



Maryland
Department of
the Environment

Advanced Clean Trucks



January 3, 2024 BRTB-ICG Meeting
Tim Shepherd



New Vehicle Emission Regulations

- The Clean Trucks Act of 2023 requires the Department to adopt California's Advanced Clean Trucks (ACT) Program by the end of the year.
- ACT is one of California's vehicle emission regulations.
 - California is the only state authorized to set vehicle emission standards
 - Section 177 of the Clean Air Act allows other states to adopt California's standards if they are identical
- The regulation will take effect for the 2027 Model Year. The Clean Air Act requires two MY lead time for vehicle manufacturers.
 - Adopting through Incorporation by Reference the same way Clean Cars Program was adopted.

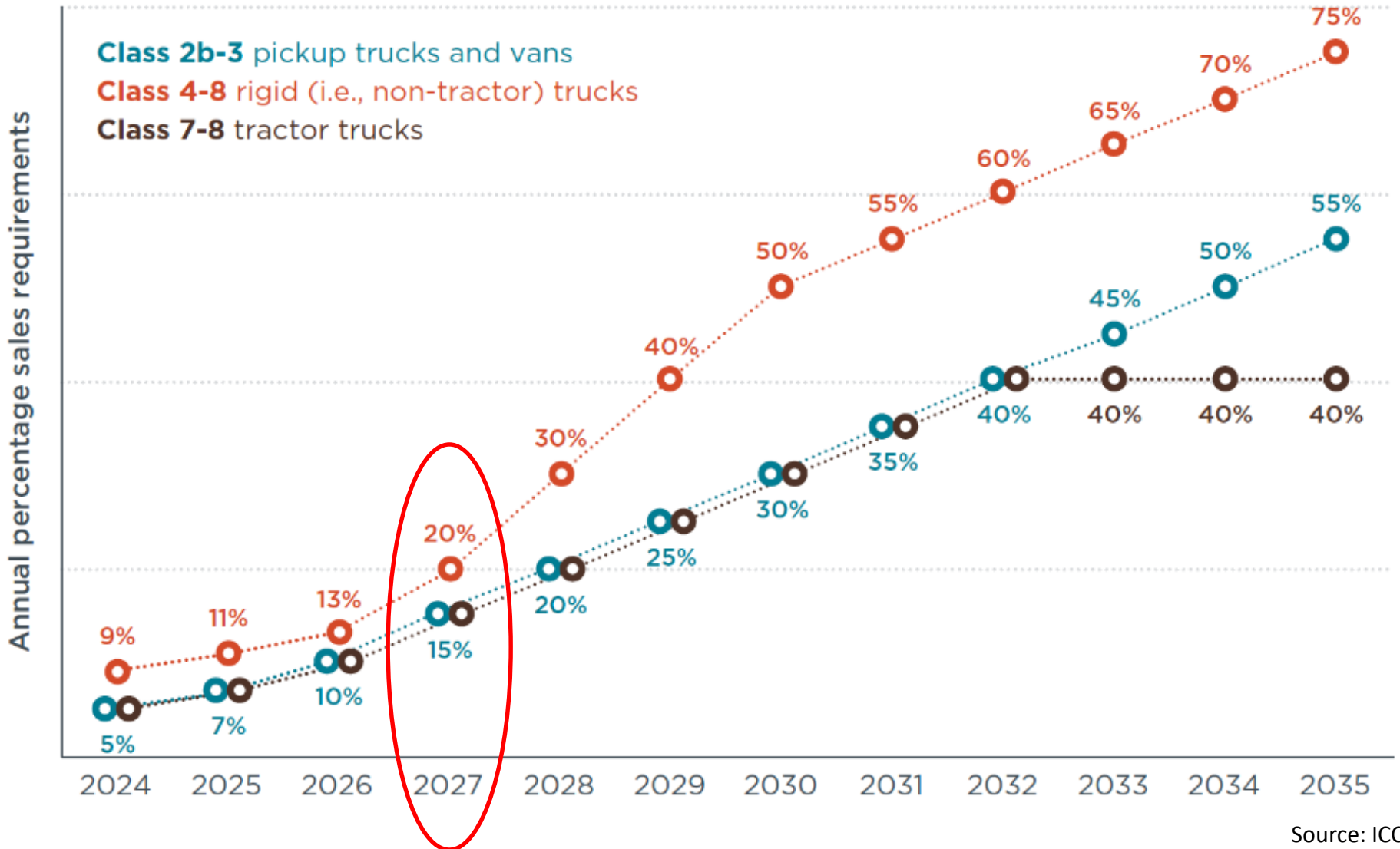


California ACT

- The Advanced Clean Truck (ACT) Regulation requires a growing percentage of medium- and heavy-duty vehicle sold to be zero emission.
 - Vehicles with a GVWR over 8,500 lbs.
