

Electric Vehicles



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Chief Engineer

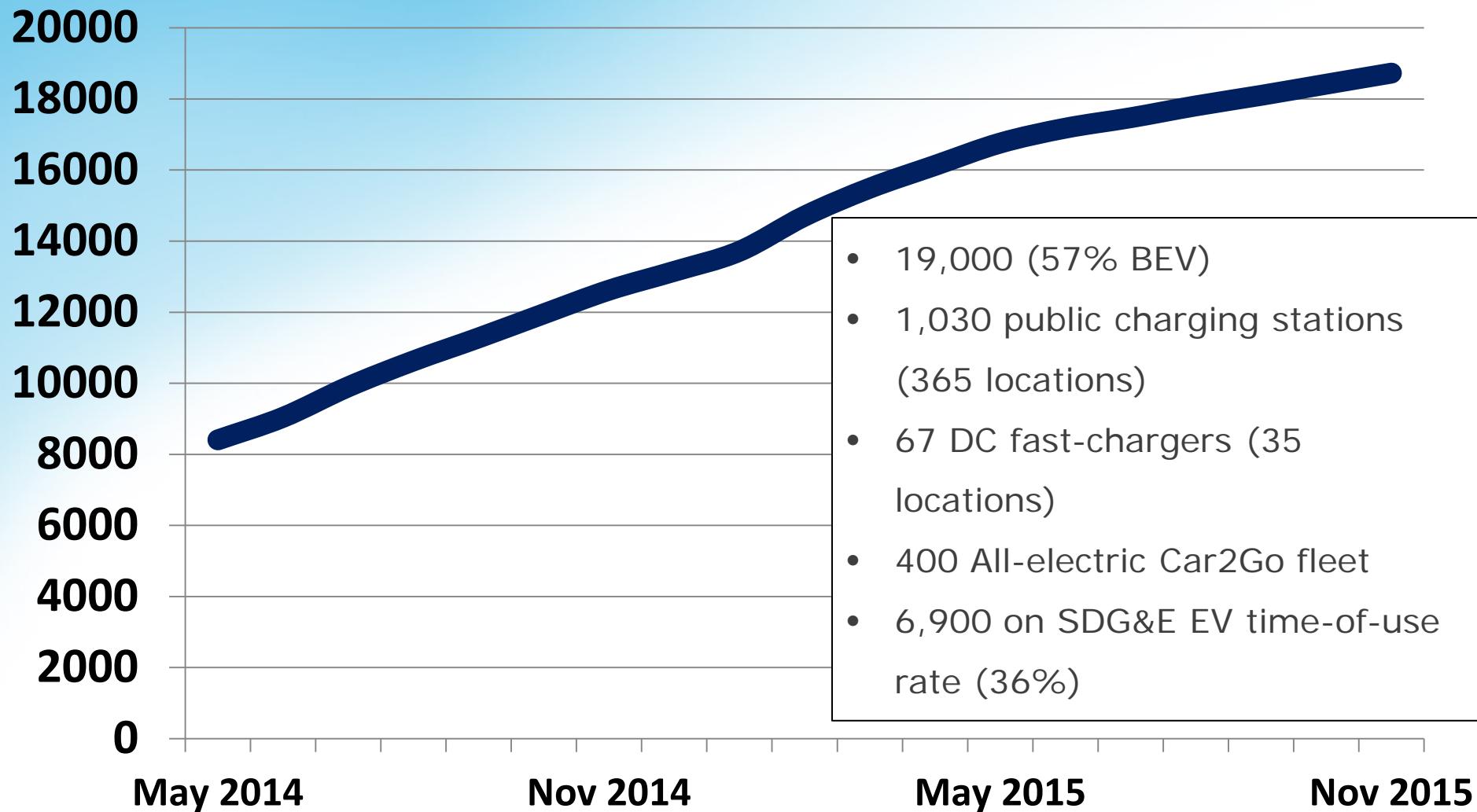
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San Diego Regional EV Growth



