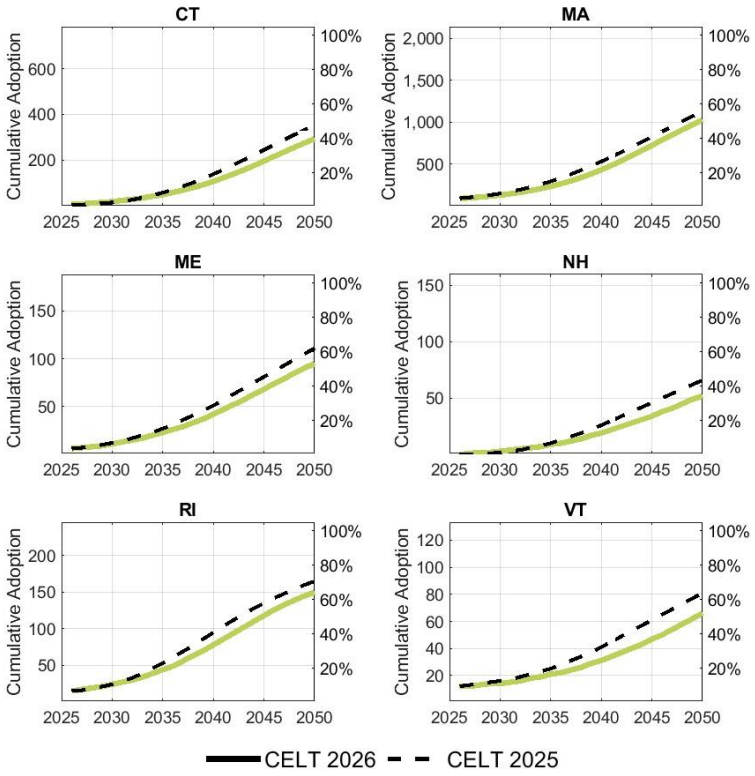
School Bus EV Adoption



Annual Incremental Increase in EV Stock

Year	CT	MA	ME	NH	RI	VT	NE
2026	30	46	18	16	9	11	130
2027	37	54	21	19	11	14	156
2028	46	63	25	22	13	15	184
2029	62	75	29	25	15	17	223
2030	80	87	34	28	18	20	267
2031	93	101	40	32	20	23	309
2032	105	116	46	35	24	26	352
2033	121	133	52	41	27	29	403
2034	135	150	59	45	31	32	452
2035	152	168	66	49	36	36	507
Cumulative Adoption (2026-2035)	**861**	**993**	**390**	**312**	**204**	**223**	**2,983**

Transit Bus EV Adoption



Annual Incremental Increase in EV Stock

Year	CT	MA	ME	NH	RI	VT	NE
2026	2	7	1	0	1	1	12
2027	2	7	1	1	2	0	13
2028	3	10	1	1	2	1	18
2029	3	11	1	0	2	1	18
2030	4	12	2	1	3	0	22
2031	5	16	2	1	3	1	28
2032	5	17	2	1	3	1	29
2033	6	21	2	1	4	2	36
2034	7	23	3	1	5	1	40
2035	7	28	3	2	5	2	47
Cumulative Adoption (2026-2035)	**44**	**152**	**18**	**9**	**30**	**10**	**263**

HOURLY MODELING METHODOLOGY

Hourly Demand Forecast Overview

- The methodology to model hourly EV demand aligns with the CELT 2025 forecast
  - Discussed on slides 18-23 of the May 1st, 2025 *Final 2025 Electric Vehicle Forecast* presentation
- Hourly electricity demand is developed across all hours of the 70-year weather simulation period, for each vehicle class
  - Discussed on slides 5-13 of the September 27th 2024 *Updates to Forecast Data Sources* presentation

1 Develop VMT assumptions for weekends and weekdays within each month

Inputs:

- Annual vehicle miles traveled (VMT)
- Monthly allocation of VMT
- ➢ Reflects seasonal driving patterns

2 Apply temperature-dependent efficiency profiles to retrieve the daily energy demand

Inputs:

- Relationship between weather (daily mean temperature) and EV efficiency (kWh/mile)