 - Class 2b – Class 8 vehicles.
- ZEV sales are phased-in beginning in MY 2024 (2027 for MD) and increase through MY 2035, remaining constant thereafter.
- Similar credit, banking, and trading program as light-duty manufacturers have under the Advanced Clean Car.































Advanced Clean Truck (ACT) Program





Medium/Heavy-Duty Trucks

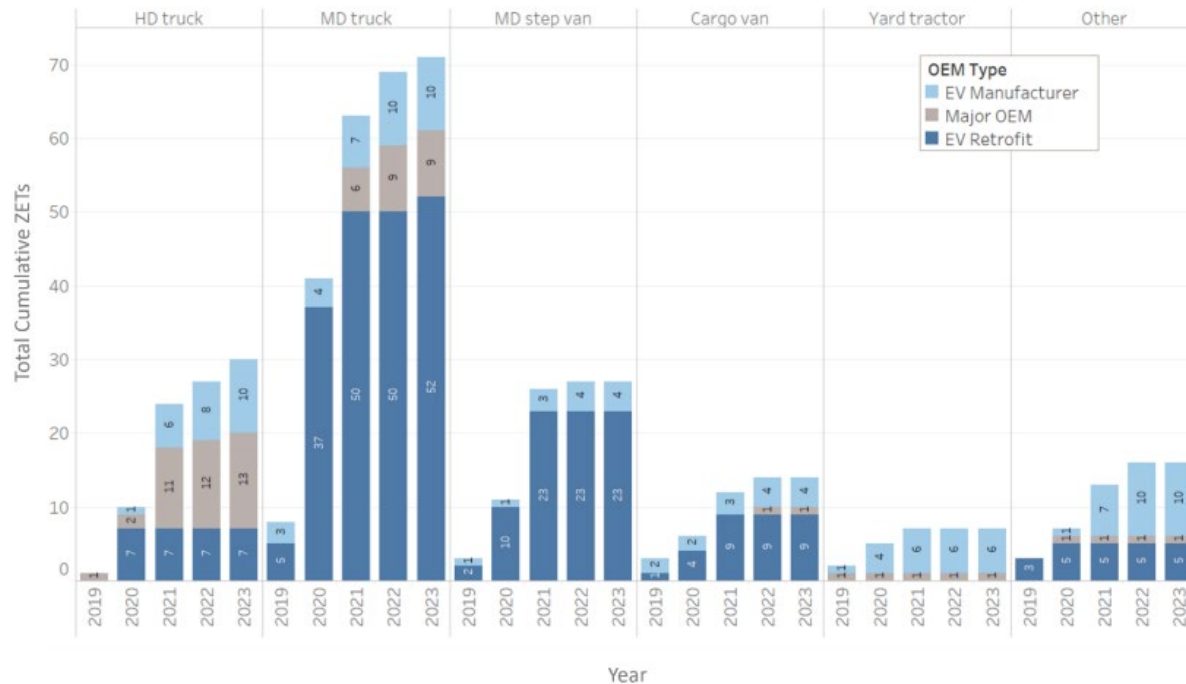
 Minivan	 Utility van	CLASS 1 6,000 lb & less	 Bucket	CLASS 5 16,001 to 19,500 lb	
 Multi-purpose	 Full-size pickup		 City delivery		 Large walk-in
 Minivan	 Utility van		 Beverage		 Single-axle van
 Full-size pickup	 Step van		 School bus		 Rack
 Walk-in	 Conventional van	CLASS 3 10,001 to 14,000 lb	 Refuse	CLASS 7 26,001 to 33,000	
 City delivery			 Furniture		 Medium conventional
			 City transit bus		
 Conventional van	 City delivery	CLASS 4 14,001 to 16,000 lb	 Dump	CLASS 8 33,001 lb & over	
 Large walk-in			 Heavy conventional		 Cement