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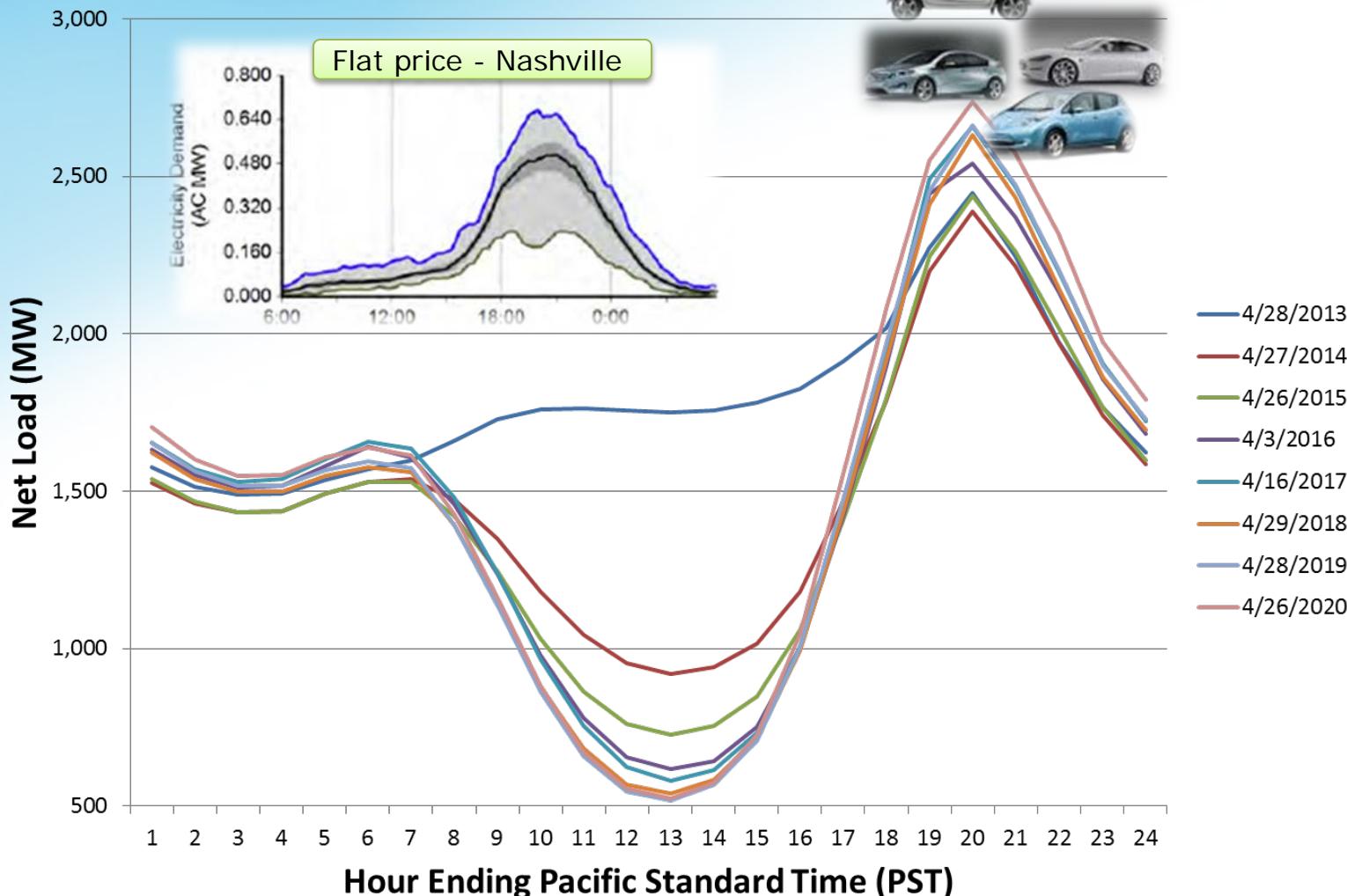


