A pioneer in providing a new energy ecosystem: from **Power Generation** to **Energy Storage** to **Electrified Transportation**
ZERO IS TODAY
• Heavy duty vehicles make up ~5-10% of VMT and ~30-45% of NOx emissions – huge opportunity to reduce PM, NOx, and GHG emissions in the transportation sector
• Public benefit in utility investment in charging infrastructure – cost efficient to decrease emissions while improving grid resiliency and utilization
• Large fleets represent load certainty for utilities – increases system utilization
• V2G/V2L means this load can also be used to power buildings and other loads
• Heavy duty vehicles can become roving power plants during emergencies.
Heavy Duty EVs - Unique Challenges

- How do we power the all-electric bus and truck fleets of the future and who pays for the infrastructure?
- Medium and Heavy Duty Electric Vehicle Fleets represent huge power loads with the potential for significant impacts on the grid.
- A 10 bus demo project is easy compared to a 200 bus depot.
- Demand Charges threaten the Total Cost of Ownership for fleets.
- Rates have not yet been designed to specifically address these fleets.
Heavy Duty EVs – Recommendations

• **Ratebase Charging Infrastructure** for medium and heavy duty fleet customers
• **Demand Charge windows** – send market signals to fleets to charge their vehicles when utilities want them to do so
• **Include Energy Storage** as part of infrastructure investment
• **Utilize** end of vehicle life fleet batteries for a second life as energy storage systems
• **Create rates specific** to the needs of fleets
• **Prioritize transportation electrification projects** – not all new load requests are the same
• **Create project management teams** specifically trained to address needs related to EV charging in medium and heavy duty vehicle fleets
Zach Kahn
Director of Government Relations
(213) 400-7279
zach.kahn@byd.com