



Sustainability: Making the Case

Bill Van Amburg, Senior Vice President



*Sacramento Clean Technology Forum
Sacramento, CA – September 26, 2013*

Steps to a More Sustainable Fleet

Step 1: **Baseline Your Fleet**

Step 2: **Know Your Options**

Step 3: **Match Options to Your Fleet**

Step 4: **Outline Your Pathways**

Step 5: **Pay for Your Plan**



Steps to a More Sustainable Fleet

- Step 1: **Baseline** your fleet
 - You need to know your starting point
 - **Keep it simple:** Easiest way to do that is to measure your yearly fuel burn - by vehicle
 - Start by focusing on heaviest fuel users
 - At later stages, or if you want to get more sophisticated in future, it is also important to know how vehicles are used (duty cycle; idle time; gallons/day, seasonal effects)
 - Doesn't hurt to collect data on representative types for future planning

Steps to a More Sustainable Fleet

- Step 2: **Know your options**
 - **Reduce your fuel burn**
 - Increased efficiency: hybrids; advanced tech engines (EcoBoost); cylinder on demand
 - Eliminate idling (Start-Stop)
 - Downsize vehicle engine or platform sizes where possible
 - **Diversify your fuel mix**
 - Fuel switching: electricity, natural gas, biofuel blends can be cheaper fuels
 - Having a mix of fuels insulates you from price spikes in any one fuel
 - Fuel world is changing and feedstock and process for the fuel matter
 - **Change your operations**
 - Take vehicles off the road
 - Dispatch best-suited vehicles to job

Steps to a More Sustainable Fleet

- Step 3: Match your options to your fleet mix, fleet geography, operational profile (duty cycle)
 - Place the correct technology and fuel into the best use in your fleet; fine tune your fleet
 - Avoid putting Hybrid into higher speed routes with limited stopping or idling
 - Make sure EV's get enough miles/year to deliver a payback (without creating “range anxiety” for drivers)
 - Put CNG/LNG/LPG in high mileage routes
 - Look for match with growing infrastructure and production
 - Be aware of regional air quality regulations or needs – not all fuels work everywhere

Steps to a More Sustainable Fleet

- Step 4: Outline your reduction plan pathways – your shift in fleet technology, fuel and operations over several years
 - Look for solutions where expansion of capacity and/or improvements will take place
 - Vehicle fuel economy, hybrids, electrics just at beginning of improvements
 - Natural gas infrastructure will continue to grow
 - Biodiesel production will broaden to renewable diesel blends, broader feedstocks

Important Framework

There is no “Silver Bullet” – no single technical or fuel solution exists today to cover every vehicle, fleet or location

Fleets need a “portfolio” of options

Find environmental and economic outcomes
Choosing the right technologies/fuels and deploying them in a thoughtful way will Save Money and Reduce your Fuel Volatility Risk