Demand, Net of Renewable Energy Low Day Illustration



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System Low Days



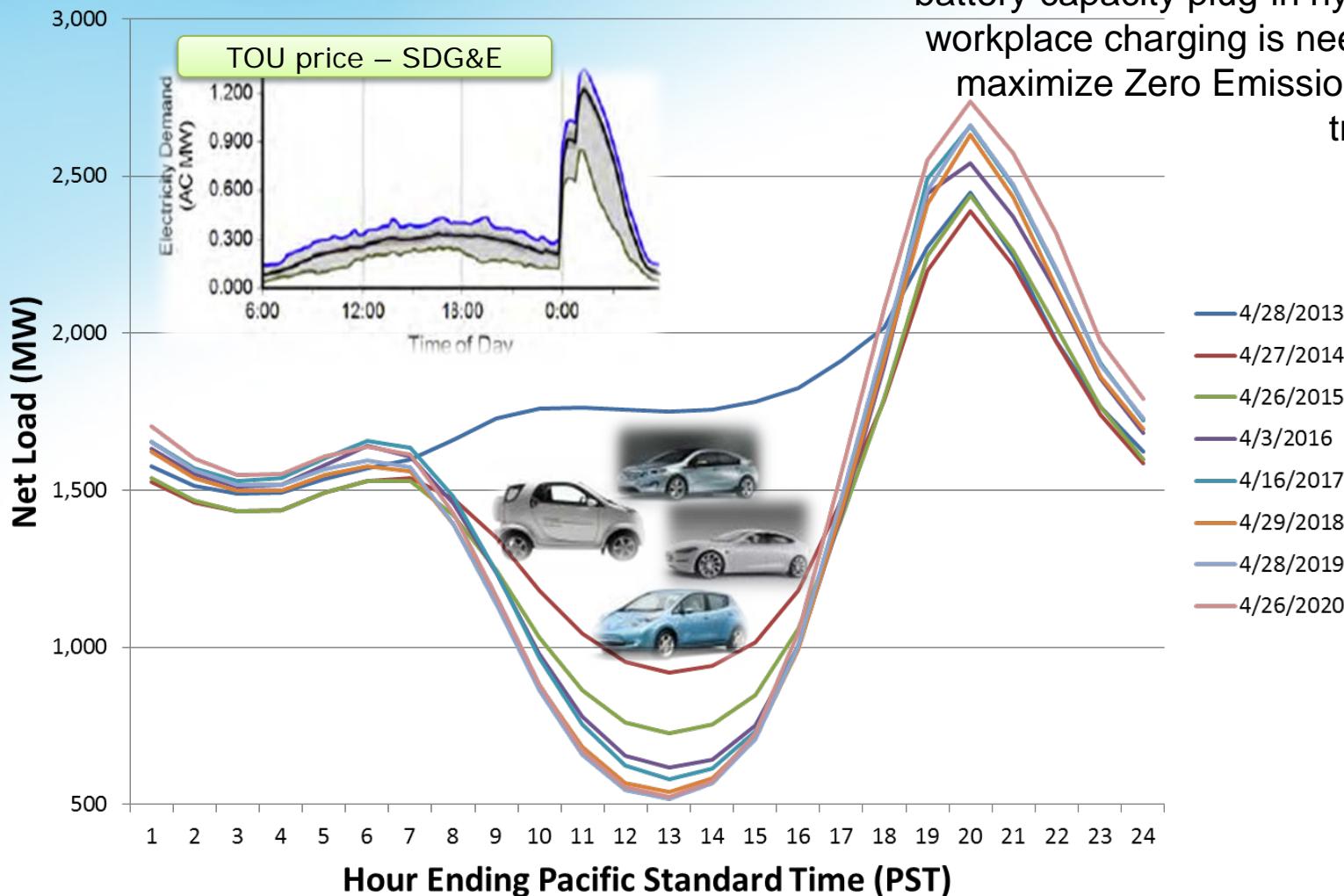
Demand, Net of Renewable Energy Low Day Illustration