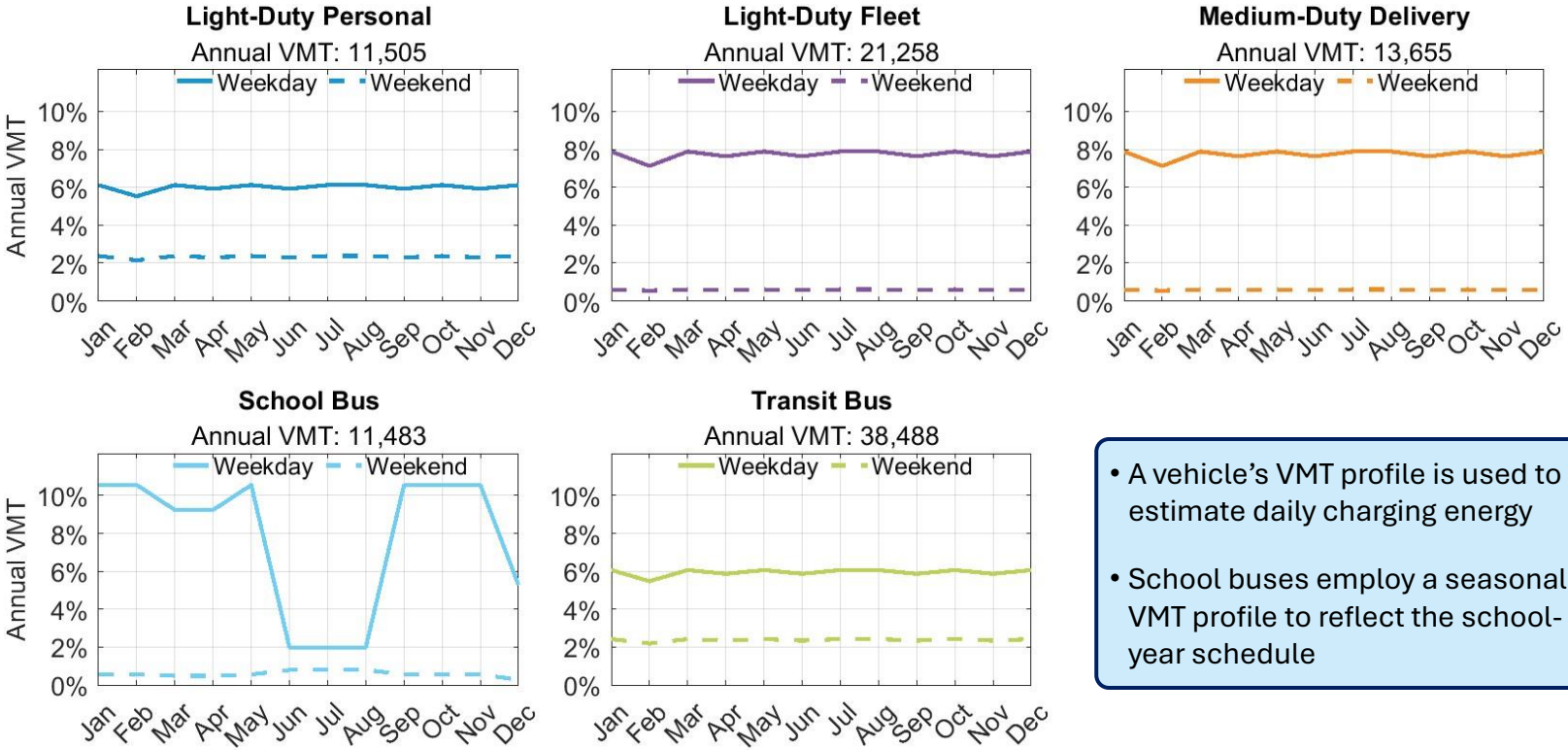
3 Apply daily charging shapes, and phased-in EV managed charging assumptions to allocate charging to hours

Inputs:

- Hourly allocation of daily charging, by month and day type (weekday/weekend)

Modeling Inputs

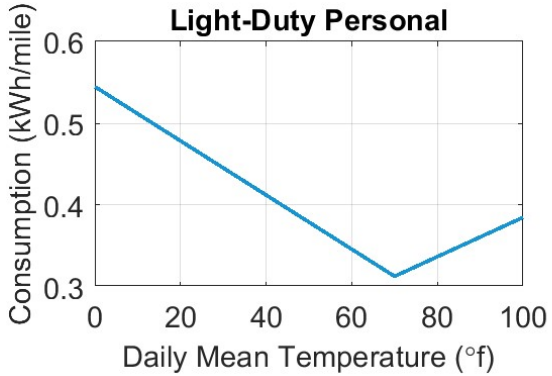
Vehicle Miles Traveled (VMT)

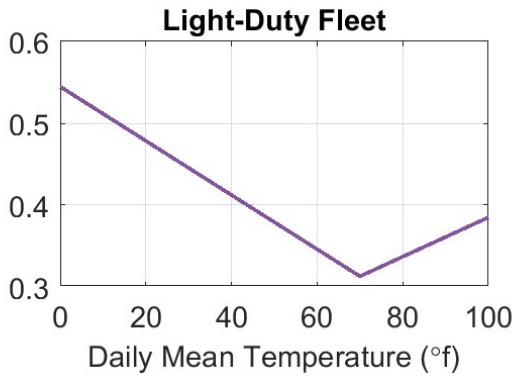


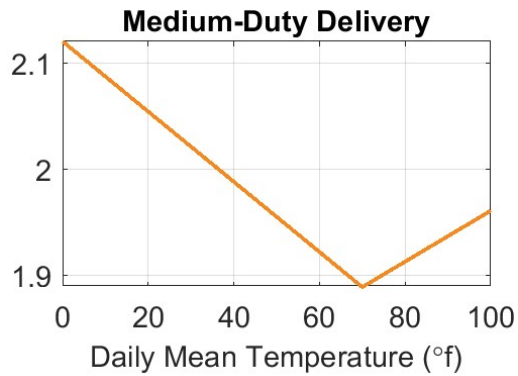
- A vehicle's VMT profile is used to estimate daily charging energy
- School buses employ a seasonal VMT profile to reflect the school-year schedule

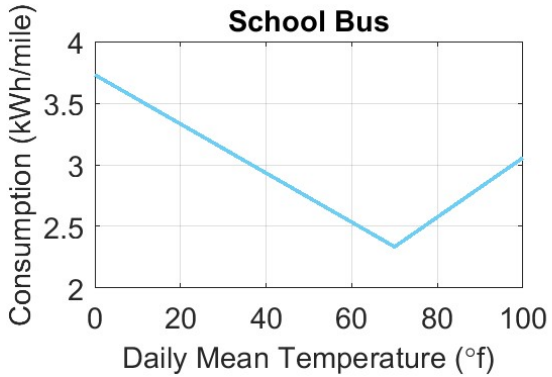
Modeling Inputs

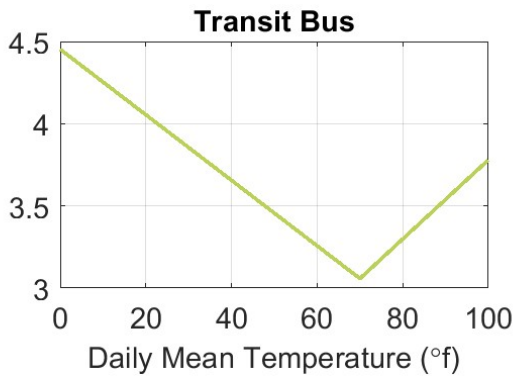
Energy Consumption as a Function of Daily Temperature







