

**DOCKETED**

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<b>Project Title:</b>	Electricity Forecast
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# Transportation Energy Demand Forecast

2022 Integrated Energy Policy Report

Aniss Bahreinian, Ph.D.

December 7, 2022



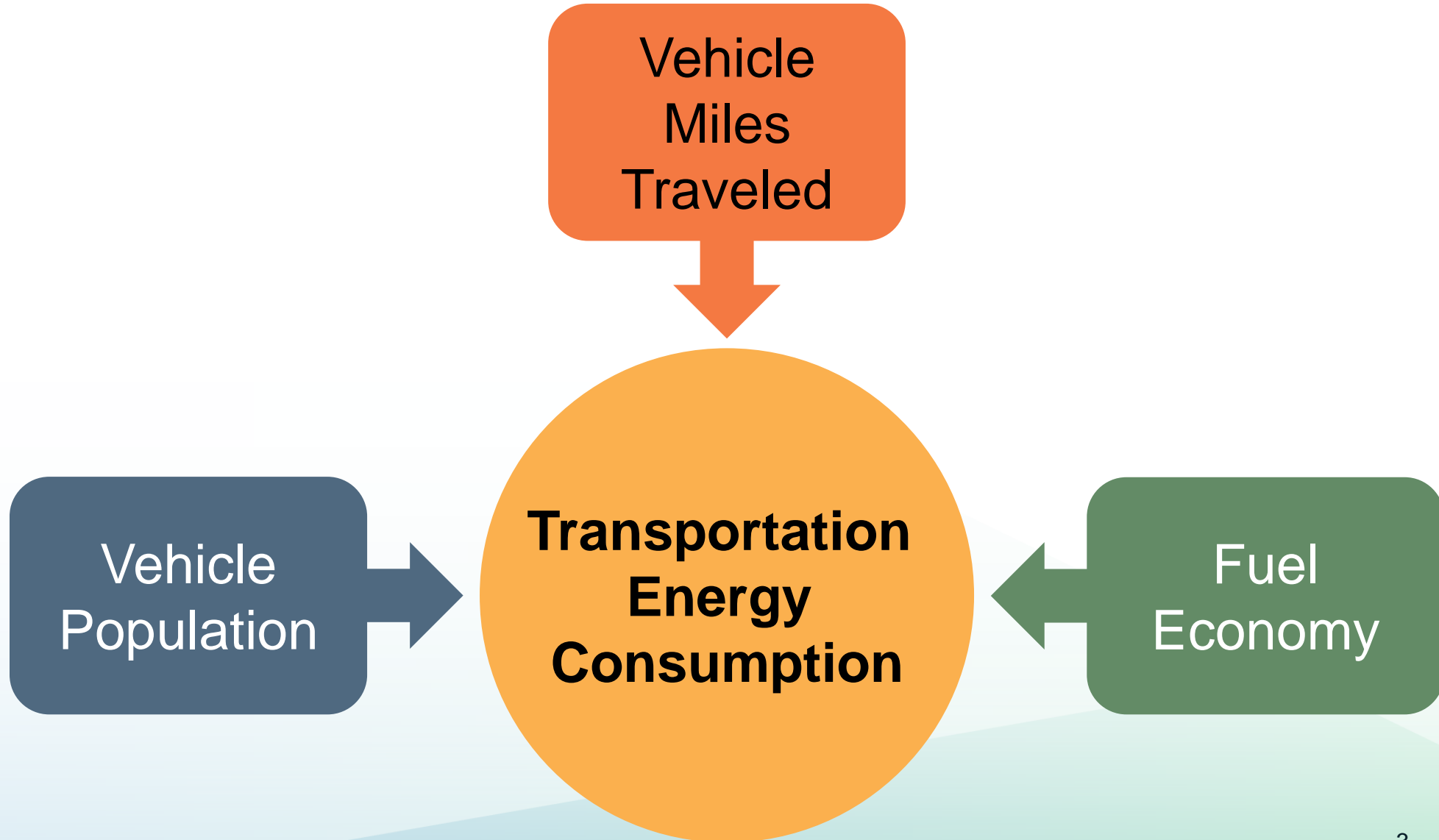
# Overview

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- Transportation Energy Demand by Fuel & Vehicle Type
- ZEV Transportation Energy Demand Forecasts
- Other Transportation Energy Demand Forecasts (Appendix)
- Transportation Energy price Forecasts (Appendix)