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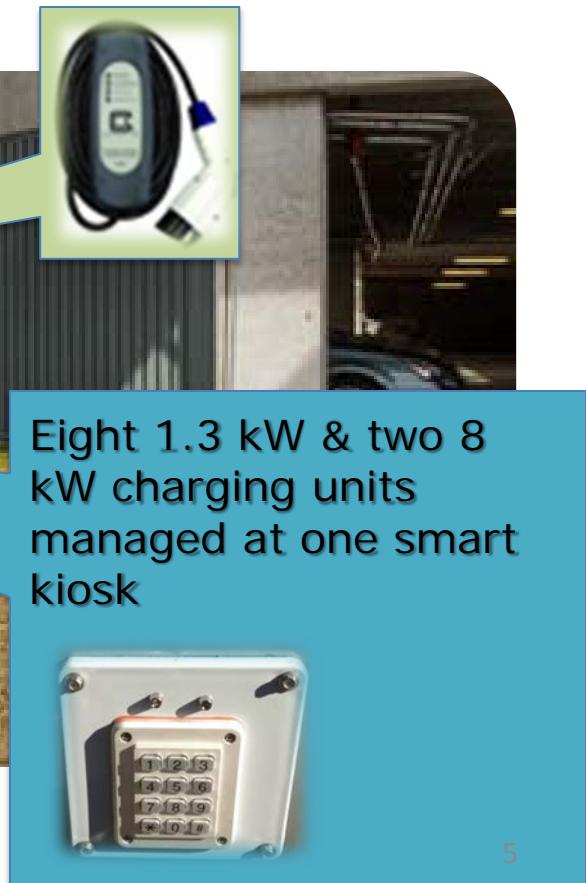
System Low Days

80% of PEV production to be low battery capacity plug-in hybrids – workplace charging is needed to maximize Zero Emission miles traveled



Workplace and Fleet Charging Solutions

Employees or Multi-unit Dwelling customers schedule charging times based on the changing cost of energy during day