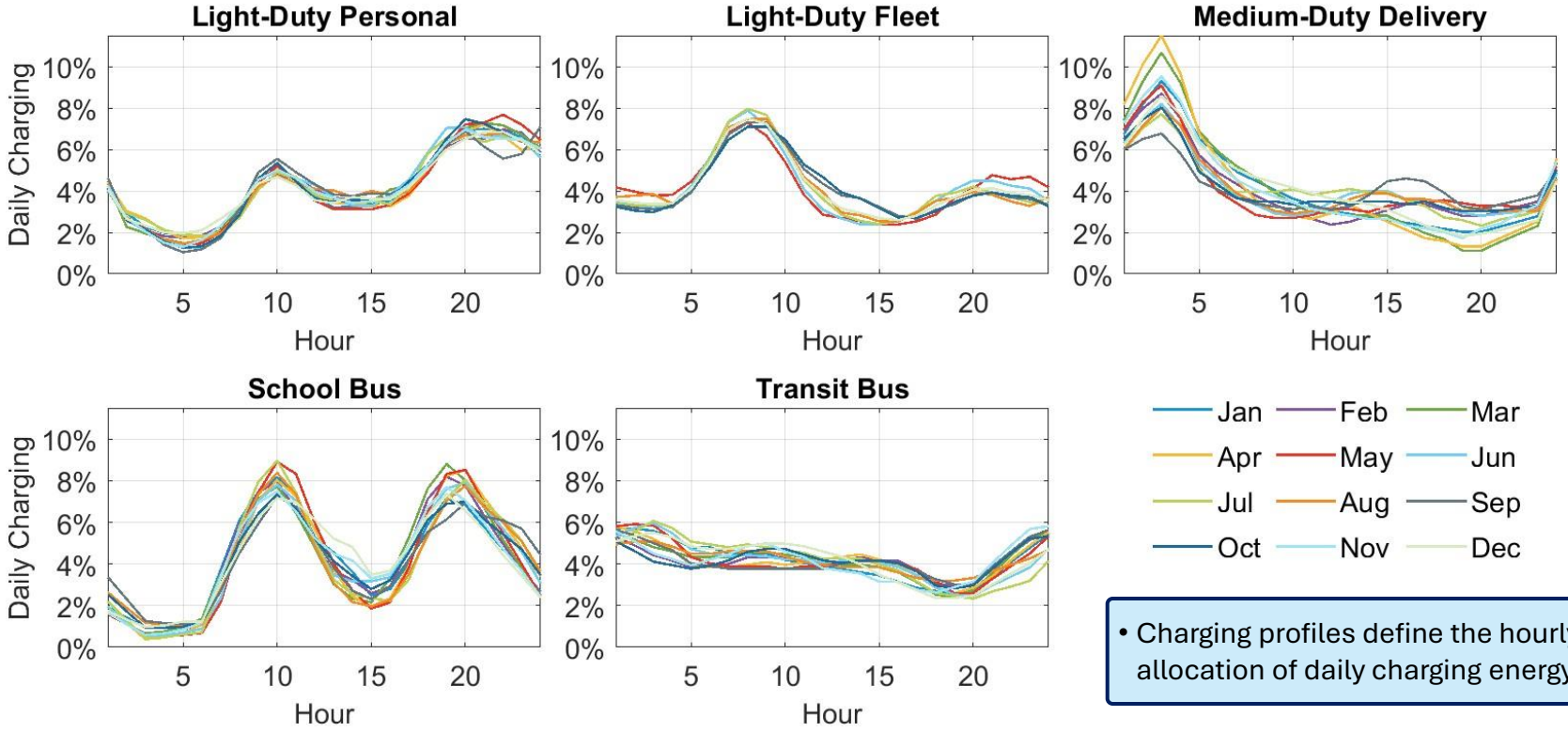




- Vehicle consumption profiles define daily charging energy based on daily VMT and mean temperature
- School bus and transit bus profiles reflect an adjustment for the partial use of auxiliary cabin heating systems

