



# Greenhouse Gas and Climate Change Impact Analysis



Sacramento Metropolitan Air Quality Management  
District Workshop  
April 20, 2009  
9 AM- 4 PM



## Unit 2 Regulatory Framework and CEQA Ten Steps

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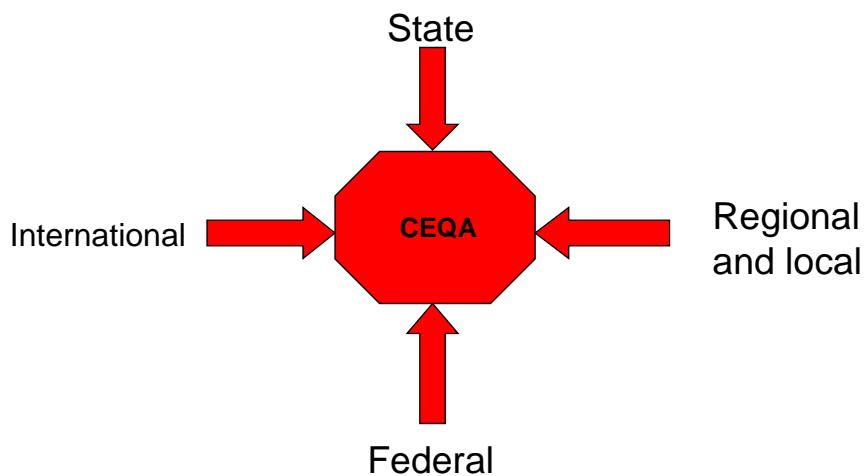
Presented at the SMAQMD Climate Change Workshop  
April 20, 2009

## Unit 2 – Regulatory Framework and CEQA Ten Steps

- Regulatory Framework
  - International Policy
  - Federal Action/Debate
  - State legislation
  - State agencies
  - The Attorney General
  - Regional/Local Efforts
- CEQA Ten Steps



## Laws, Programs, and Policies Influencing Climate Change Analysis under CEQA



## U.N. Framework Convention on Climate Change (Rio de Janeiro, 1992)

- 192 countries ratified (including U.S.)
- Gather and share information on emissions
- Launch national strategies to address emissions
- Cooperate in developing strategies for adaptation to oncoming climate change



## Kyoto Protocol (1997)



- Intended as a first step, not as a final solution
- Committed developed countries to stabilize GHG emissions
- Entered into force in 2005 when Russia ratified.
- U.S. never ratified

## Kyoto Protocol (Cont.)

- 37 developed countries (Annex 1)
  - Committed to reduce an average of 5% below 1990 levels by 2012.
- Remaining 137 signatories were developing countries (Non-annex)
  - Monitor and report emissions
  - No committed emission reductions
  - Participate in the Clean Development Mechanism to obtain assistance from Annex 1 countries
- Who has achieved their targets to date?
  - U.K., Germany, former Soviet Block countries

## Bali, 2007

- Acknowledged evidence for global warming
- Cutting emissions
  - Called for reductions by developed countries (exact targets to be negotiated later)
  - Provides mechanism for financial assistance to developing countries
- Adaptation: support for poorer countries to develop adaptation measures
- Forests: Policy and incentives to prevent deforestation



## Copenhagen, 2009: A Successor to Kyoto?



## What is the Federal Government doing?

- Stimulus (American Reinvestment and Recovery Act)
  - \$71 billion for clean energy investments
  - \$20 billion in clean energy tax incentives
- U.S. Budget
  - Presumes Cap and Trade System
    - 14% below 2005 by 2020
    - 83% below 2005 by 2050
    - \$650 billion from 2012 and 2019
  - \$15 billion/year for renewables and efficient vehicles
  - Currently in House-Senate Reconciliation
  - Thune and Boxer Amendments: Cap and Trade can collect funds: "without increasing electricity or gasoline prices or increasing the overall burden on consumers"



## Congress: ACESA [Waxman-Markey]

- American Clean Energy and Security Act of 2009 (ACESA) [Waxman-Markey; 648 pages]
  - Cap and Trade System
    - 85% of U.S. Emissions
    - Sources > 25,000 tons of CO<sub>2</sub>e
    - Reductions
      - 3% below 2005 by 2012
      - 20% below 2005 by 2020
      - 42% below 2005 by 2030
      - 83% below 2005 by 2050
    - Offsets, Banking, and Reserves
  - Support for International Deforestation Prevention