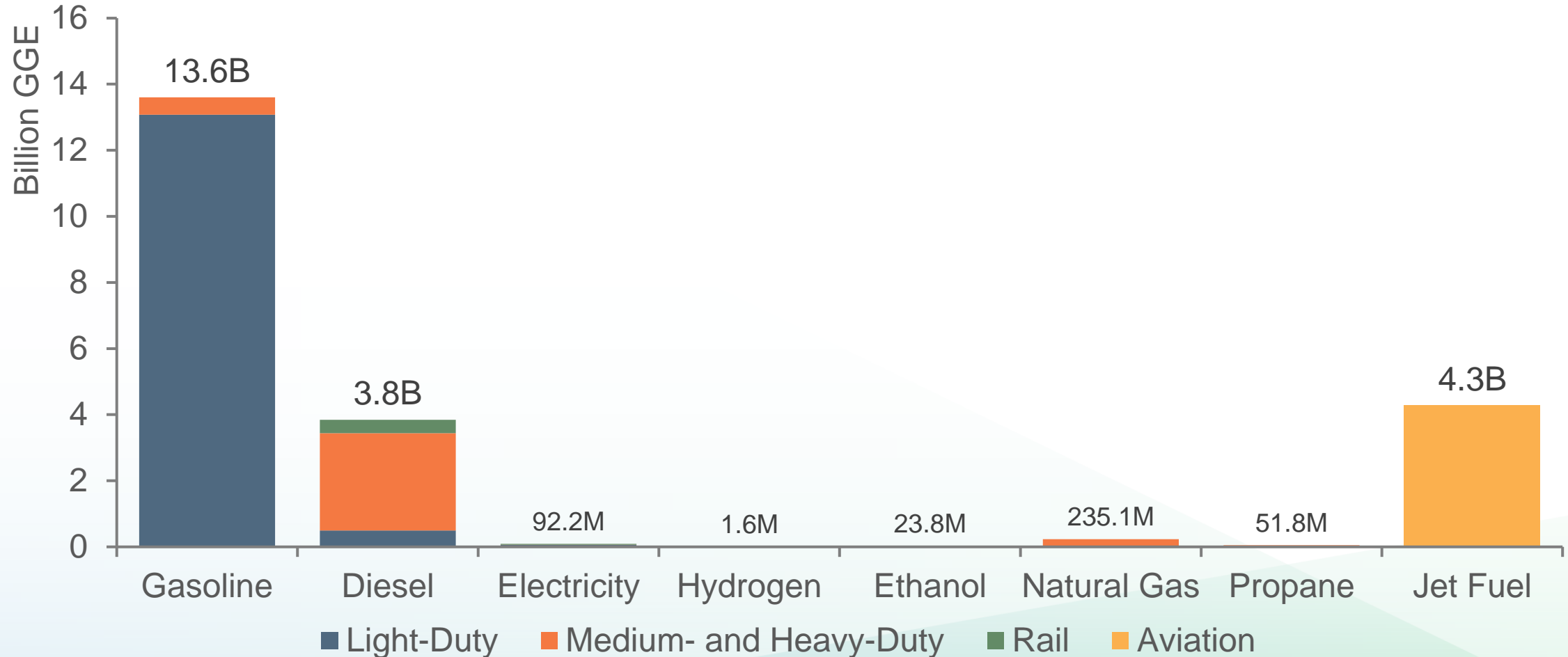
# Transportation Energy Consumption





# Gasoline, Diesel, and Jet Fuel Dominate Consumption in 2021

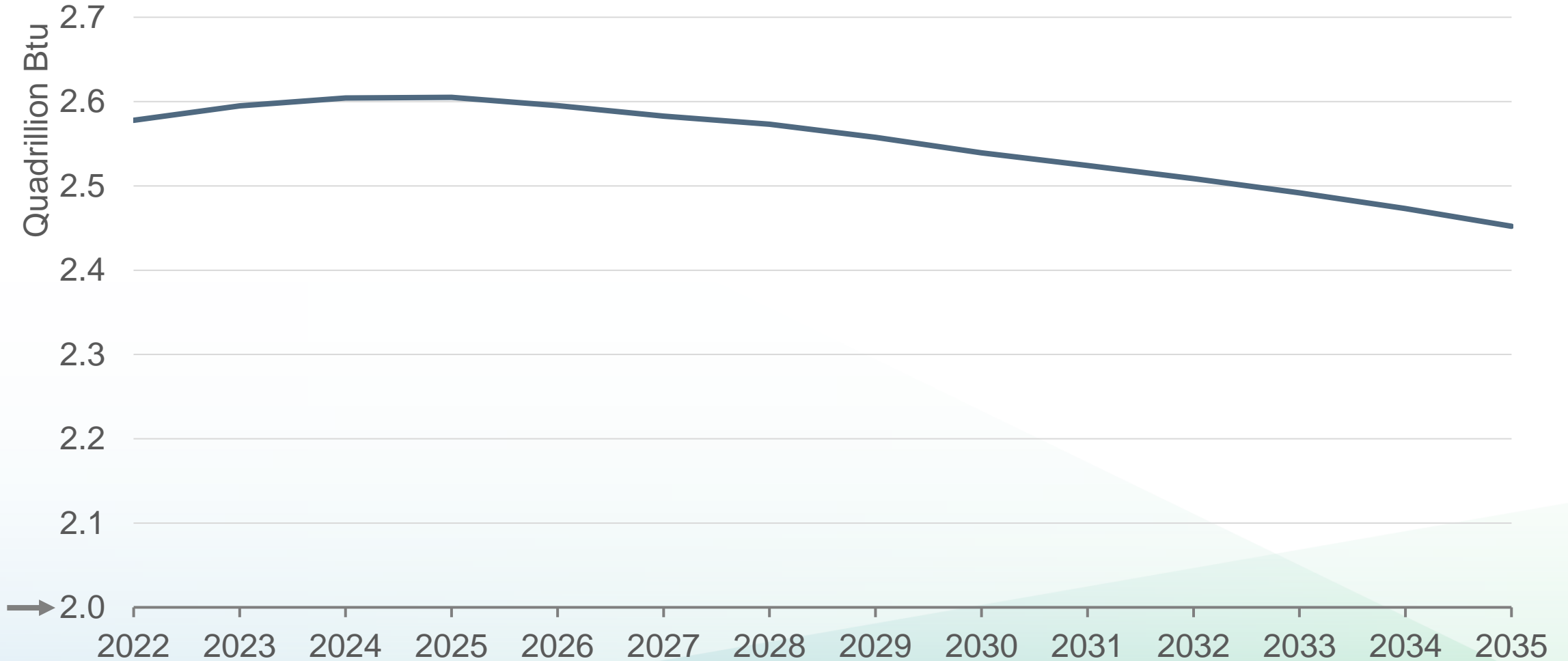
Transportation Energy (GGE) by Fuel and Vehicle Type in 2021