ZEV Truck Availability

- According to a CALSTART report there were 20 models of Class 2b-8 ZETs available in 2019.
 - By 2021 that number rose to 145 models and is expected to rise to 165 by the end of 2023.

Figure 3: ZETI Model Availability in the United States (2019-2023)

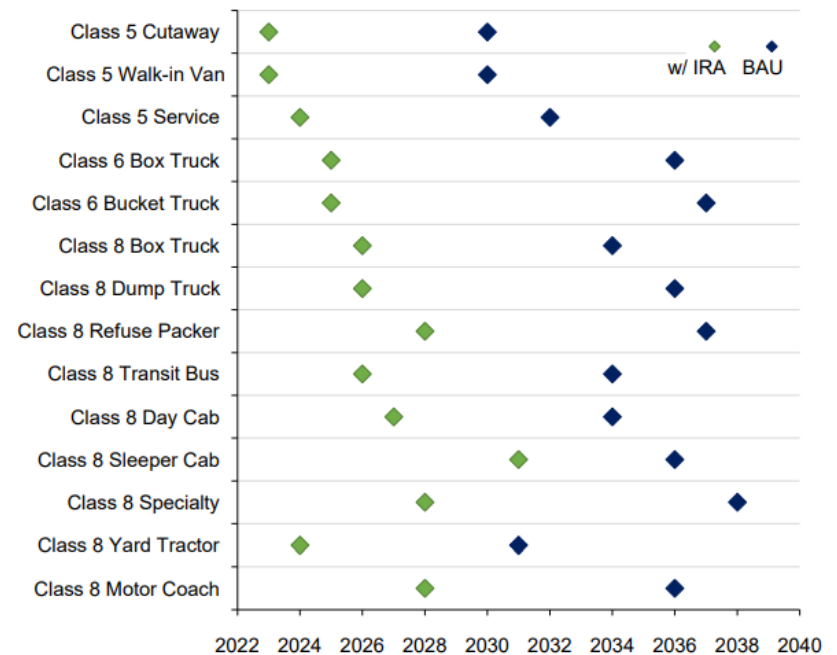




Purchase Incentives

- Federal IRA Tax Credit for Qualified Commercial Clean Vehicles is smaller of:
 - 30% of vehicle price;
 - Incremental cost vs. diesel; or
 - \$40,000.
 - Additional credits for charging
- Maryland: grants for 75% of incremental cost (\$10M avail per year)

Figure 1. Year purchase price parity is achieved for a range of types of ZEVs compared to internal combustion vehicles for business-as-usual and with the IRA