## Congress: ACESA [Waxman-Markey]

- Energy
  - Renewable Portfolio Standard (6% by 2012; 25% by 2025)
  - Utilities energy Efficiency (0.75 – 1% in 2012; 10-15% in 2020)
  - Carbon Capture and Sequestration (CCS) promotion
  - Support for Energy Efficiency
  - Smart Grid/Transmission
- Vehicles and Fuels
  - Low Carbon Fuel Standard
  - Fuel Economy /Mobile Source Emission Standards
- Other
  - Emission Standards for Sources not in Cap and Trade
  - Programs for HFCs and black carbon.
  - Exempts GHGs from Clean Air Act and New Source Review

## Congress: Cap and Dividend [Van Hollen]



- Cap and Dividend Act of 2009 [Van Hollen; 20 pages]
  - Emissions reductions targets at 25 percent below 2005 levels by 2020 and 85 percent below 2005 levels by 2050 for covered emissions.
  - Upstream compliance obligation on the first seller of fossil fuels into the U.S. market.
  - Auction 100 percent of carbon permits.
  - Tariffs to protect U.S. manufacturers of carbon-intensive goods from imports of carbon-intensive goods originating in countries.
  - Return 100% of auction proceeds in the form of a monthly Consumer Dividend to every lawful resident of the United States with a valid Social Security number.

## What is the Federal Government doing?

- Federal Agencies
  - CEQ
    - Old NEPA guidance withdrawn
    - No new NEPA guidance....yet
  - EPA
    - Preliminary Endangerment Finding (Clean Air Act)
    - California Waiver (AB 1493)?
    - Commenting on Draft EISs on an ad hoc basis
  - Other agencies
    - addressing GHG/Climate Change on an inconsistent and hoc basis



## AB 32 and S-03-05

- Recognized the Climate Change problem facing California
- Established the following greenhouse gas emission reduction targets for California:
  - by 2020, reduce GHG emissions to 1990 levels.
- Gov's Executive Order S-3-05 established targets for state agencies:
  - by 2010, reduce GHG emissions to 2000 levels;
  - by 2050, reduce GHG emissions to 80 percent below 1990 levels.
- Gov's Executive Order S-20-06 requires state agencies to coordinate their efforts on GHG/Climate change issues under the auspices of Cal EPA.

## ARB Draft Scoping Plan Adopted December 2008

**Regional Transportation-Related GHG Target of 5 MMT CO<sub>2</sub>e**

**Recommended Goal for Cities and Counties of 15% reduction below current levels**

### Proposed Scoping Plan

### II. Recommended Actions

**Table 2: Recommended Greenhouse Gas Reduction Measures**

Recommended Reduction Measures	Reductions Counted Towards 2020 Target (MMT CO <sub>2</sub> e)
<b>ESTIMATED REDUCTIONS RESULTING FROM THE COMBINATION OF CAP-AND-TRADE PROGRAM AND COMPLEMENTARY MEASURES</b>	
	<b>146.7</b>
California Light-Duty Vehicle Greenhouse Gas Standards	
• Implement Policy standards	
• Develop Particles II light-duty vehicle standards	31.7
Energy Efficiency	
• Building appliance efficiency, new programs, etc.	26.3
• Increase CHP generation by 30,000 DTh	
• Solar Water Heating (all LDCs)	
Renewables Portfolio Standard (RPS by 2020)	21.3
Low Carbon Fuel Standard	15
Regional Transportation-Related (RTS) Targets <sup>14</sup>	5
Vehicle Efficiency Measures	4.5
Goods Movement	
• Ship Electrification at Ports	3.7
• System-Wide Efficiency Improvements	
Million Solar Roofs	2.1
Medium Heavy Duty Vehicles	
• Heavy-Duty Vehicle Greenhouse Gas Emission Reduction (Arbitrarily Efficiency)	1.4
• Medium- and Heavy-Duty Vehicle Hybridization	
High Speed Rail	1.0
Industrial Measures (for sources covered under cap-and-trade program)	
• Refinery Measures	0.3
• Energy Efficiency & Co-Benefit Analysis	
Additional Reductions Necessary to Achieve the Cap	34.4
<b>ESTIMATED REDUCTIONS FROM UNCAPPED SOURCE SECTORS</b>	<b>27.3</b>
High Global Warming Potential Gas Measures	20.2
Sustainable Forests	5.0
Industrial Measures (for sources not covered under cap and trade program)	
• Oil and Gas Extraction and Transmission	1.1
Recycling and Waste (landfill methane capture)	1.0
<b>TOTAL REDUCTIONS COUNTED TOWARDS 2020 TARGET</b>	<b>174</b>
<b>Other Recommended Measures</b>	<b>Estimated 2020 Reductions (MMT CO<sub>2</sub>e)</b>
State Government Operations	1-2
Local Government Operations	THD
Green Buildings	20
Recycling and Waste (other measures)	9
Water Sector Measures	4.8
Methane Capture at Large Dairies	1.0