# More People, More Production, Less Transportation Energy (Btu)

Total Transportation Energy Demand (British Thermal Units, Btu)

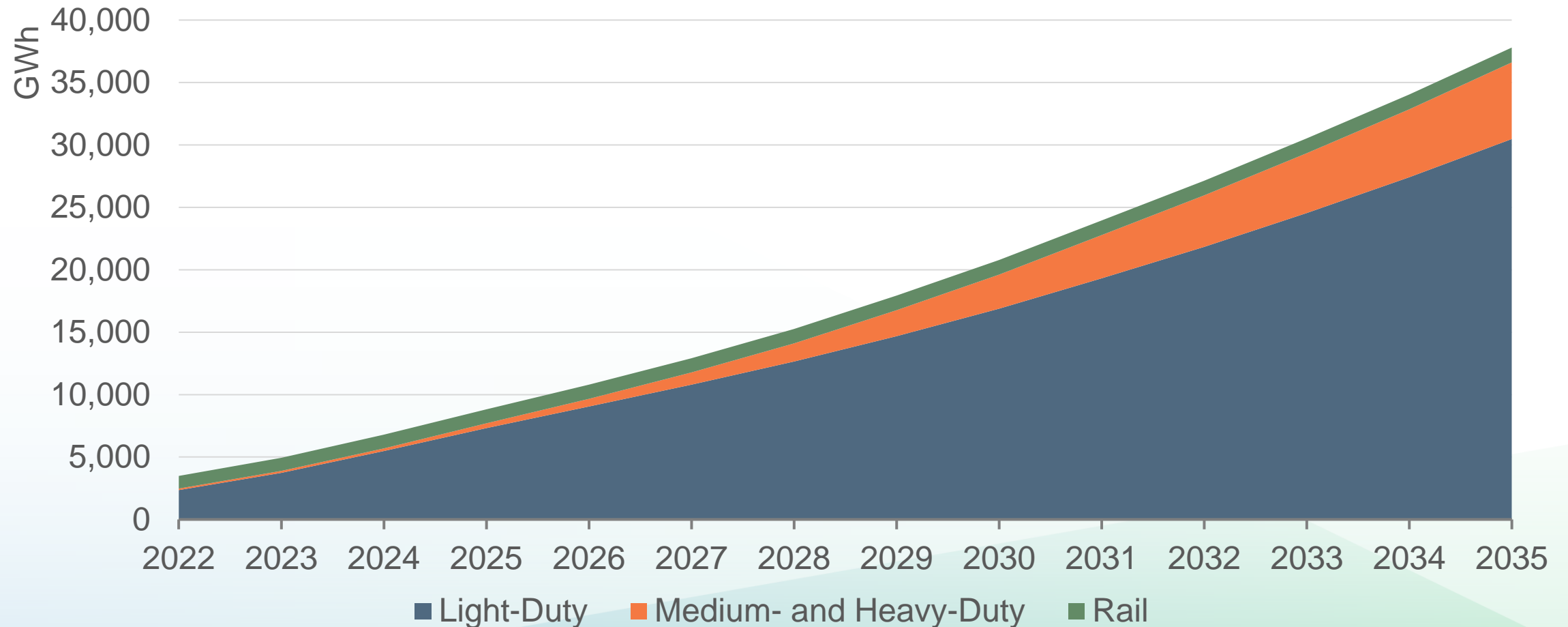






# Light-Duty Vehicles Dominate Electricity Demand

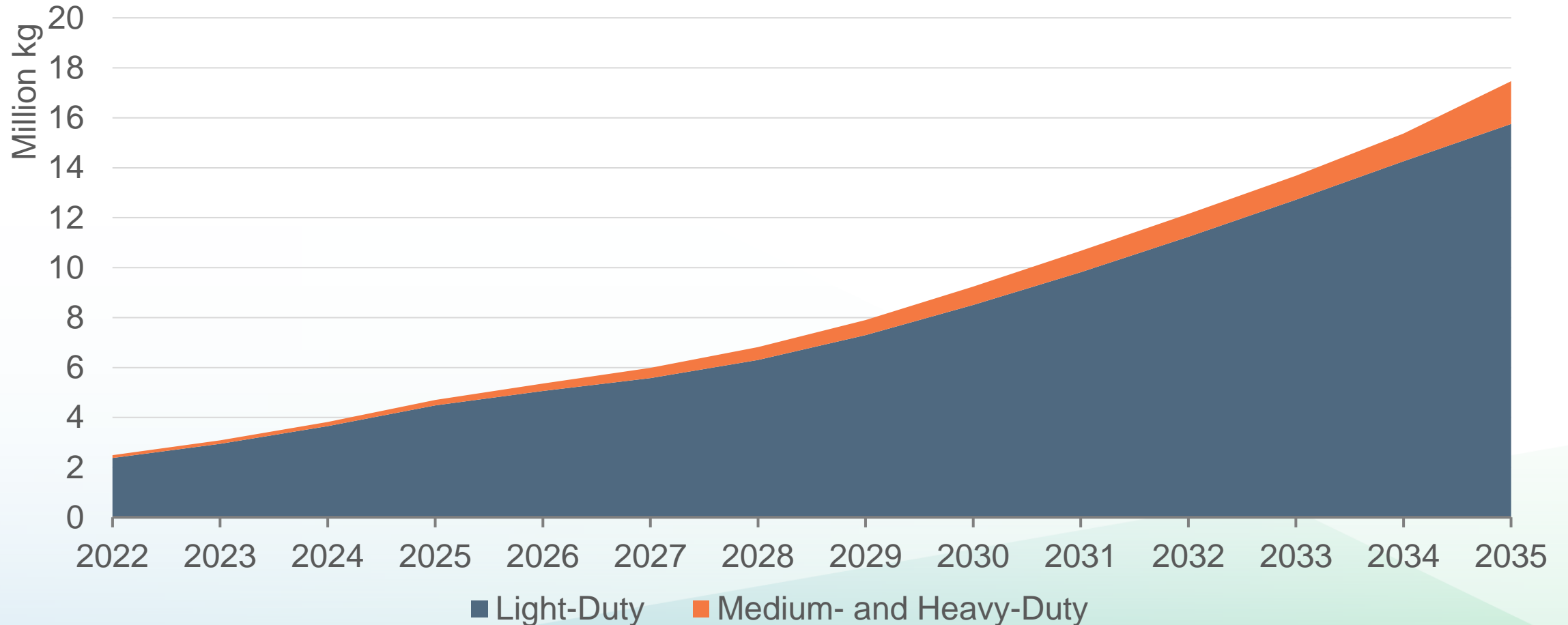
Baseline Transportation Electricity Demand\* Forecast by Sector  
(Gigawatt-Hours, GWh)





# Transportation Hydrogen Demand By Sector

Baseline Transportation Hydrogen Demand Forecast by Sector  
(kilograms)





