



# California – Leading the Nation

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# California Leadership

- ◆ Transportation emissions
- ◆ Stationary source emissions
- ◆ Power plant emissions
- ◆ Renewable portfolio (electricity)
- ◆ Water quality
- ◆ Land use



# Transportation Initiatives

- ◆ Vehicle emission standards
- ◆ ZEV program
  - ◆ EV mandates
  - ◆ Fuel cell mandates
- ◆ **Moyer Program** – accelerate clean heavy duty vehicle penetration



# Moyer Program

- ◆ Created in 1999
- ◆ To incentives for market introduction of cleanest technologies
- ◆ Funded at \$20-25 million/yr level thru 2004
- ◆ Fund increase via vehicle registration fees, tire disposal fees and smog check fees to \$140+ million – for 10 years
- ◆ Fund new, repowers, fleet modernization
- ◆ What happens when diesel as clean as natural gas????

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# Transportation

- ◆ Fleet Rules
  - ◆ State and regional (SCAQMD)
  - ◆ Standards for fleet emission averages
- ◆ Green house gas emissions
- ◆ Retrofit rules for diesel PM control
- ◆ Fleet modernization programs
- ◆ Hydrogen Highway



# SCAQMD Fleet Rules

- ◆ Adopted in 2000-2001
- ◆ Require cleaner alternative fuels
- ◆ Legal challenge by EMA and WSPA
- ◆ District Court decision 2005 – market participation doctrine
- ◆ SCAQMD advisory that they will enforce all rules
  - ◆ public fleets
  - ◆ private fleets under contract to public

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## What Next??

- ◆ SCAQMD fleet rules still under legal challenge
- ◆ CARB turned down two of three fleet rules for SCAQMD that could have been submitted under California waiver
- ◆ CARB resolution to step in if SCAQMD authority lost in legal challenges

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# Beyond Emissions

- ◆ California refinery capacity at 97%
- ◆ Petroleum dependence can impact economy of California
- ◆ World demand for petroleum will impact prices everywhere
- ◆ Growth in California will continue
- ◆ Potential “train wreck” of supply and demand



# Petroleum Diversity

- ◆ CEC and CARB identified options for fuel diversity
- ◆ Recommended state goals \*
  - ◆ Reduce petroleum demand 15% from 2003 levels
  - ◆ Increase alternative fuel usage
    - ◆ 20% by 2020
    - ◆ 30% by 2030

\* 2003 Integrated Energy Policy Report

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# Fuel Options for California to Pursue

- ◆ Ethanol – blend for gasoline
- ◆ Biodiesel – blend for diesel
- ◆ GTL – blend for diesel
- ◆ E85 -- FFVs
- ◆ Natural gas (path to hydrogen)
- ◆ Propane
- ◆ Hydrogen

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# Cost/Benefit Analysis Suspect

- ◆ Optimistic cost scenarios for renewables and GTL
- ◆ Pessimistic cost scenarios for natural gas
  - ◆ NG higher priced than Diesel/Gasoline
  - ◆ NG prices will always stay higher
  - ◆ Product availability won't change

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## Blend Fuels

- ◆ Ethanol, biodiesel, GTL to be used as petroleum extenders
- ◆ Extenders lose identity when blended – just gasoline/diesel
- ◆ Unrealistic to think that lower price extenders will curb upward price spiral

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## Action – Action – Action!

- ◆ Governors task group to identify plan
- ◆ Attempt to define winners and losers before identifying policy?
- ◆ Unsuccessful to get CEC/CARB recommendations adopted by legislature (guess why?)

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## What we need

- ◆ State policies to encourage fuel diversity, clean vehicles, GHG reduction, etc., etc.
- ◆ Policies will create product availability
- ◆ Incentives to accelerate market introduction



# California Leadership

- ◆ Like making sausage
- ◆ Very ugly process but when all things considered yields results
- ◆ California is up to trying new initiatives and expanding on those that achieve results
- ◆ Not a bad role model for others

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