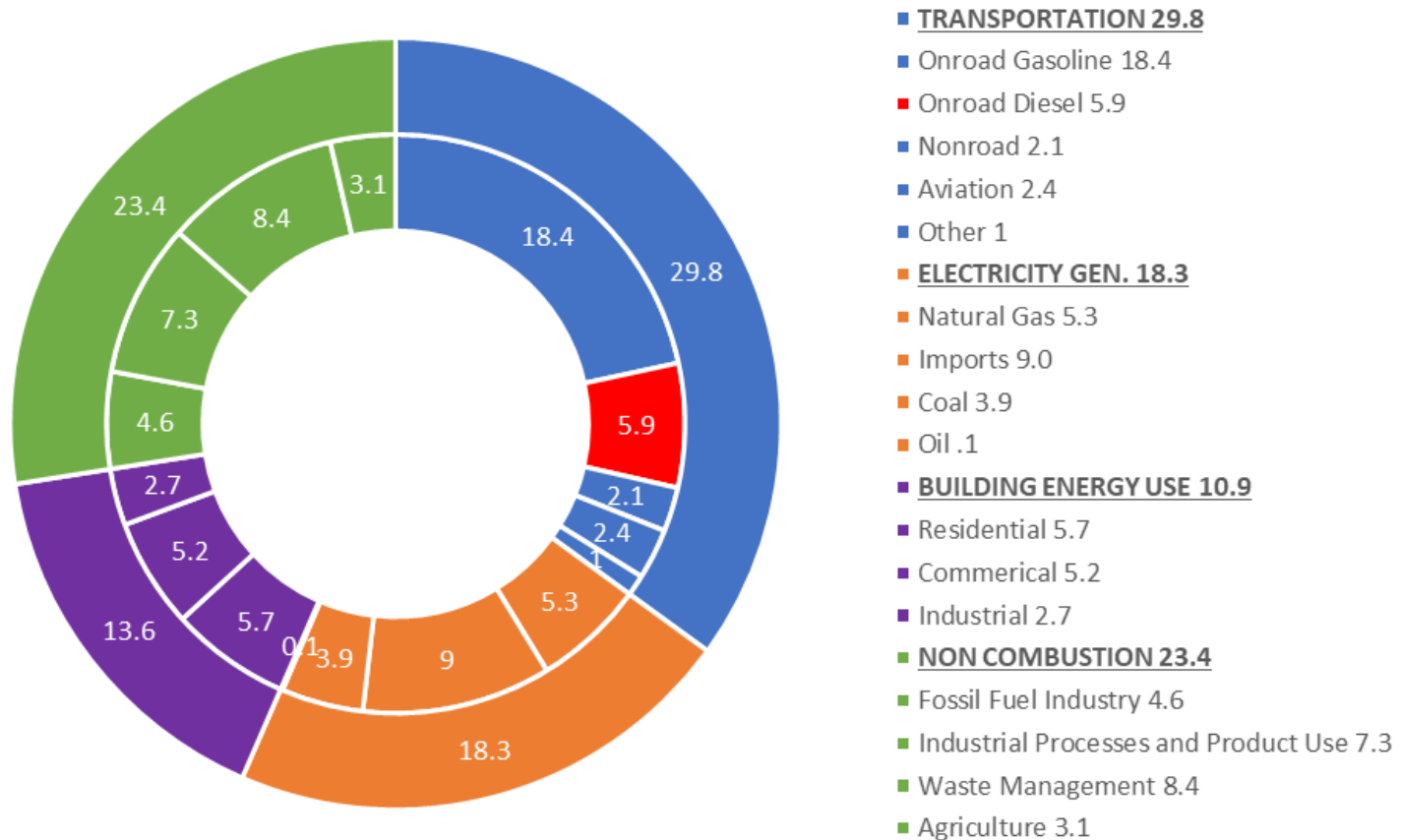


ERM, 2023, *Inflation Reduction Act Supplemental Assessment: Analysis of Alternative Medium- and Heavy-Duty Zero-Emissions Vehicle Business-as-usual scenarios.*
www.erm.com/contentassets/154d08e0d0674752925cd82c66b3e2b1/edf-zev-baseline-technical-memo-addendum.pdf