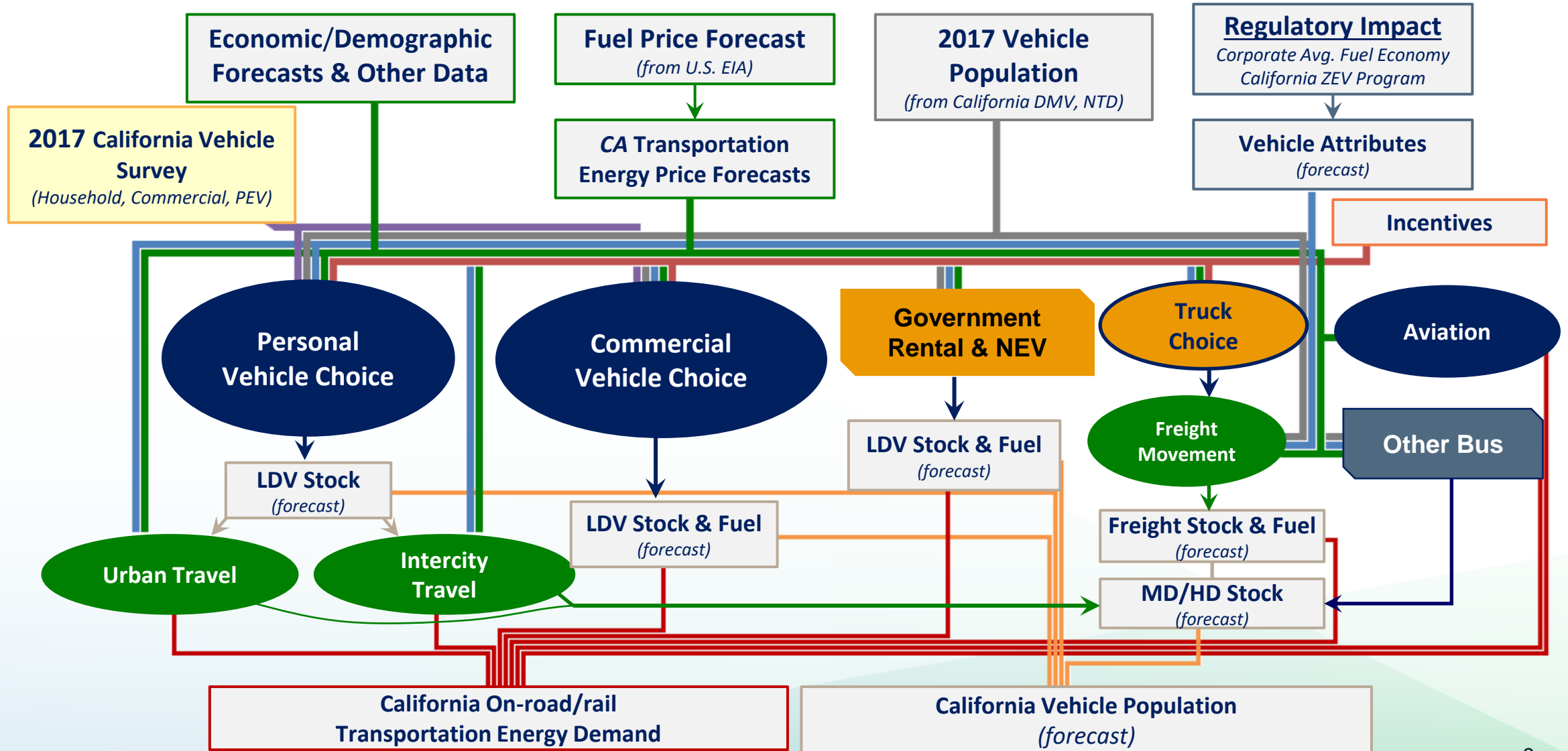


# Appendices





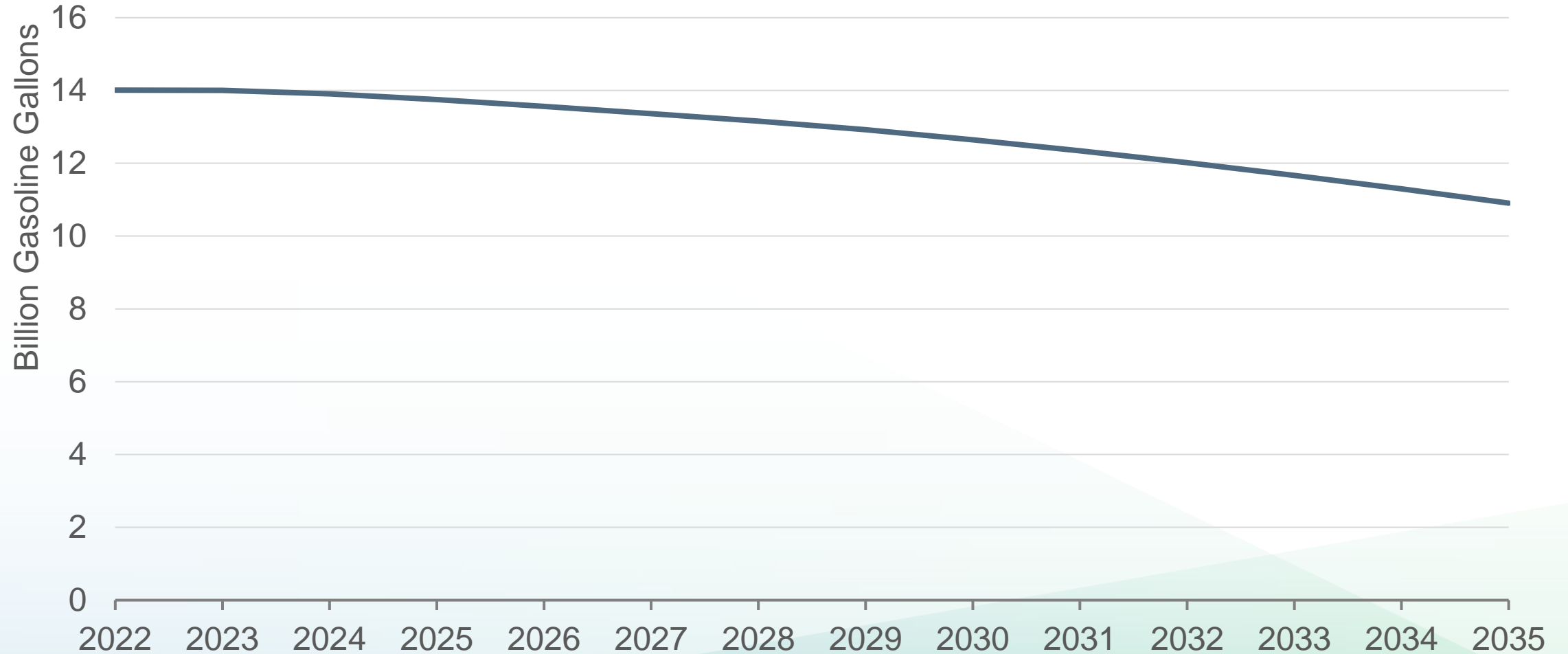
# Energy Commission's Transportation Energy Demand Forecasting Models