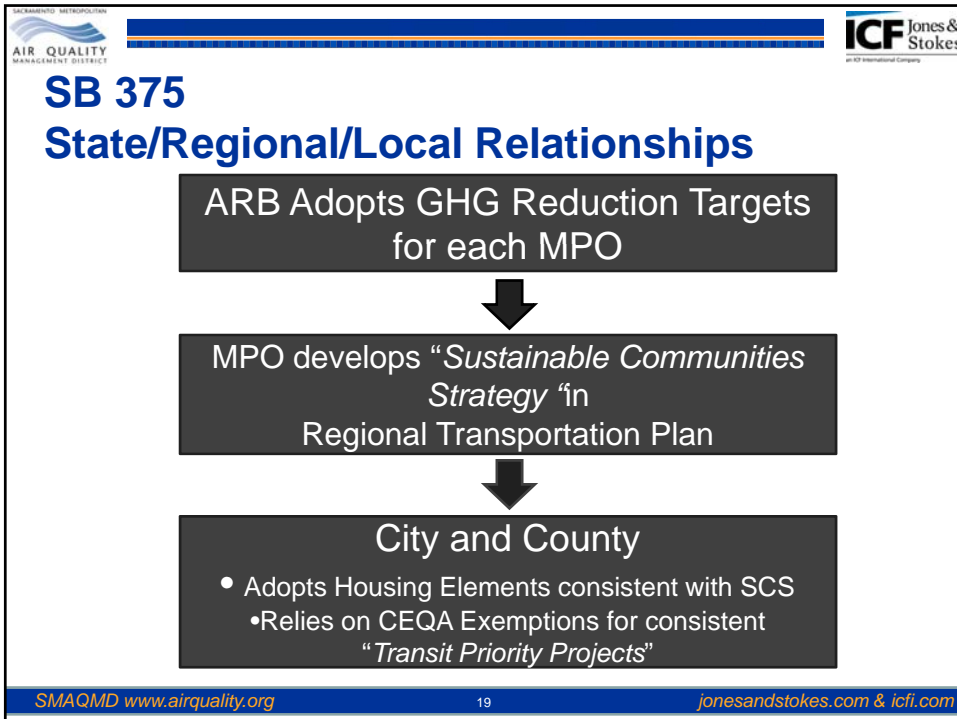
<sup>14</sup> This number represents an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target. AQMD will establish regional targets for each Metropolitan Planning Organization (MPO) region following the input of the Regional Targets Advisory Committee and a public consultation process with MPOs and other stakeholders per SB 375.

## SB 375 (Steinberg)

- Regional Targets Advisory Committee (RTAC) to develop regional goals  
(<http://www.arb.ca.gov/cc/sb375/rtac/rtac.htm>)
- ARB to provide each MPO with a GHG reduction target by September 30, 2010
- MPO must include in Regional Transportation Plan (TRP) a “Sustainable Communities Strategy” designed to achieve the ARB target
- ARB reviews whether SCS will meet target
- MPO, if unable to achieve ARB target, must establish an “Alternative Planning Strategy “

## SB 375 Overview

- Cities and counties must amend Housing Elements every 8 years to conform to the RTP; and re-zone land accordingly within 3 years
- Creates a new CEQA exemption for “Sustainable Communities Projects” that are consistent with SCS or APS
- Creates “Transit Priority Project” EA and
- Residential and Commercial streamlining procedures for certain projects



- Draft OPR CEQA Guidelines Amendments for GHG Emissions (released April 13, 2009)**
- **Significance**
    - Identifies factors to consider in determining whether GHG emissions have a significant effect on the environment (Sec. 15064.4)
    - No specific thresholds (...but CARB is working on them)
  - **Mitigation**
    - Categories of mitigation for GHG impacts (Sec. 15126.4)
  - **Cumulative Impacts**
    - GHG impacts must be considered in determining the whether a project makes a considerable contribution to a cumulative impact (Sec. 15130)
  - **Initial Study Checklist (Appendix G)**
    - GHGs Added
- The slide includes logos for the Sacramento Metropolitan Air Quality Management District and ICF Jones & Stokes at the top. The footer contains the website 'SMAQMD www.airquality.org', the number '20', and the website 'jonesandstokes.com & icfi.com'.