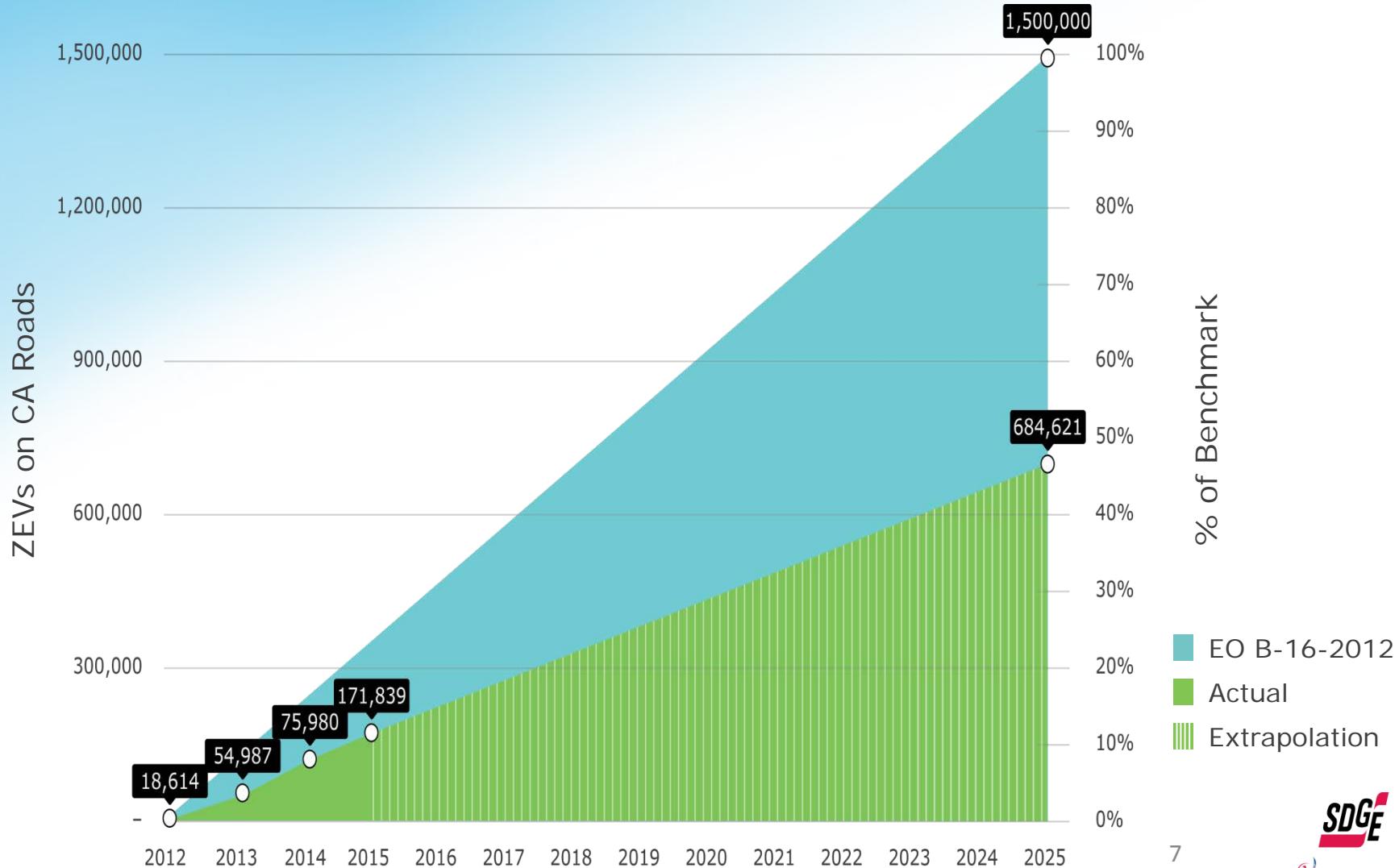
- Almost **40%** of CA's greenhouse gas emissions come from transportation
- AB32 restores greenhouse gas emissions **to 1990 levels by 2020**
- CA Governor Jerry Brown's "Zero Emission Vehicle Action Plan"
 - **By 2020** – Grid-integrated charging infrastructure **to support 1 million ZEVs**
 - **By 2025 – 1.5 million ZEVs** CA roadways
 - "Drive the Dream" commitment to workplace charging
- Department of Energy Workplace Charging Challenge – SDG&E is a partner
 - Achieve a **tenfold increase** in employers offering workplace charging **in by 2018**
- Greater than **33%** renewable energy resource mix **by 2020**; considering 40% and 50% levels

California EV Adoption Projections



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By 2025 over 1.5 million zero-emission vehicles on CA roads.



