



# Energy Outlook White Paper Workgroup



2016 Air Quality Management Plan  
July 23, 2014



# White Papers for 2016 AQMP



# Goals and Requirements

- Environmental
  - National Ambient Air Quality Standards
    - 1990 1-hour ozone: 120 ppb by 2022
    - 1997 8-hour ozone: 80 ppb by 2023
    - 2008 8-hour ozone: 75 ppb by 2032
    - 2012 annual PM<sub>2.5</sub> standard : 12 µg/m<sup>3</sup> by 2020-2025 timeframe
  - Climate
- Public Health Benefits
- Economic Benefits

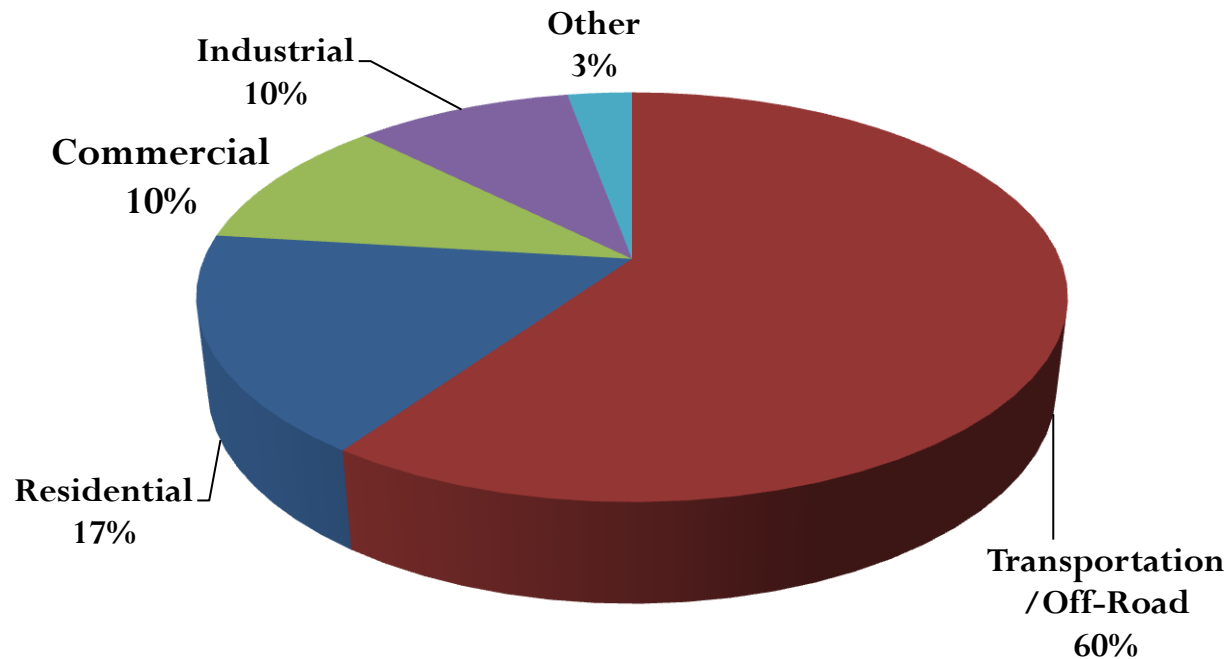
# Background

## 2012 AQMP

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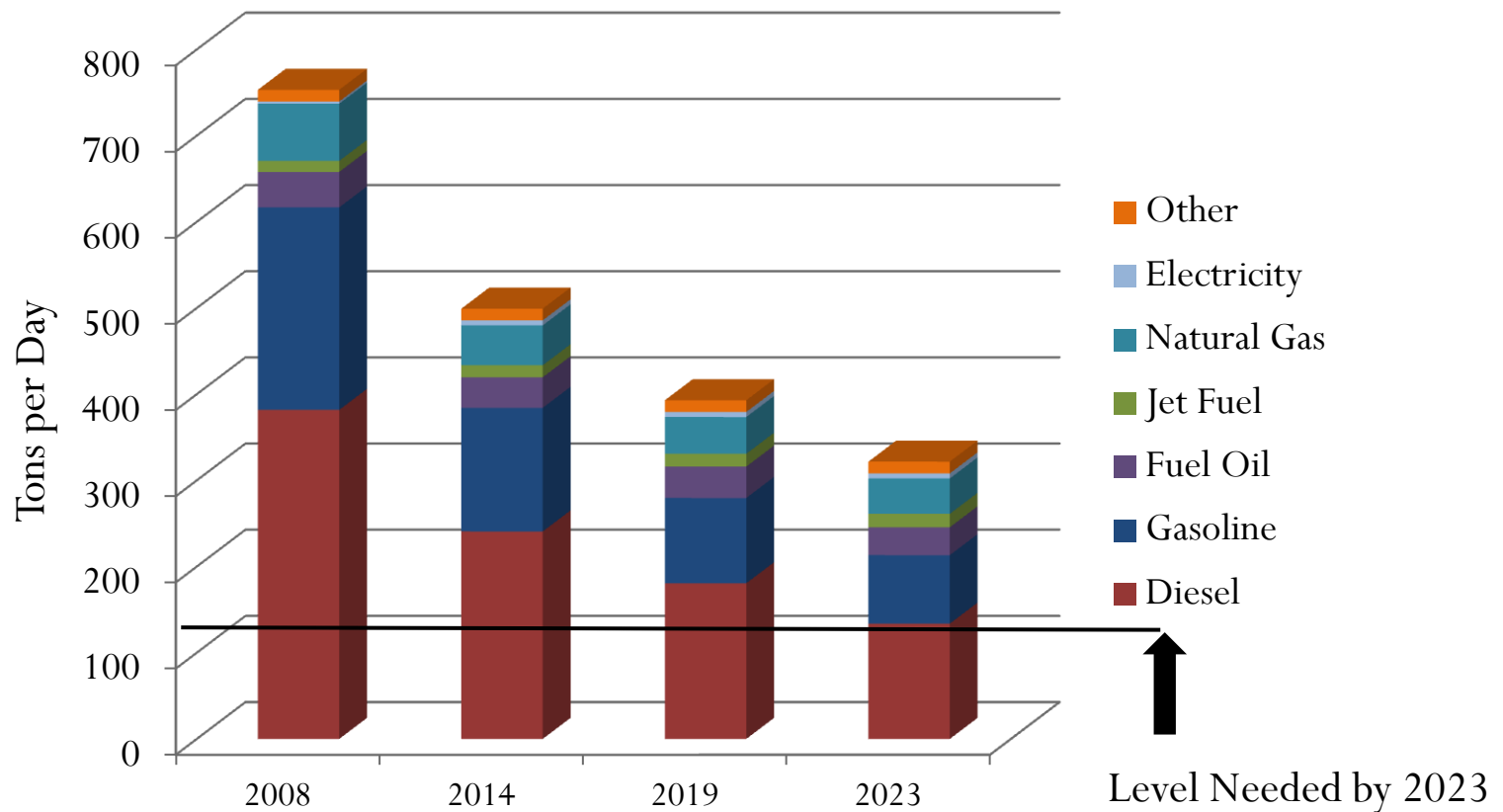
- SCAQMD Air Quality Related Energy Policy
- Basin Energy Consumption and Projections
  - Energy Costs
- Criteria and GHG Emissions by Fuel Type
- Review of Recent Regulations