# Gasoline

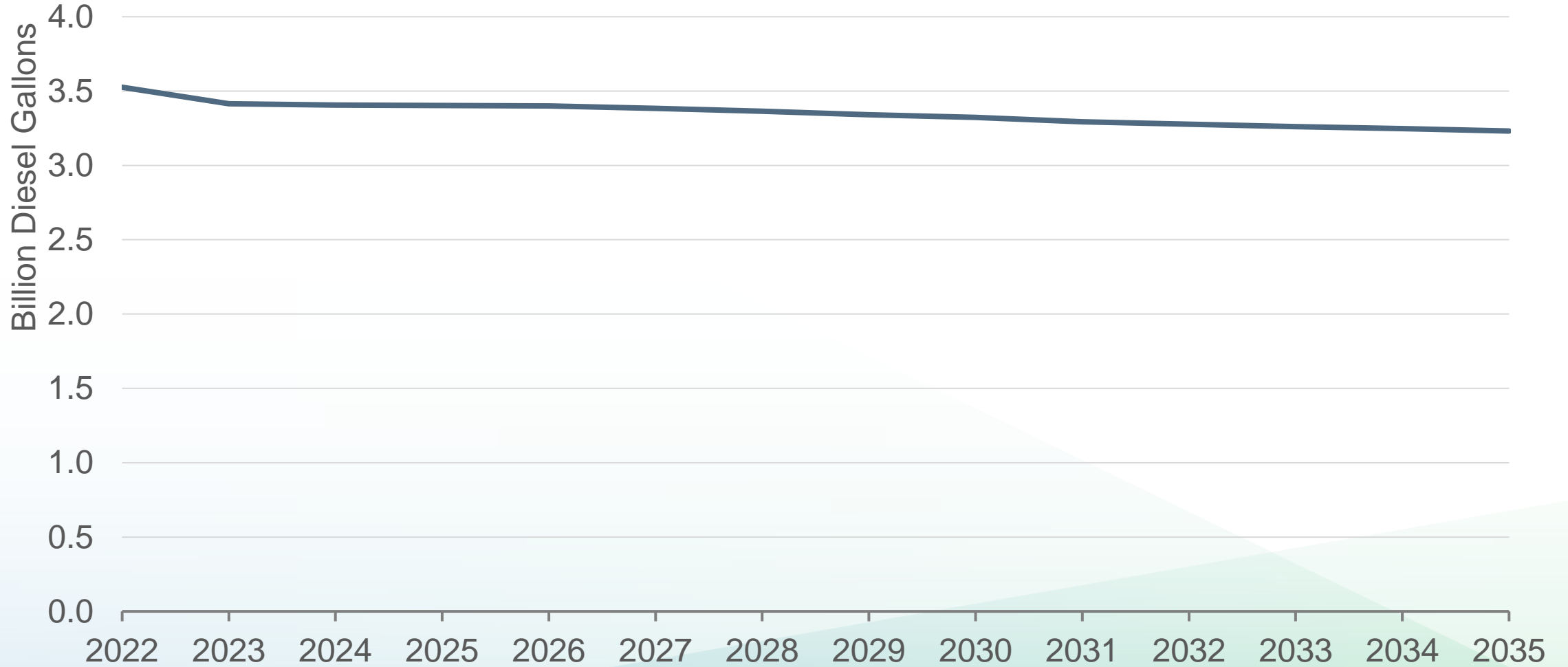
## Baseline Gasoline Demand Forecast





# Diesel

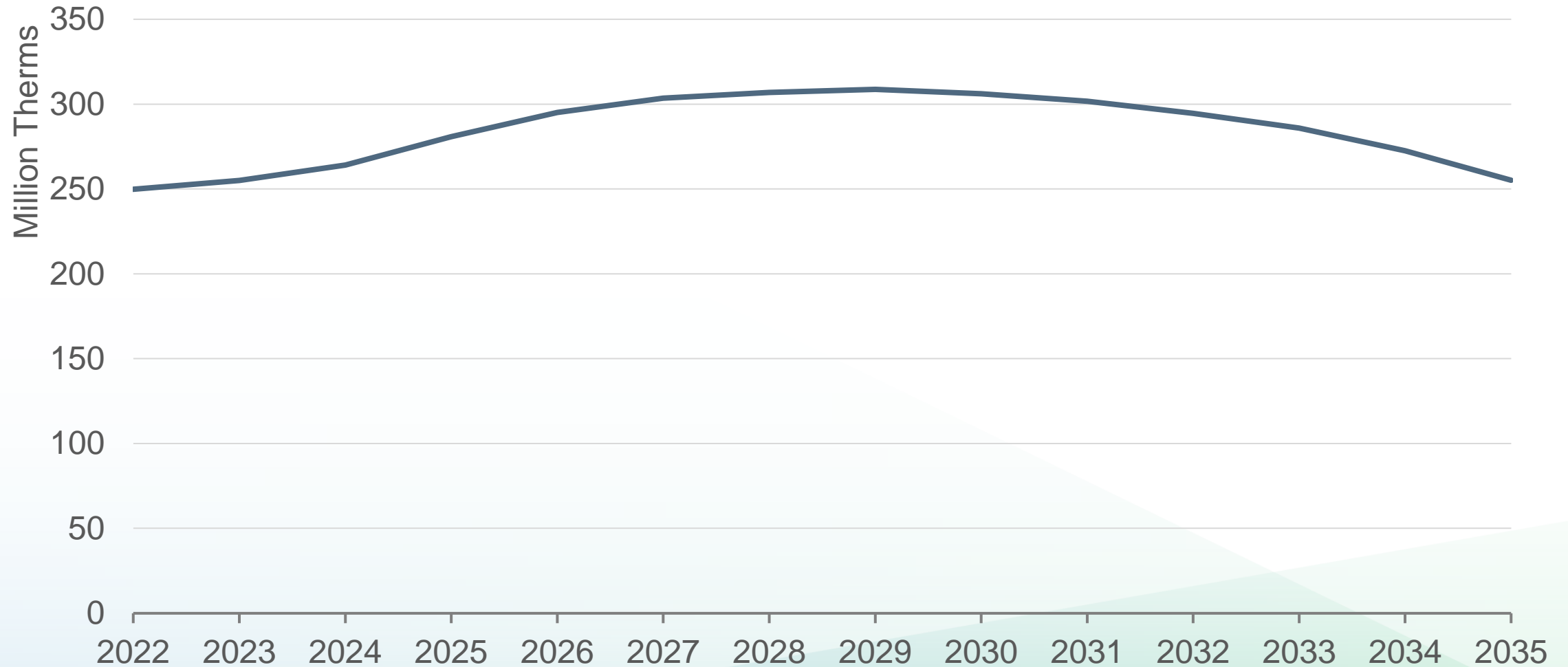