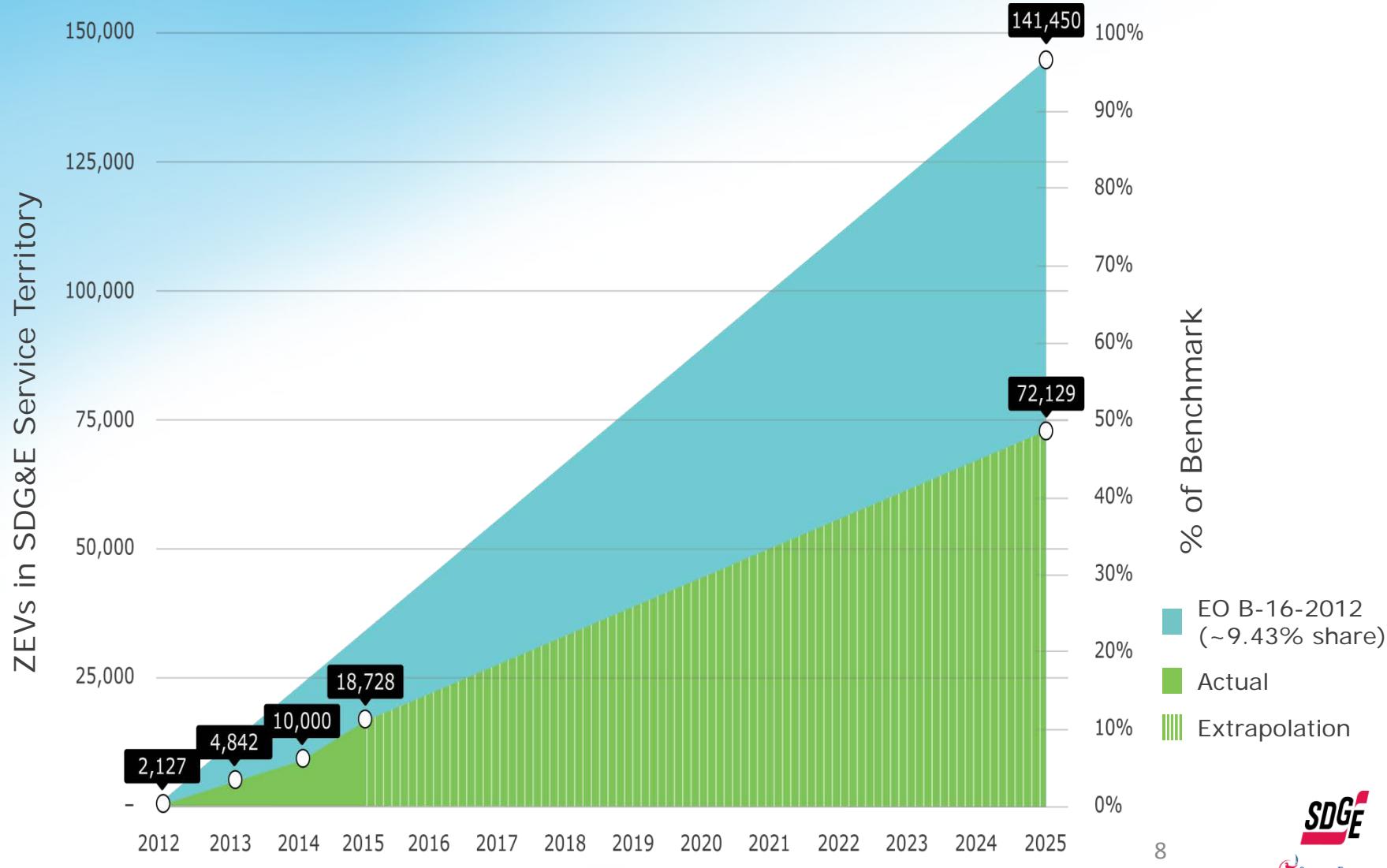
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SDG&E's Share of State EV Projections