Greenhouse Gas Emission in Maryland

2020 GHG Emissions in Maryland
(85.06 Million Metric Tons of CO2 equivalent)

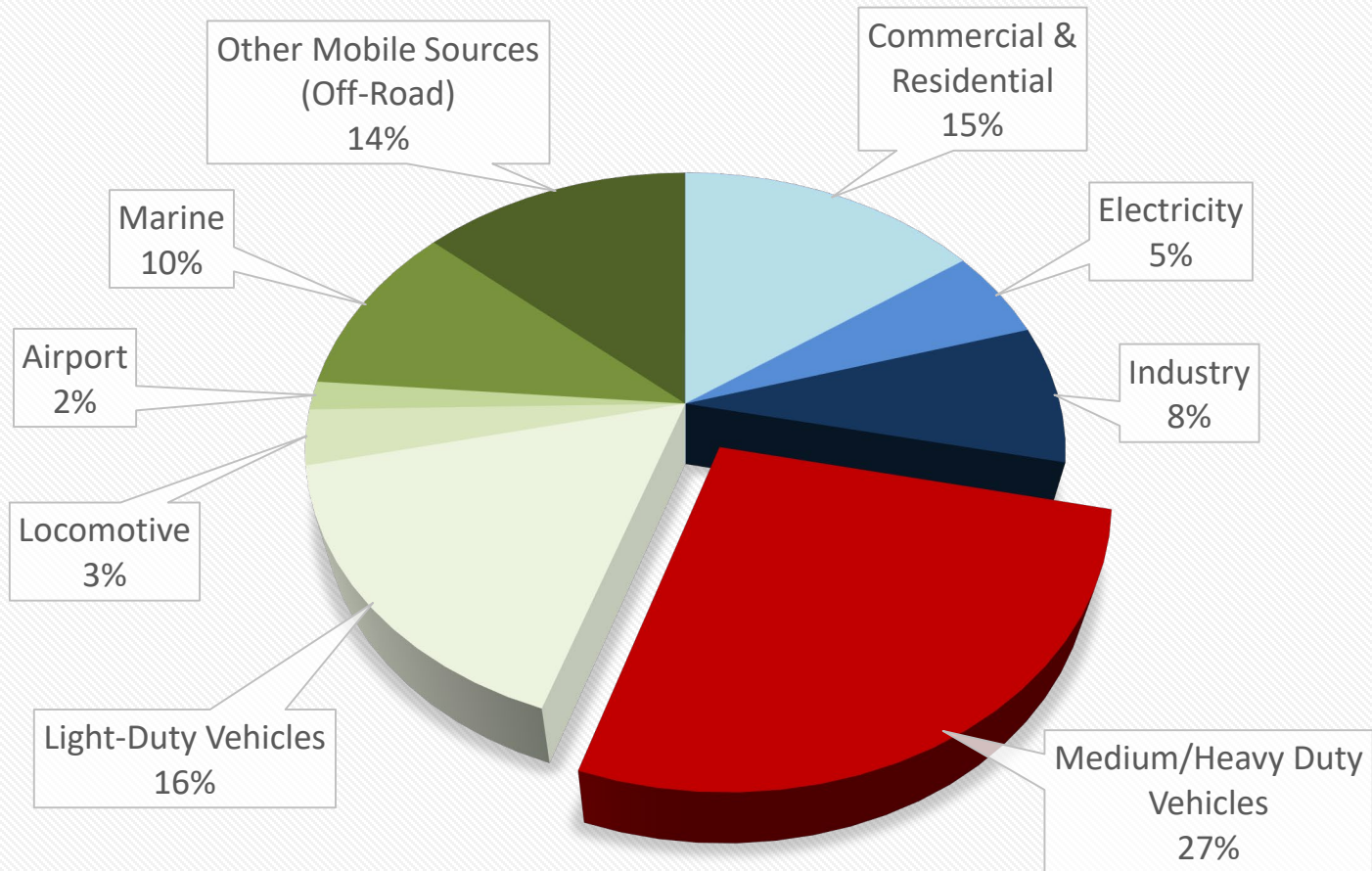


Source: Maryland 2020 Greenhouse Gas Inventory



Air Quality Impacts

NOx Emission by Sector in 2022





COMAR 26.11.43

- MDE adopted a new chapter in COMAR 26.11.43 Advanced Clean Trucks Program
- The new chapter covers the implementing ACT regulations as well as the Incorporated by Reference documents in 26.11.43.02
- MDE proposes to allow manufacturers to earn early compliance credits beginning with the 2026 MY.
 - This will help encourage manufacturers to place zero emission trucks in Maryland a year earlier, improving overall emission benefits of the program.



Next Steps

This Year: Regs were published in Maryland Register on December 15, 2023 and were adopted December 25, 2023.

Next Year: *Needs Assessment and Deployment Plan*

- Required by *Clean Trucks Act of 2023*
- MDE, MDOT, DGS, MEA, and PSC will assess:
fueling/charging demands & infrastructure; necessary fueling/charging stations; purchase incentives; state fleet transition.

Model Year 2027 (*calendar year 2026*): Regs effective



QUESTIONS?