Modeling Inputs

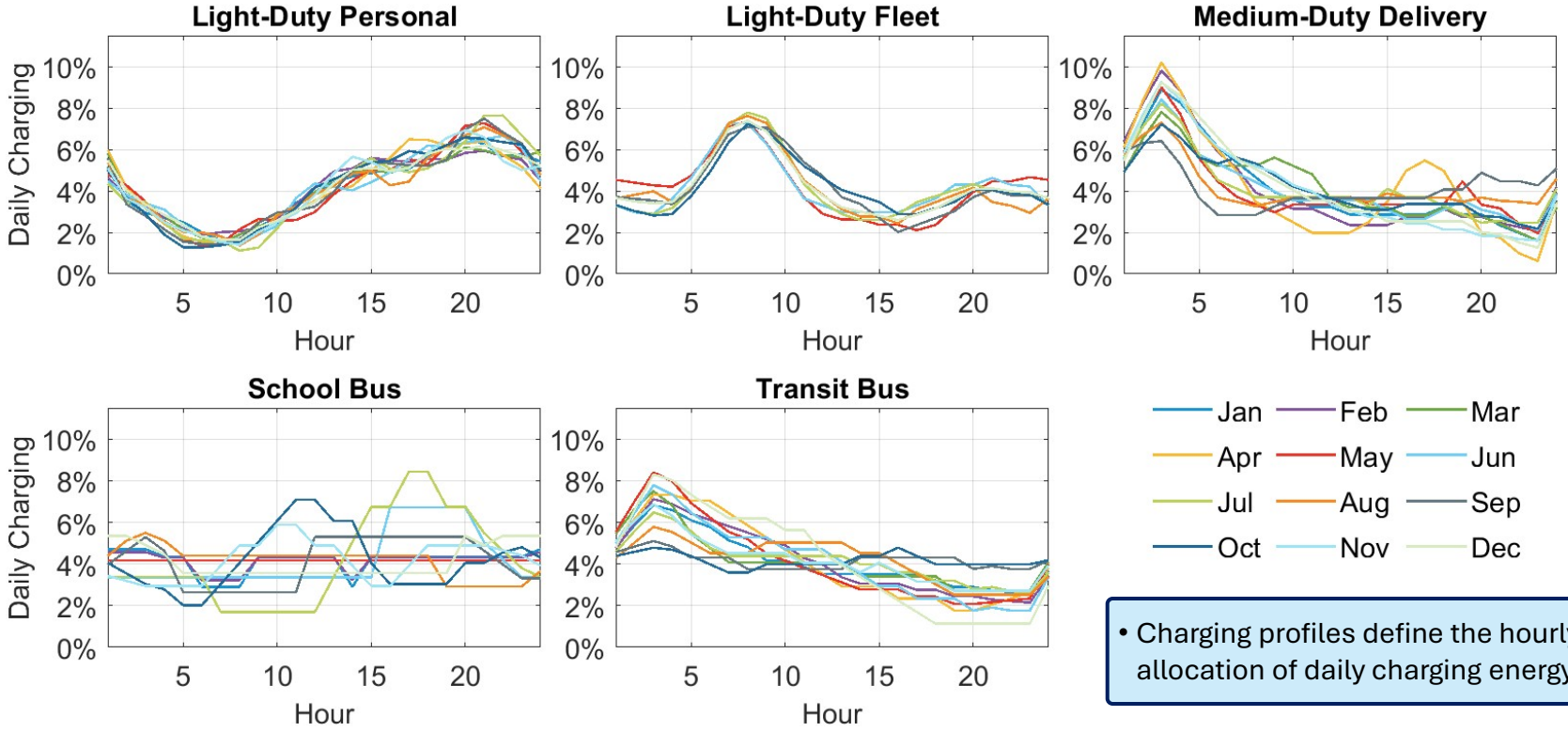
Allocation of Hourly Charging by Month for Non-Holidays & Weekdays



- Charging profiles define the hourly allocation of daily charging energy

Modeling Inputs

Allocation of Hourly Charging by Month for Holidays & Weekends



- Charging profiles define the hourly allocation of daily charging energy

EV Managed Charging Participation Forecast

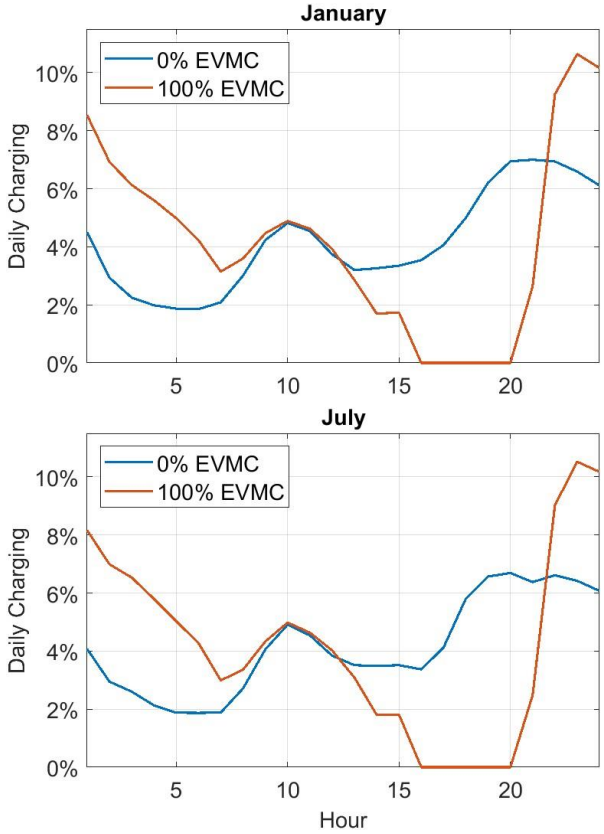
Personal Light-Duty Vehicles

- The CELT 2026 forecast incorporates a gradually increasing rate of managed charging participation for the PLDV EV population
  - State feedback on EVMC program enrollment allowed the ISO to make comprehensive updates to EVMC assumptions for the final forecast

2026 EVMC Enrollment					
CT	MA	ME	NH	RI	VT
9%	9%	4%	7%	8%	25%

EVMC participation is integrated into the forecast with a 90% event adherence rate and an annual enrollment increase of 1% per year

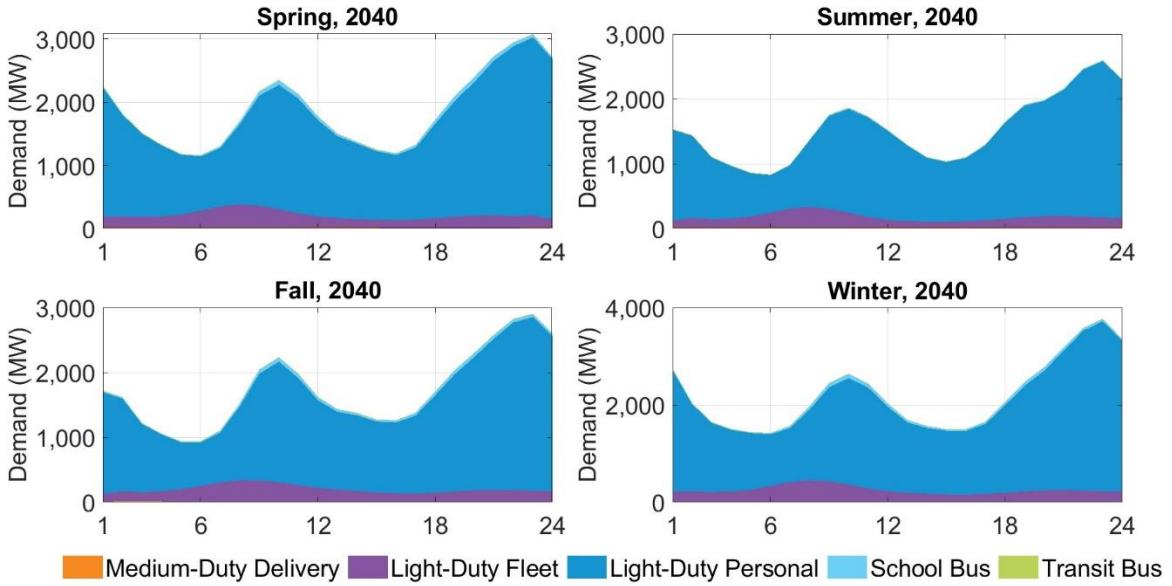
- The regionally blended EVMC profile is phased into the PLDV EV population over the forecast horizon
  - Presented at the January 12th, 2024 *Electric Vehicle Managed Charging in New England* presentation