## Baseline Diesel Demand Forecast





# Gas

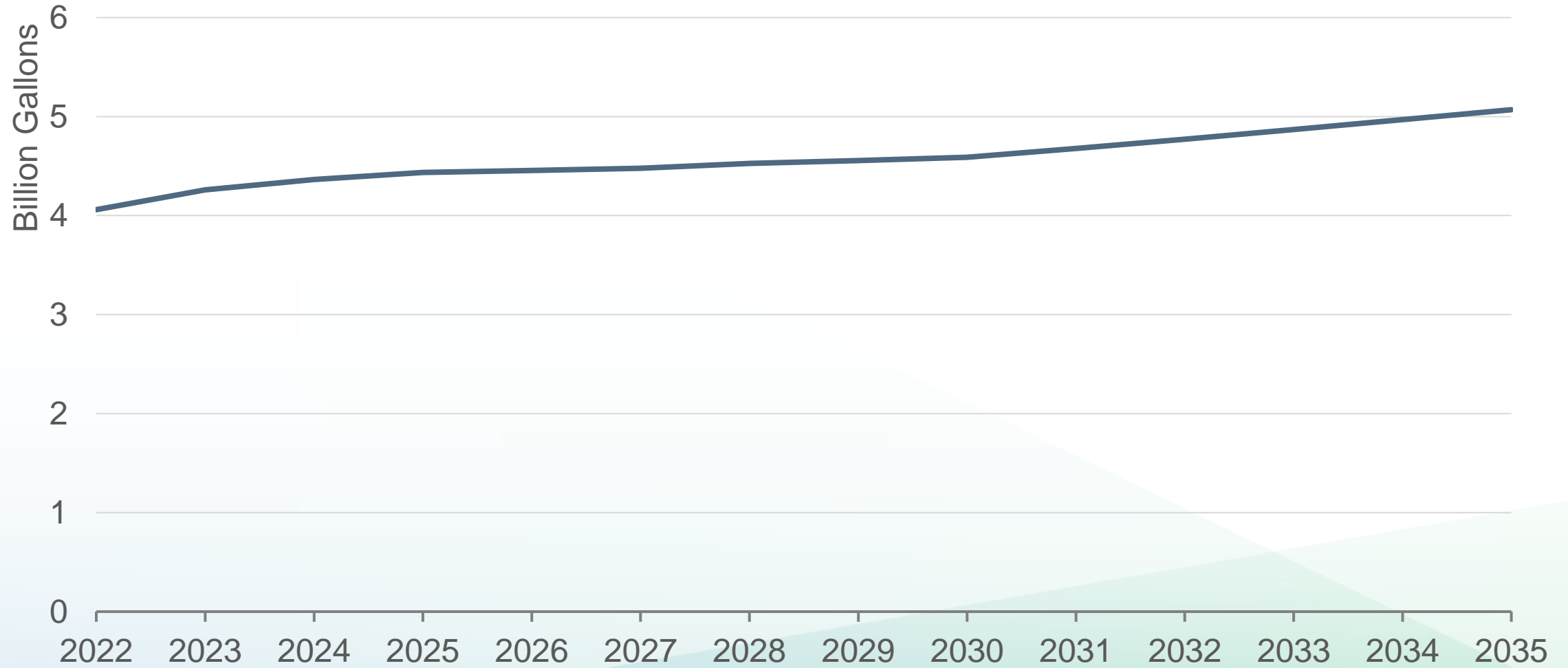
## Baseline Transportation Gas Demand Forecast