## Draft CEQA Guidelines Amendments for GHG Emissions (released April 13, 2009)

- Tiering
  - Allows agencies to tier GHG emissions analysis and mitigation off of programmatic analysis if they were subject to a certified EIR (Sec 15183.5)
  - Defines Programmatic CEQA Document for tiering as including:
    - Quantification of current/projected emissions
    - Cumulative threshold based on substantial evidence
    - Analysis of emissions from actions within geographic area
    - Identification of measures to achieve specified emissions level
    - Plan monitoring and amendment if not working
    - Adoption in a public process following environmental review

## California Major Players

- CARB
- CEC
- DWR
- Caltrans
- OPR
- Attorney General



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## Regional and Local Efforts

- Regional
  - RTAC
  - SACOG
  - SMAQMD
- Local
  - Sacramento Green Partnership
  - Green Capital Alliance
  - Sacramento Green Alliance
  - Other



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## Climate Change and CEQA The Ten Steps

- Why Analyze in CEQA?
- Environmental Setting (Steps 1 to 3)
- Impact Analysis (Steps 4 to 8)
- Alternatives (Step 9)
- Mitigation (Step 10)

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## Reasons for Not Evaluating in CEQA



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- "...It is not required...."
- "...we scoped it out of our document...."
- "... the impacts are "speculative" and not foreseeable...."
- "...we can't solve the global problem so why discuss it...?"
- "... why should we worry about polar bears when our project is in Los Angeles...?"



## CEQA Already Requires GHG Emissions and Impacts to be Evaluated

- “To the fullest extent possible the lead agency should integrate CEQA review with ...related environmental review and consultation requirements (CEQA Guidelines sec. 15124(d)(1))
- CEQA documents must identify mitigation for a project’s significant environmental impacts (CEQA Guidelines sec. 15126.4)

## CEQA Already Requires GHG Emissions and Impacts to be Evaluated

- Effects on air quality fall under CEQA’s definition of “Environment” – (CEQA Guidelines sec. 15360)
- CEQA requires evaluation of “direct” and “indirect” and “cumulative” effects – (CEQA Guidelines 15126.2, 151300)
  - GHG emissions are either direct or reasonable foreseeable indirect effects on the human environment
  - Climate change impacts are inherently cumulative and, therefore, of fall within CEQA’s definition of “cumulative impacts” (CEQA Guidelines 15355)

## Another Reason for Evaluating in CEQA...



## Another Reason for Evaluating in CEQA...



- Attorney General's Office
  - Aggressive stance on G.P. and CEQA litigation
  - Commenting on CEQA Documents
  - Settlement agreements
- California courts
  - No appellate decision on GHG yet
  - Several lower court decisions have ruled that CEQA was violated because lead agency failed to evaluate GHG/Climate change impacts

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## Fundamental Aspects of Climate Change Impact Analysis

**Impacts on Climate Change**

- Basic question: What is my project's GHG contribution?
- Desired result: To reduce the contribution to climate change by mitigating GHG emissions

**Impacts of Climate Change**

- Basic questions: How would climate change affect my project?
- Desired result: To adequately prepare a project/plan area for the inevitability of climate change (e.g. "adaptation")

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## What to Include in CEQA Documents

### Ten Steps to Ensuring Full Disclosure

- Environmental Setting
  - **Step 1** – Describe the existing global context in which climate change impacts are occurring and are expected to occur in the future
  - **Step 2**- Summarize the relevant state laws that address climate change (e.g. California Global Warming Solutions Act etc.)
  - **Step 3** – Describe any relevant statewide and/or regional GHG inventories to which the project would contribute

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## What to Include in CEQA Documents Ten Steps to Ensuring Full Disclosure

- Environmental Impacts
  - **Step 4** – Quantify the project's direct and indirect GHG emissions and compare them to baseline conditions, including construction and operations
  - **Step 5** – Convert the GHG emissions into CO2 equivalents using an established "carbon calculator"
  - **Step 6** – Make a significance determination. Discuss whether the project would enhance or impede the attainment of state GHG reduction targets and its relationship to local plans and policies
  - **Step 7** - Describe the cumulative, global climate change impacts to which the project would contribute
  - **Step 8** – Describe how the impacts of global climate change could impact the project

## What to Include in CEQA Documents Ten Steps to Ensuring Full Disclosure

- Alternatives
  - **Step 9** – Include alternatives that would meet the Project Objectives but would also reduce GHG emissions
- Mitigation measures
  - **Step 10** - identify mitigation measures that would reduce GHG emissions

## Potential CEQA findings

### Potential

- Less than significant (=all projects!)
- Less than cumulatively considerable (<threshold)
- Significant and but avoidable with mitigation
- Significant and unavoidable

### Not Recommended

- Not a CEQA issue
- Speculative at a project level