Typical Seasonal Load Shapes

New England in Forecast Year 2040 by Vehicle Class

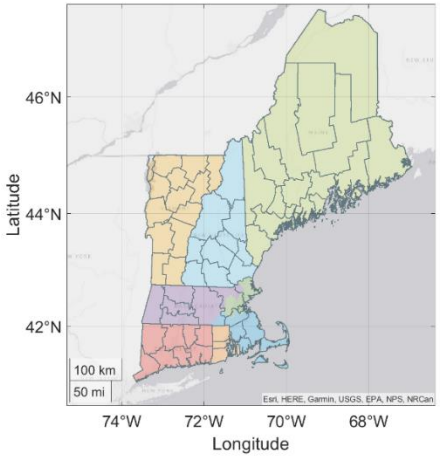
- Seasonal profiles highlight the effects of EV charging across the day and in varied weather and calendar conditions
- Personal light-duty vehicles make up 87% of the hourly demand on average
- Fleet light-duty vehicles make up 11% of the hourly demand on average
- Delivery vehicles and buses make up the remaining 2% of the hourly demand on average

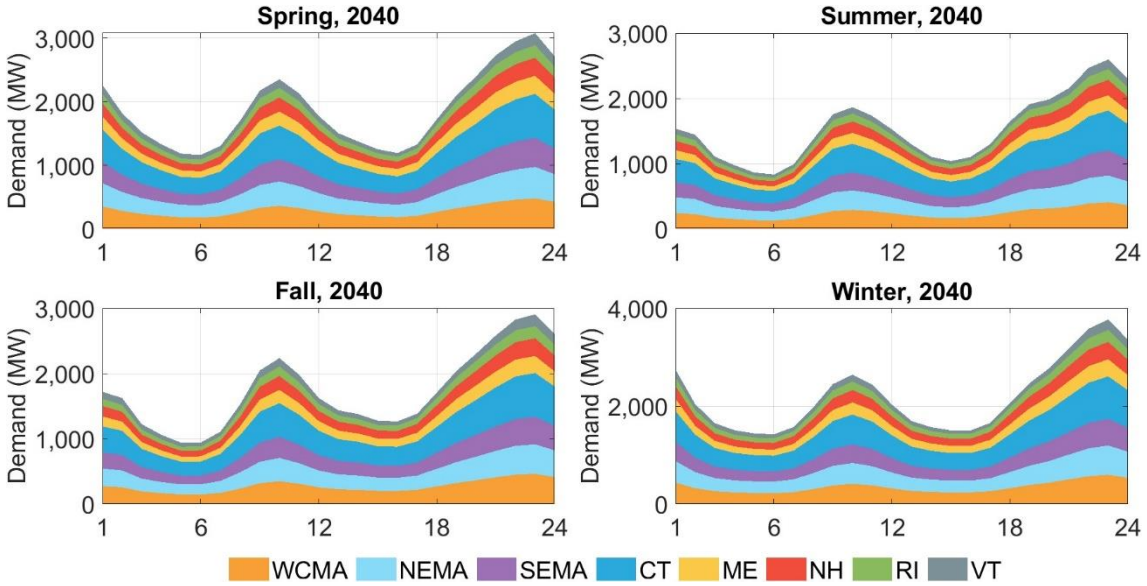


Typical Seasonal Load Shapes

New England in Forecast Year 2040 by Load Zone

- Hourly county-level EV forecasts are aggregated to load zones based on recent EV adoption data



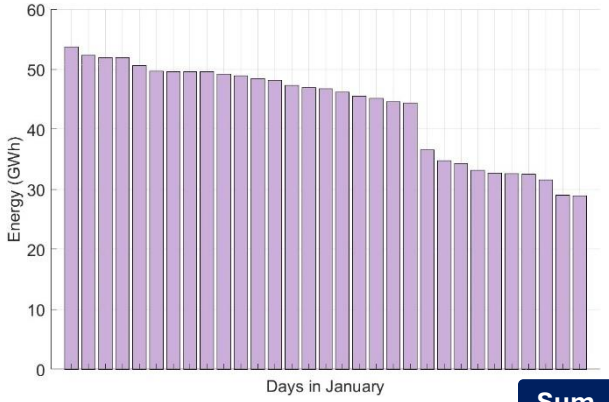


ENERGY AND PEAK DEMAND FORECAST

Methodology for Calculating EV Energy

Example: January, Forecast Year 2040

- EV energy values derive from hourly demand as follows:



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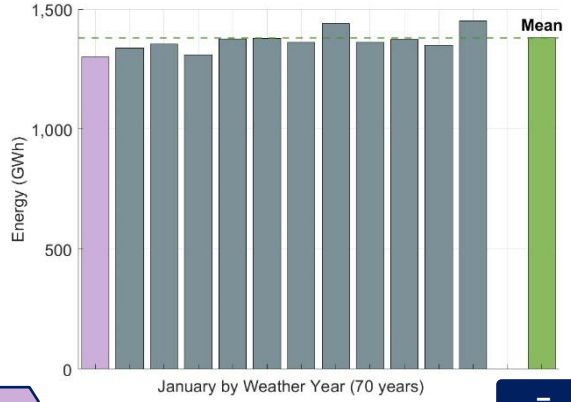