# Jet Fuel

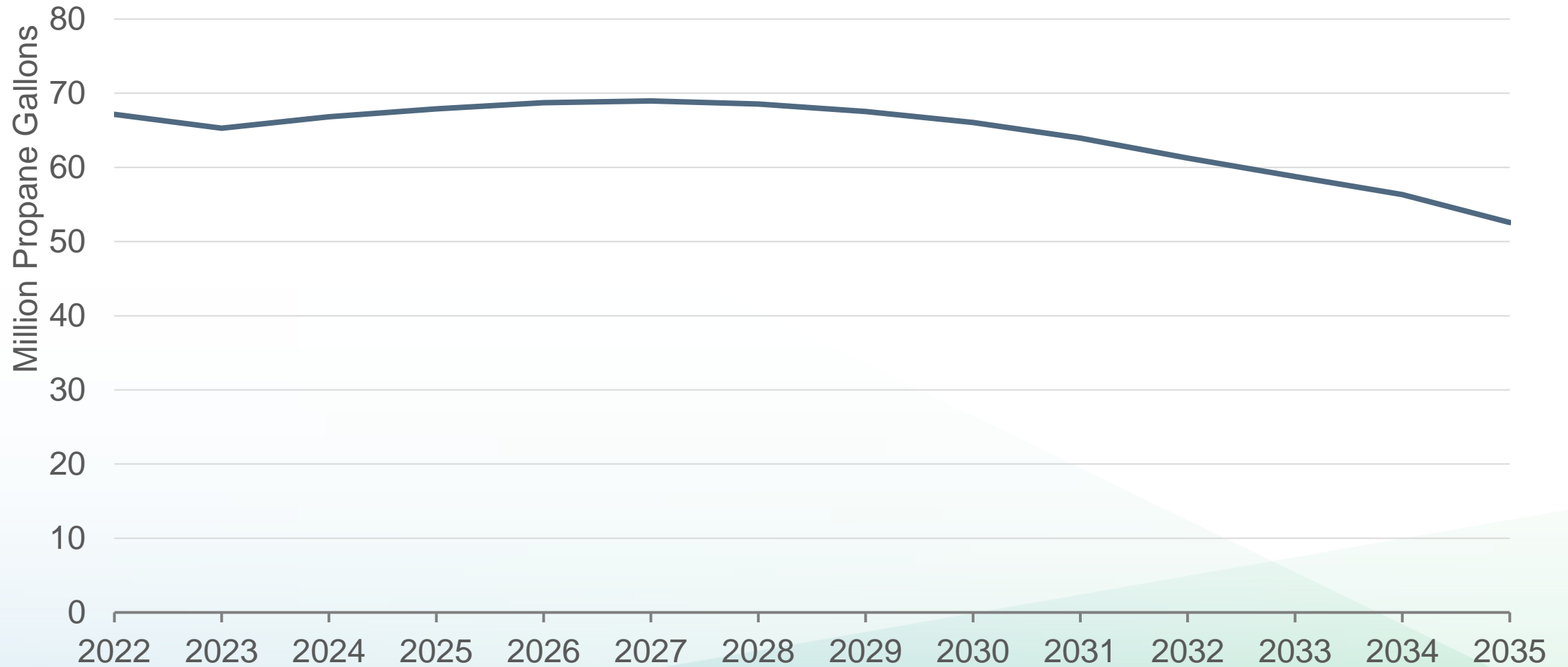
## Baseline Jet Fuel Demand Forecast





# Propane

## Baseline Transportation Propane Demand Forecast







# Transportation Energy Price Forecasts



# Baseline Transportation Energy Price Forecast: 2021 \$/GGE

Fuel Type	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Diesel	5.31	4.70	4.53	4.62	4.61	4.59	4.59	4.60	4.62	4.61	4.68	4.69	4.71	4.72
Residential Electricity	7.64	7.44	7.33	7.51	7.53	7.58	7.68	7.75	7.79	7.79	7.84	7.91	7.97	8.06
Commercial Electricity	6.35	6.18	6.12	6.25	6.28	6.33	6.42	6.48	6.51	6.50	6.54	6.58	6.63	6.70
Gasoline	5.01	4.52	4.49	4.46	4.48	4.50	4.53	4.56	4.63	4.73	4.78	4.82	4.87	4.91
Hydrogen	17.69	17.48	17.37	17.05	16.72	16.18	15.43	14.56	13.59	12.62	11.87	11.11	10.68	10.36
Jet Fuel	3.28	2.76	2.60	2.74	2.73	2.73	2.75	2.77	2.78	2.76	2.81	2.82	2.82	2.84
Natural Gas	2.84	2.95	2.93	2.92	2.92	2.99	3.08	3.16	3.23	3.29	3.36	3.43	3.50	3.57
Propane	2.16	2.24	2.06	2.06	2.05	2.06	2.10	2.15	2.19	2.23	2.30	2.32	2.35	2.37



# Baseline Transportation Energy Price Forecast: 2021 \$/Native Unit

Fuel Type	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
Diesel (\$/gallon)	5.31	4.70	4.53	4.62	4.61	4.59	4.59	4.60	4.62	4.61	4.68	4.69	4.71	4.72
Residential Electricity (\$/kWh)	0.24	0.23	0.23	0.23	0.23	0.24	0.24	0.24	0.24	0.24	0.24	0.25	0.25	0.25
Commercial Electricity (\$/kWh)	0.20	0.19	0.19	0.19	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.21	0.21
Gasoline (\$/gallon)	5.01	4.52	4.49	4.46	4.48	4.50	4.53	4.56	4.63	4.73	4.78	4.82	4.87	4.91
Hydrogen (\$/kg)	18.33	18.11	18.00	17.67	17.33	16.77	15.99	15.09	14.08	13.08	12.30	11.51	11.07	10.74
Jet Fuel (\$/gallon)	3.28	2.76	2.60	2.74	2.73	2.73	2.75	2.77	2.78	2.76	2.81	2.82	2.82	2.84
Natural Gas (\$/scf)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03
Propane (\$/gallon)	1.66	1.72	1.58	1.58	1.57	1.58	1.61	1.65	1.68	1.71	1.77	1.78	1.80	1.82

# Thank You!



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