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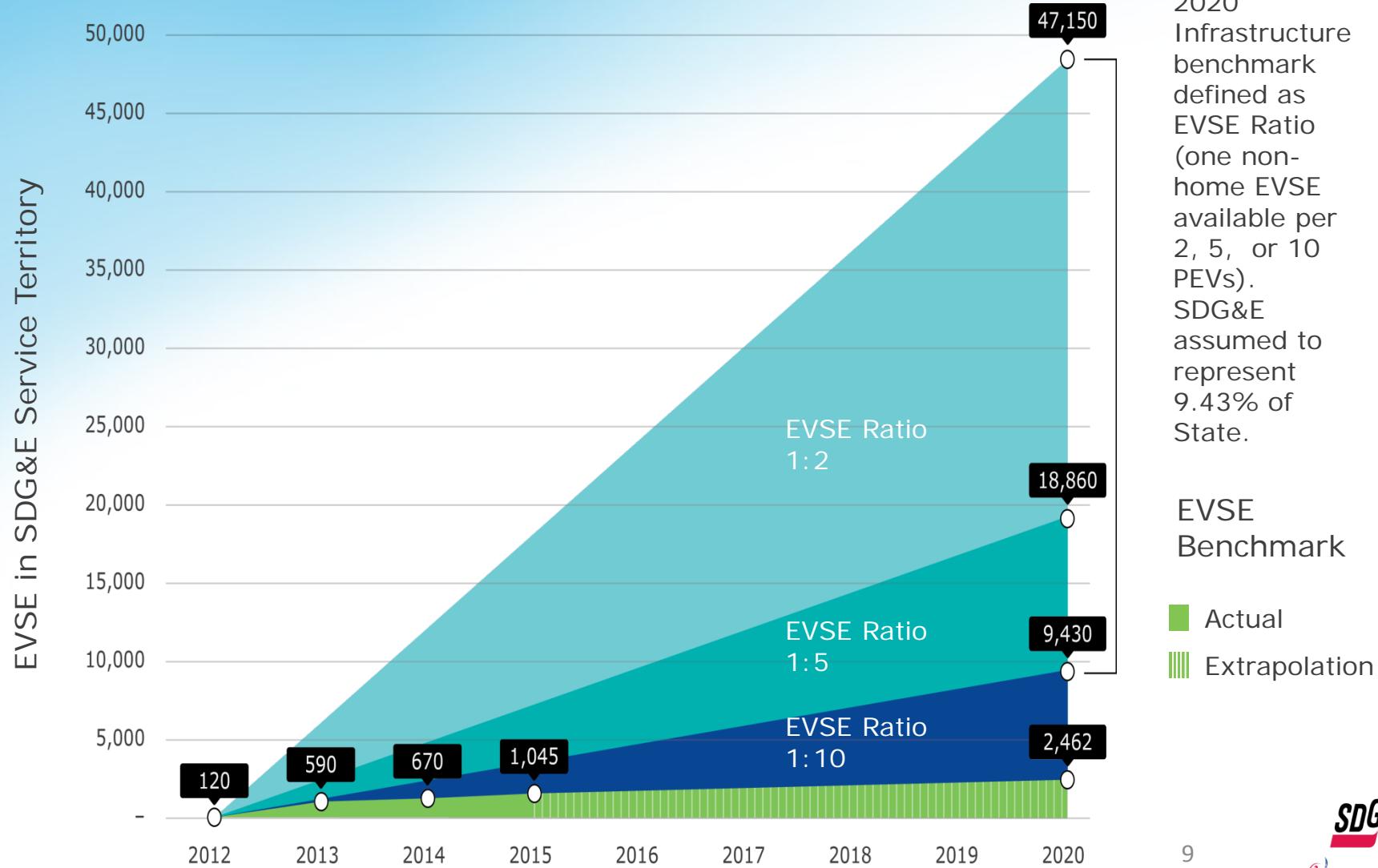
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SDG&E's Share of State Charging Infrastructure Projections



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2020 goal for ZEV infrastructure to support up to 1 million vehicles.



Create an excellent customer experience and accelerate the growth of electric transportation by ensuring the **safe, reliable and efficient integration of EV loads with the grid.**

- Technology
- Pricing
- Innovation
- Education
- **More plug-in electric vehicles**
- **More zero emission miles driven per EV**

- 350 grid-integrated EV charging facilities in **multifamily communities** and **work places**
- Day-ahead hourly rate that aligns with grid conditions to encourage off-peak charging
- Third parties to operate and maintain charging system
- EV charging is billed to drivers' SDG&E bill
- **Per the Settlement**
 - Rate-to-Host option with a load management plan
 - Participation Payment
 - Can switch rate-billing plan after one year
 - Disadvantaged Communities commitment (>10%)
 - Create a diverse Program Advisory Council
 - 40% of spend to Diverse Business Enterprises

Questions?



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Thank You

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www.sdge.com/smartgrid/

EV Information

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SDG&E's Power Your Drive Proceeding

www.sdge.com/regulatory-filing/10676/sdge-electric-vehicle-grid-integration-pilot-program