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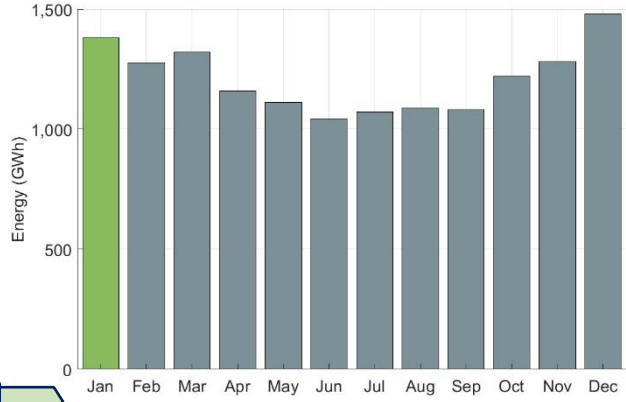
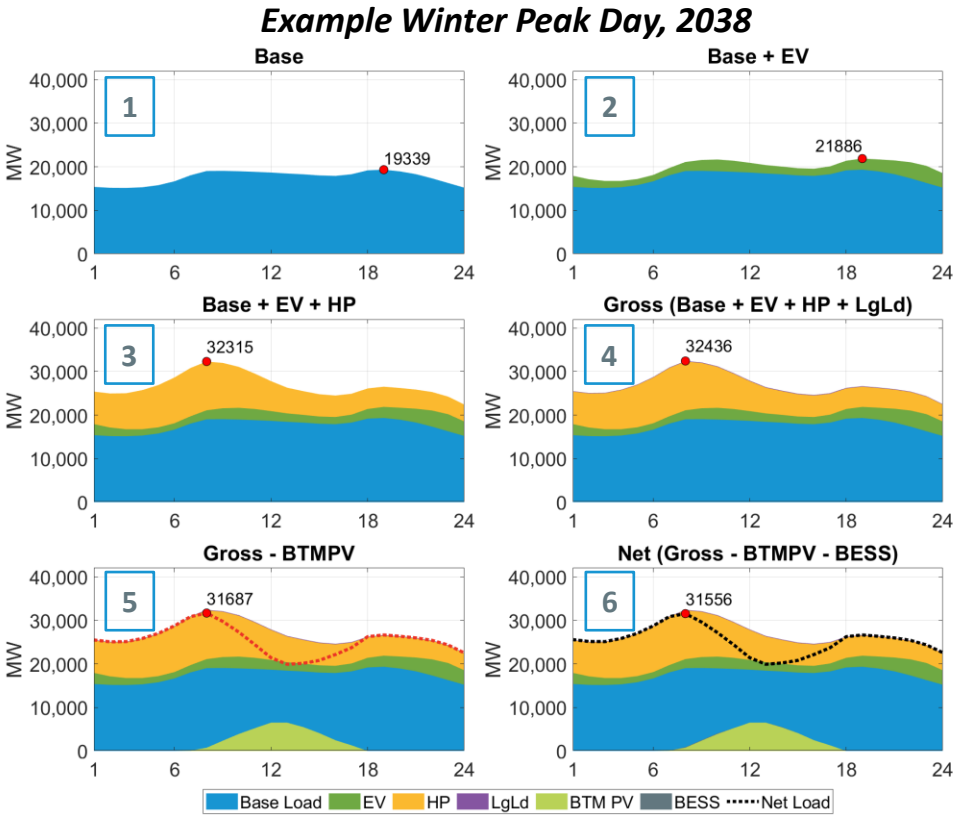


1. Sum the hourly demand of each day in each month of a weather year
2. Sum the daily energy in each month of each weather year
3. Average the simulated energy across weather years to derive the monthly energy in a forecast year

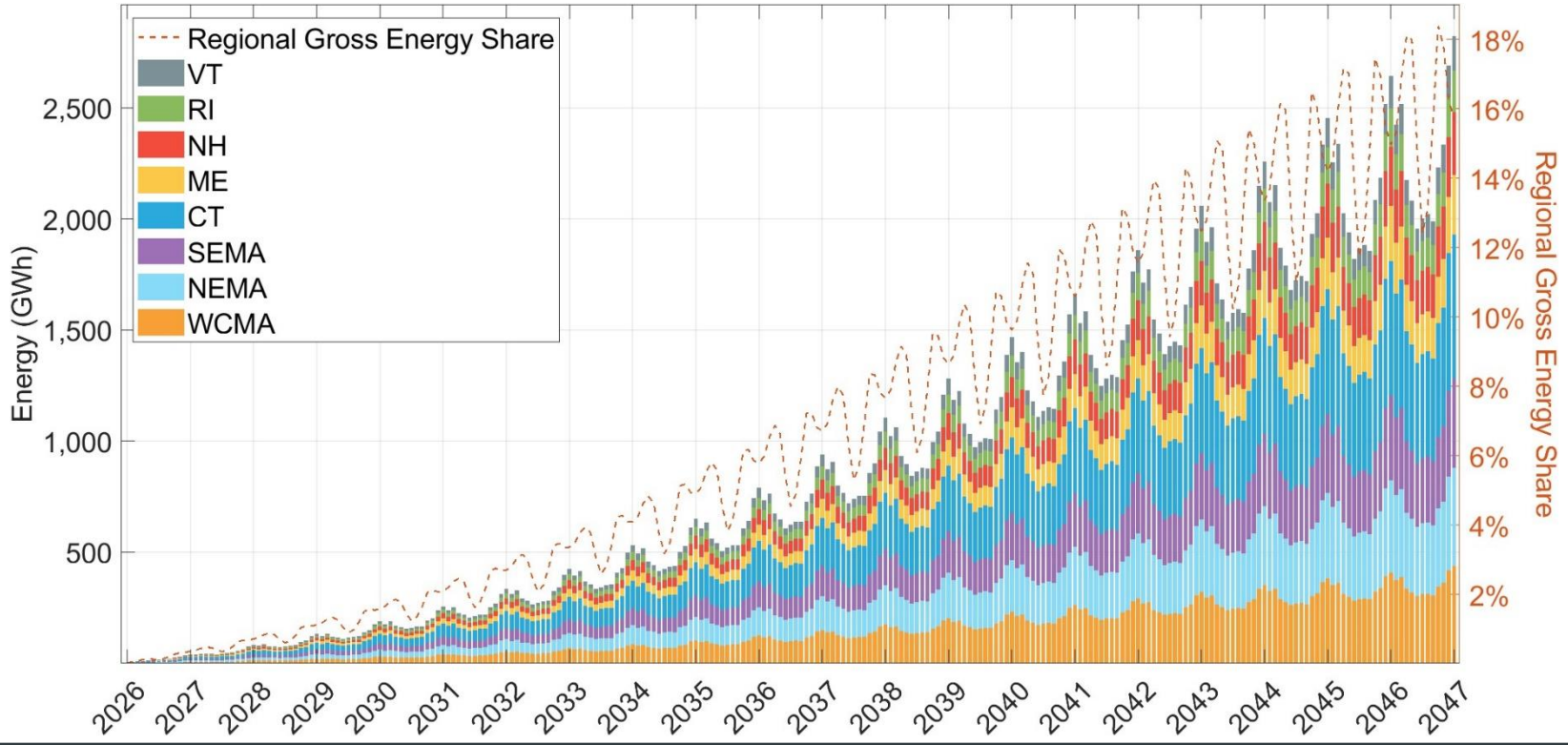
Calculating EV Demand Impacts on System Peak

