Regional Climate Action Plan (RCAP)  
Greenhouse Gas (GHG) Analysis  

Bob Leiter, Director of Planning  
San Diego Association of Governments  
September 4, 2008
Presentation Overview

- What is the RCAP?
- Policy Drivers
- Planning Process
- Timeline
- Transportation Emissions
- Transportation Scenario
- Next Steps
What is the RCAP?

- Long-range policy plan (2030)
- Focus on transportation, electricity, and natural gas sectors
- Complement to Regional Energy Strategy 2030 Update
- Feed in to SANDAG Regional Transportation Plan (RTP) and Regional Comprehensive Plan (RCP)
What Contributes to Greenhouse Gas Emissions?

Statewide Greenhouse Gas Emissions by Sector in 2004

- Transportation: 40%
- Electric Generation (In-State): 12%
- Commercial: 3%
- Residential: 6%
- Industrial: 20%
- Agriculture: 6%
- Electric Generation (Imports): 13%
What Contributes to Transportation’s Greenhouse Gas Emissions?

Statewide Transportation Greenhouse Gas Emissions in 2004

- Cars and Light Trucks: 74%
- Heavy-duty Trucks and Buses: 20%
- Rail: 2%
- Water: 2%
- Intrastate Aviation: 2%
RCAP Policy Drivers

- CA Global Warming Solutions Act of 2006
  Reduce GHG emissions to 1990 levels by 2020
- Executive Order S-3-05
  Reduce GHG emission to 80 percent below 1990 levels by 2050
- CA Senate Bill (SB) 375
- Attorney General comments on RTP
- RTP EIR mitigation measure
- CEC Agreement
RCAP Planning Process

- GHG inventory (1990 to current)
- Business-as-usual forecasts
- GHG test targets
- GHG reduction scenarios
- Policy development
RCAP Timeline

- Transportation GHG Analysis: July ‘08
- Electricity/Natural Gas GHG Analysis: Fall ‘08
- Policy Development: Fall ‘08 – Winter ‘09
- Draft Plan: Winter ‘09
- Final Plan: Summer ‘09
On-road Transportation Emissions 2030

RTP Business-as-usual Forecast (22.5 mmtCO2)
29 percent above current levels

GHG Test Target (9.1 mmtCO2)
27 percent below 1990 levels
48 percent below current levels
60 percent below 2030 levels
San Diego Regional On-road Transportation Emissions

![Chart showing San Diego Regional On-road Transportation Emissions from 1990 to 2050. The chart compares Business-as-usual emissions to a Test Target. The emissions trend for Business-as-usual shows a steady increase, while the Test Target shows a decrease.]
GHG Reductions from State Efforts: Fuel Efficiency and Alternative Fuels

<table>
<thead>
<tr>
<th>Year</th>
<th>Million tons CO2 (mmtCO2) per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>Business-as-usual</td>
</tr>
<tr>
<td>1995</td>
<td>Pavley Standard</td>
</tr>
<tr>
<td>2000</td>
<td>Low Carbon Fuel Standard</td>
</tr>
<tr>
<td>2005</td>
<td>LCFS Extension (20%)</td>
</tr>
<tr>
<td>2010</td>
<td>Test Target</td>
</tr>
</tbody>
</table>
Regional GHG Reduction Scenarios for Transportation

- Low Carbon Land Use Scenario
  - Smart growth intensifies
- Enhanced Transit Scenario
  - Increase routes and headways
- Transportation Demand Management (TDM)
  - Telecommuting
  - Regional Carbon Fee
  - Pay-as-you-drive Insurance
  - Smart Growth Parking Pricing
Land Use and Transit Assumptions

- Build-out of Smart Growth Concept Map
- New circulator bus service in central San Diego
- Shorter headways for COASTER, light rail, bus rapid transit, regional buses
Enhanced Land Use and Transit Scenario Results

Emissions Outcome: 2.5 to 6 percent reduction

Highlights
- Reduces inter-regional commuting
- Increases share of transit and non-motorized trips
- Reduces VMT

Challenges
- Land use planning mostly impacts increment of new growth
- Current model does not account for full effects of smart growth
Transportation Demand Management (TDM) Assumptions

Telecommuting
- ~33% of workforce, 2x / week

Pay-as-you-drive Insurance
- Per mile rate = Average CA premium / Average regional VMT

Regional Carbon Fee
- 20 cent gasoline tax

Parking Pricing
- Pricing in smart growth opportunity areas
TDM Scenario Results

Emission Reduction: additional 17 percent

Highlights
- Increase share of transit and non-motorized trips
- Reduces VMT
- Large reductions from telecommuting and parking pricing

Challenges
- Does not include congestion pricing
- Does not capture indirect benefits that could be obtained by reinvesting new revenue in low-carbon mobility projects
## 2030 Transportation Emissions

<table>
<thead>
<tr>
<th>Description</th>
<th>CO2 Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>RTP Business-as-usual Emissions:</td>
<td>22.5 million tons CO2</td>
</tr>
<tr>
<td>Emissions from RCAP Test Scenario:</td>
<td>10.5 to 11 million tons CO2</td>
</tr>
<tr>
<td>Estimated 2030 Emissions Target:</td>
<td>9 million tons CO2</td>
</tr>
</tbody>
</table>
Next Steps

- Develop a 4D modeling tool to better account for results from “smart growth” strategies
  - Density | Diversity | Design | Destinations
- Improve modeling capabilities for congestion pricing and ridesharing
- Refine transportation policy options with cost-benefit analysis
- Analyze electricity and natural gas sector emissions
  - Including impact of building standards and distributed generation
- Develop policy recommendations