On the Road to 2050

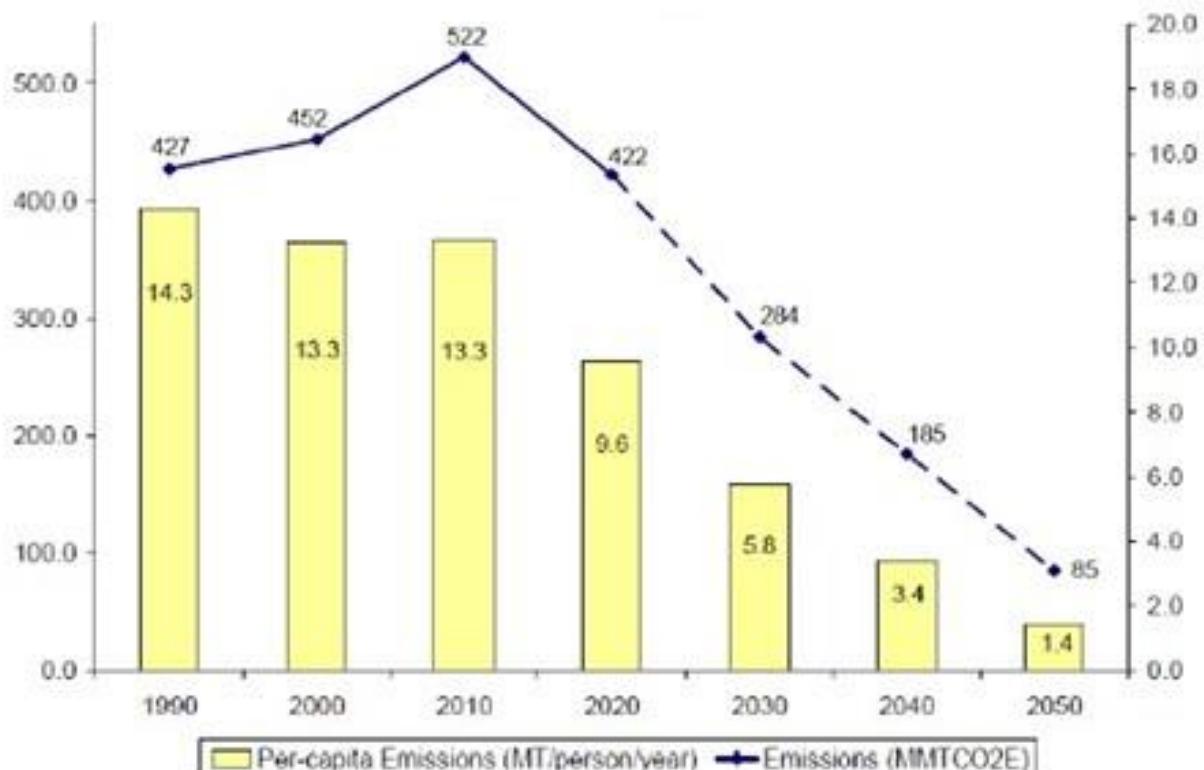
Role of Fleets in Climate and
Sustainability Plans

AB 32 Emissions Reduction Targets

A Vision for the Future

Scoping Plan

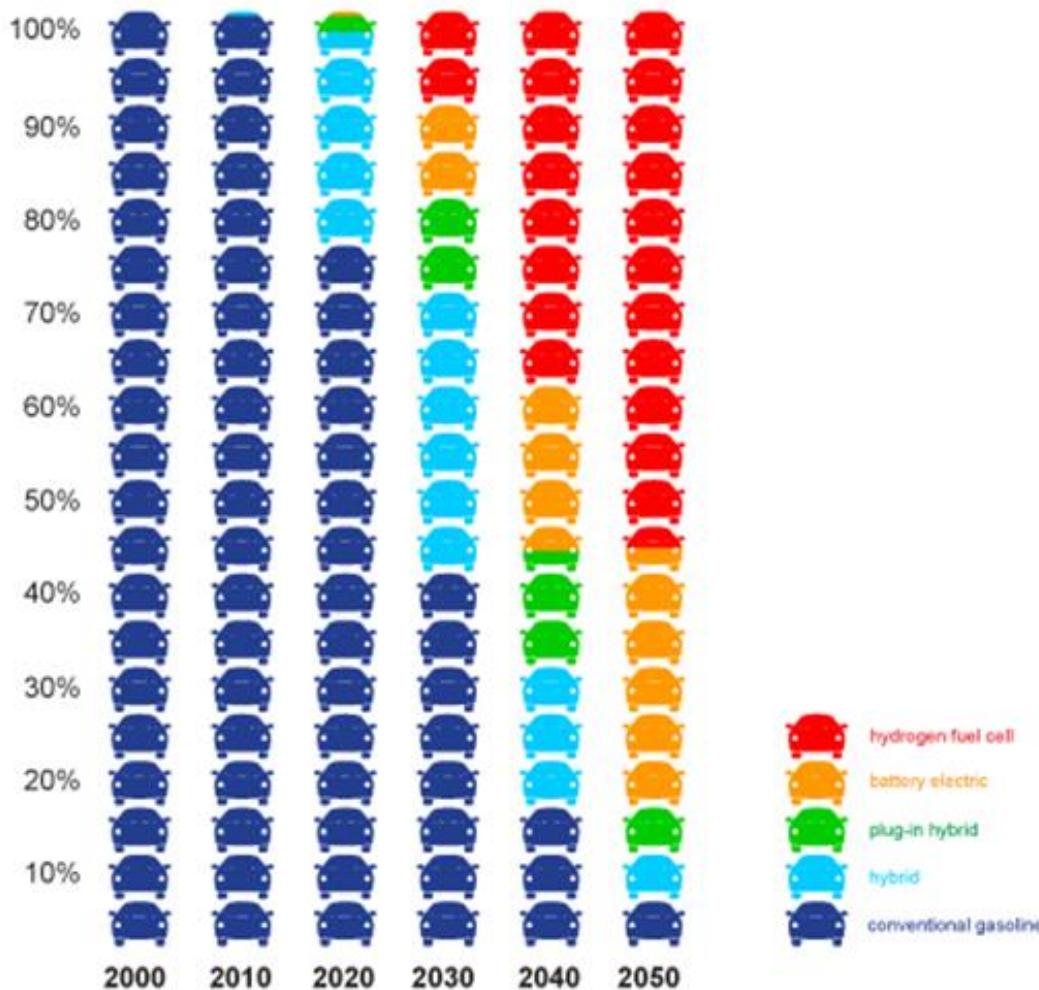
Figure 6: Emissions Trajectory Toward 2050