- The hourly forecast results in a dynamic interplay of modeled load components
  - Peak hour shifts due to the growth of one component affect the peak attribution of other components
  - Attribution of peak load values to components is path dependent
- A waterfall approach to the attribution of peak load contributions is used to standardize this forecast accounting
- Waterfall method steps (refer to plot):
  1. Base = Base peak load value
     19,339 MW
  2. **EV = (Base+EV) – Base**
     21,886 – 19,339 = 2,547 MW
  3. HP = (Base+EV+HP) – (Base+EV)
     32,315 – 21,886 = 10,429 MW
  4. LargeLd = (Base+EV+HP+LargeLd) – (Base+EV+HP)
     32,436 – 32,315 = 121 MW
  5. BTM PV = Gross – (Gross-BTM PV)
     32,436 – 31,687 = 749 MW
  6. BTM BESS = (Gross-BTM PV) – Net
     31,687 – 31,556 = 121 MW



2026 EV Energy Forecast

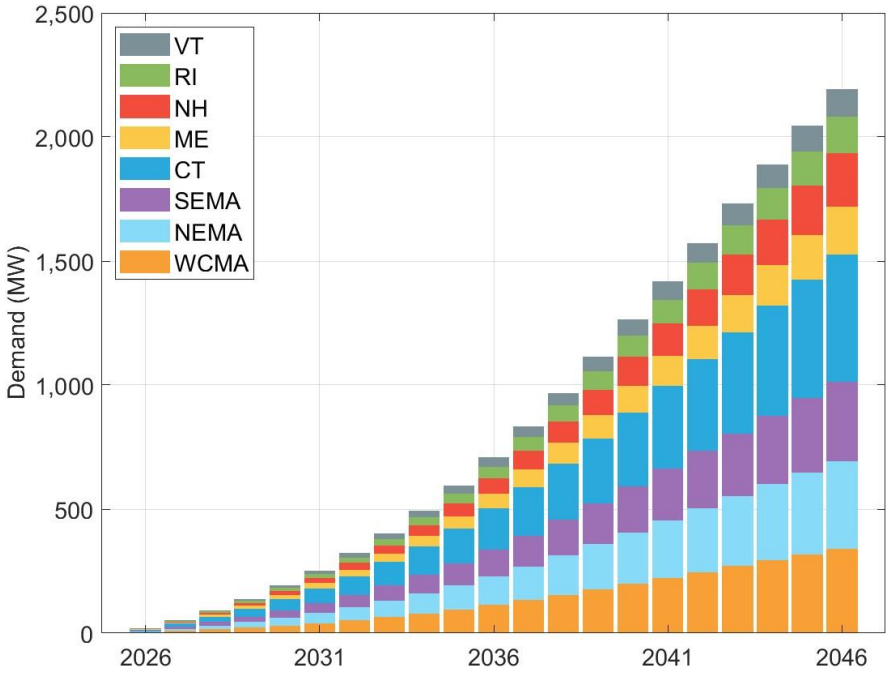
Monthly Energy by Load Zone



2026 EV Summer Peak Demand Forecast

Summer 50/50 Peak Demand by Load Zone

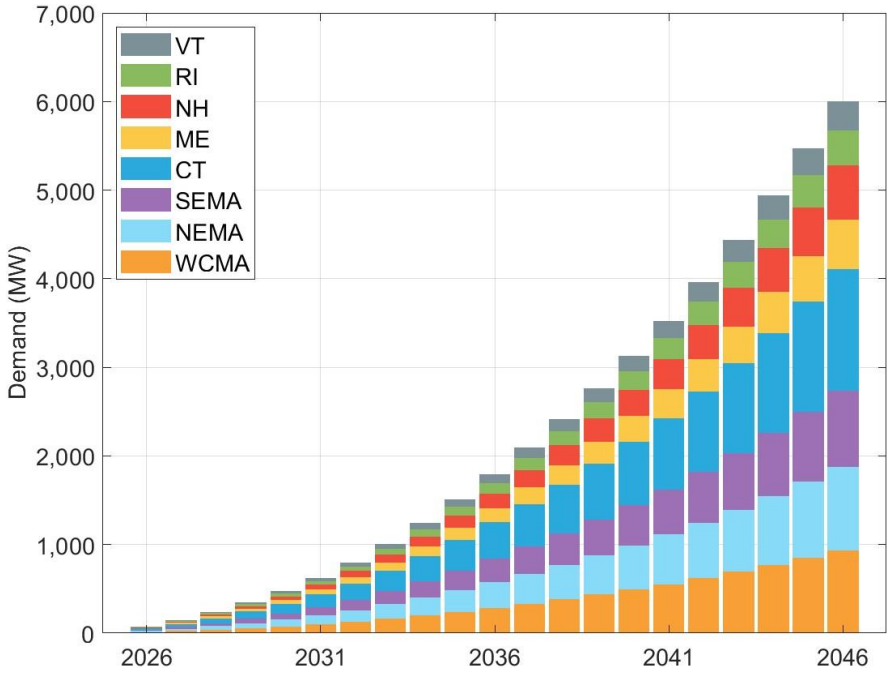
Summer Peak Demand (MW)									