# 2008 Basin Energy Use

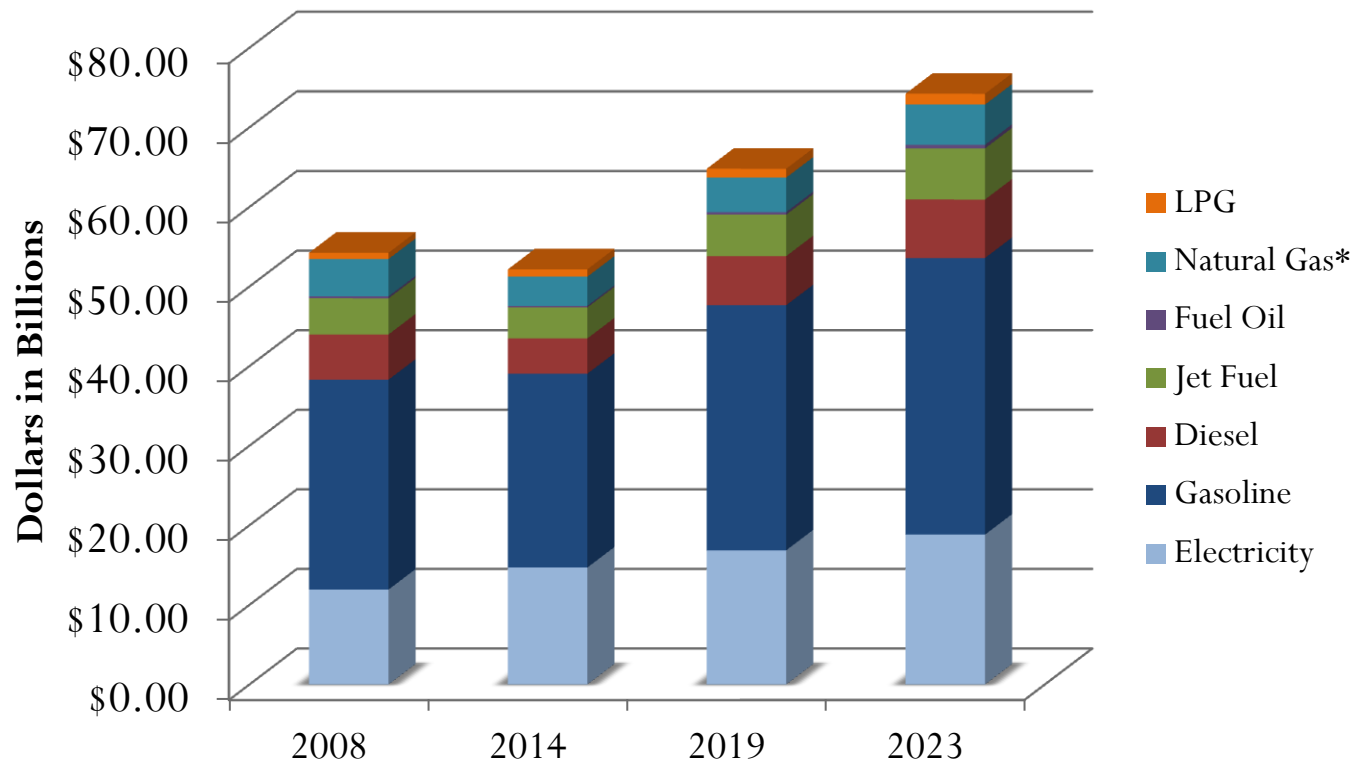


Source: 2012 AQMP, Chapter 10 - Energy and Climate

# NOx Emissions by Fuel Type



# Energy Costs



Source: 2012 AQMP, Chapter 10 - Energy and Climate

# Basin's Changing Energy Future

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## Regulatory

- Renewable Portfolio Standard
- Once Through Cooling
- AB2514 Energy Storage Mandate
- Zero Emission Vehicle Regulation
- Cap and Trade
- Low Carbon Fuel Standard
- RECLAIM
- SB 375
- Others ?



# Basin's Changing Energy Future continued

## Technology and Infrastructure

- San Onofre Shutdown
- Renewables
- Microgrids
- Transportation



# Scenario Review

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- Review energy impacts, resource needs, and infrastructure changes for scenarios developed in other white paper workgroups.

# Energy Sources to be Considered

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- Biofuels
- Diesel
- Electrification
- Fuel Oil
- Gasoline
- Hydrogen
- Natural Gas
- Others ?

# Scope of Analysis

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- Energy Types and Technologies
- Potential Demand and Supply
- Key Issues
  - Infrastructure
  - Timing
  - Co-benefits
- Others ?

# Draft Outline

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- Background
- Future energy outlook
  - Regulations (AB32, OTC, etc..)
  - Technologies (zero and near zero)
- Scenarios
  - Demand and supply
  - Infrastructure needs
  - Costs
  - Potential hurdles
  - Emission reductions

# Next Steps

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- Detailed and revised outline
- Topics for next meeting
- Action items
- Dates for next meeting