Transportation Sector

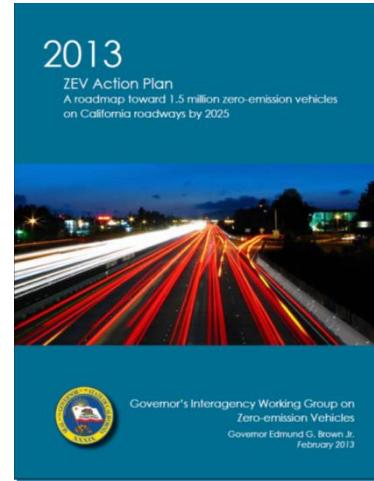
- Nearly 40% of CA's total GHG emissions (largest source)
- Community-wide vs. Agency/Corporate
 - More than 50% of GHG in most CA communities
 - Significant share of agency or corporate GHG
- Transportation GHG Reduction categories:
 - Improve vehicle fuel economy
 - Reduce carbon intensity of fuels
 - Reduce vehicle trips & VMT

Makeup of California's on-road passenger vehicle fleet needed to reach 2050 goal



Fleets are Drivers of Policy Change

- Power of bulk purchasing
- Help moderate incremental costs in market
- Partnerships with utilities, COGs
- Visible public demonstrations of innovative technology
- Leadership



- 1.5 million ZEV's on road in CA by 2025
- PEV's and FCEV's (multiple ZEV types)
- State Gov't light-duty fleet purchasing:
 - 10% ZEV by 2015
 - 25% ZEV by 2020



Who's doing it?

- State: Scoping Plan
- Climate Action Plans: Cities, Counties, Regions
- Corporate Sustainability Plans: Private Sector

Action Plan for Fleets

- **Integrated GHG strategies (bundling):**
 - What bundles make most sense and will meet all of the organization's goals?
 - Timing and phasing is key
 - Start with “low-hanging fruit” (fleet right-sizing, fuel economy, efficiency-based actions)
 - Pilot programs to test alternative fuels & vehicles
 - Full implementation on replacement cycles
 - Life cycle cost analysis increasingly important
 - Maximize cost-effectiveness, but not at expense of fuel savings and GHG reductions

Action Plan for Fleets

- Pilot programs and phasing in alternative fuels, ZEVs
- Build facilities and infrastructure to support use of alternative fuels and ZEVs. Share where feasible.
- Explore combined fleet and clean energy approaches (e.g., solar-powered EV charging)
- Plug into Climate Action Plan / CSR for environmental policy support

How many of you...

- Already have “clean tech” vehicles in your fleet?
 - How many? What technologies?
- Already have a “clean fleet” plan?
 - Is it funded? Is it multi-year? If so, how many?
 - Is it multi-fuel? Multi-tech?
- Already have all the answers you need to develop and execute your “clean fleet” plan?!
 - If not, what questions or topics are of greatest interest?

Key Take-Aways

- Know how you use your vehicles – miles, fuel use, kind of driving, idling, drivers
- Deploy technologies and fuels into fleet applications where they can do you the most good for payback – *and* environmental benefits
- In California, there is a lot of assistance and incentives – use the tools!!