Year	CT	ME	NEMA	NH	RI	SEMA	VT	WCMA	ISONE
2026	4	1	3	2	1	3	1	3	19
2027	12	4	9	4	3	8	3	9	52
2028	22	7	15	8	6	14	5	15	92
2029	33	11	23	12	9	21	7	23	139
2030	45	16	32	16	12	29	10	31	192
2031	59	21	42	21	16	38	13	41	252
2032	76	26	54	28	21	49	17	52	322
2033	95	33	67	35	26	61	21	65	402
2034	116	41	82	43	32	74	26	79	492
2035	140	49	98	52	39	89	31	95	594



2026 EV Winter Peak Demand Forecast

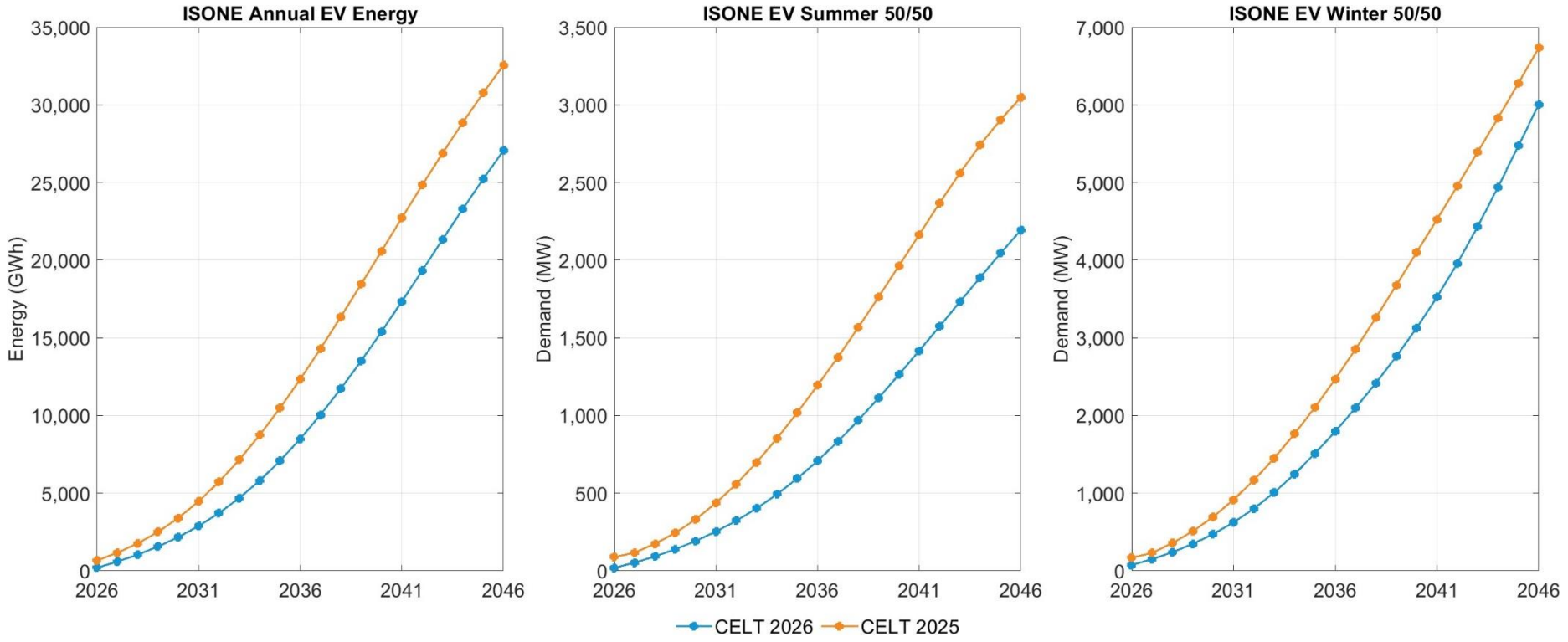
Winter 50/50 Peak Demand by Load Zone

Winter Peak Demand (MW)									
Year	CT	ME	NEMA	NH	RI	SEMA	VT	WCMA	ISONE
2026	17	6	12	6	5	11	4	12	75
2027	34	13	24	13	9	22	9	24	148
2028	55	21	39	21	15	36	14	39	239
2029	79	30	57	30	22	52	20	56	346
2030	108	42	77	41	30	70	28	77	473
2031	143	55	101	55	40	92	36	100	622
2032	183	71	130	71	51	118	47	129	799
2033	231	90	164	90	65	149	58	162	1,007
2034	285	112	202	112	80	183	72	199	1,245
2035	346	136	244	137	98	222	86	241	1,509



Seasonal Peak Demand and Annual Energy

New England CELT 2025 and CELT 2026 Comparison



Seasonal Peak Demand

New England 50/50 and 90/10 Comparison