Stanislaus County Regional Greenhouse Gas Inventory Project: Results Overview and Next Steps

STANISLAUS

GHG INVENTORY

ICF International

Wednesday, September 5, 2012
10:00 – 11:00 a.m.

Welcome and Opening Remarks

- Kristin Doud

  Planning and Community Development , Stanislaus County

- Rich Walter and Margaret Williams

  Project Director and Project Manager – ICF International

- Cities, County, and other Stakeholders

  Ceres, Hughson, Modesto, Newman, Oakdale, Patterson, Riverbank, Turlock, Waterford, Stanislaus County, StanCOG

Meeting Agenda

Part 1 (10:00-10:30am):

- Project Overview and Roadmap of the Report
- Overview of Methods and Data Collection
- Unique Challenges
- Next Steps for Climate Action Planning
- Relationship to CEQA

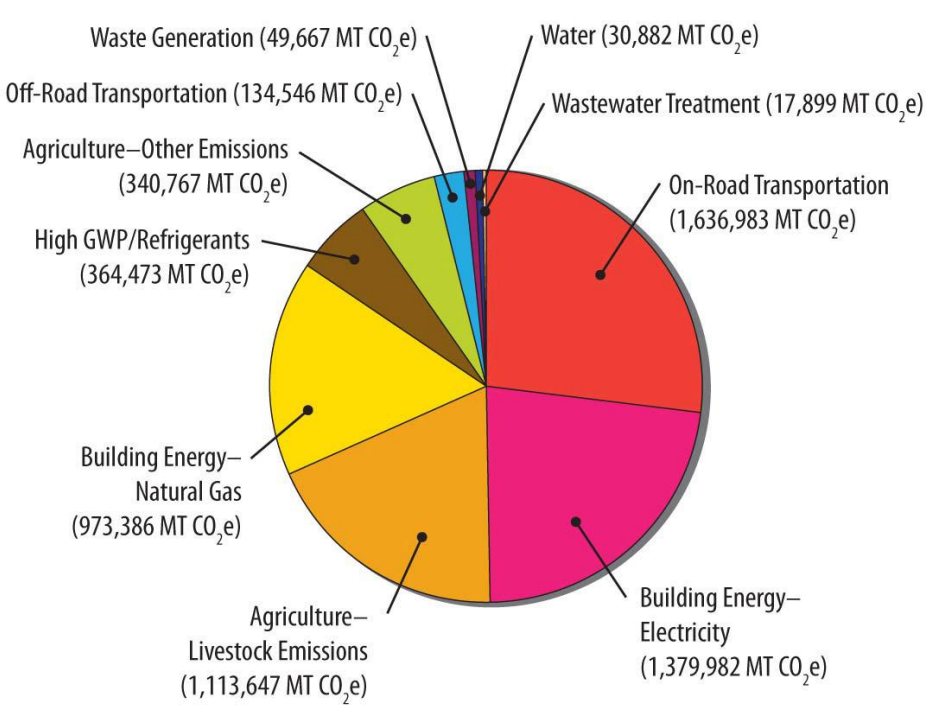
Part 2 (10:30-11:00am):

- Questions and Answers

Project Overview

- Stanislaus County Regional Sustainability Toolkit (RST); California Strategic Growth Council.
- Greenhouse Gas Inventory for 9 incorporated cities and the unincorporated areas of Stanislaus County (10 jurisdictions)
- Report that establishes a baseline for the region and each participant to be used at their discretion
- Excel workbooks containing each project participant's data in a SEEC friendly format

Report



- Provided to all participants in June 2012
- Data for the region as a whole (ES and Ch. 2)
- Individual City Inventories (Ch. 3)
- Background Information (Ch. 1)
- Detailed Description of Methods (Chapter 5)

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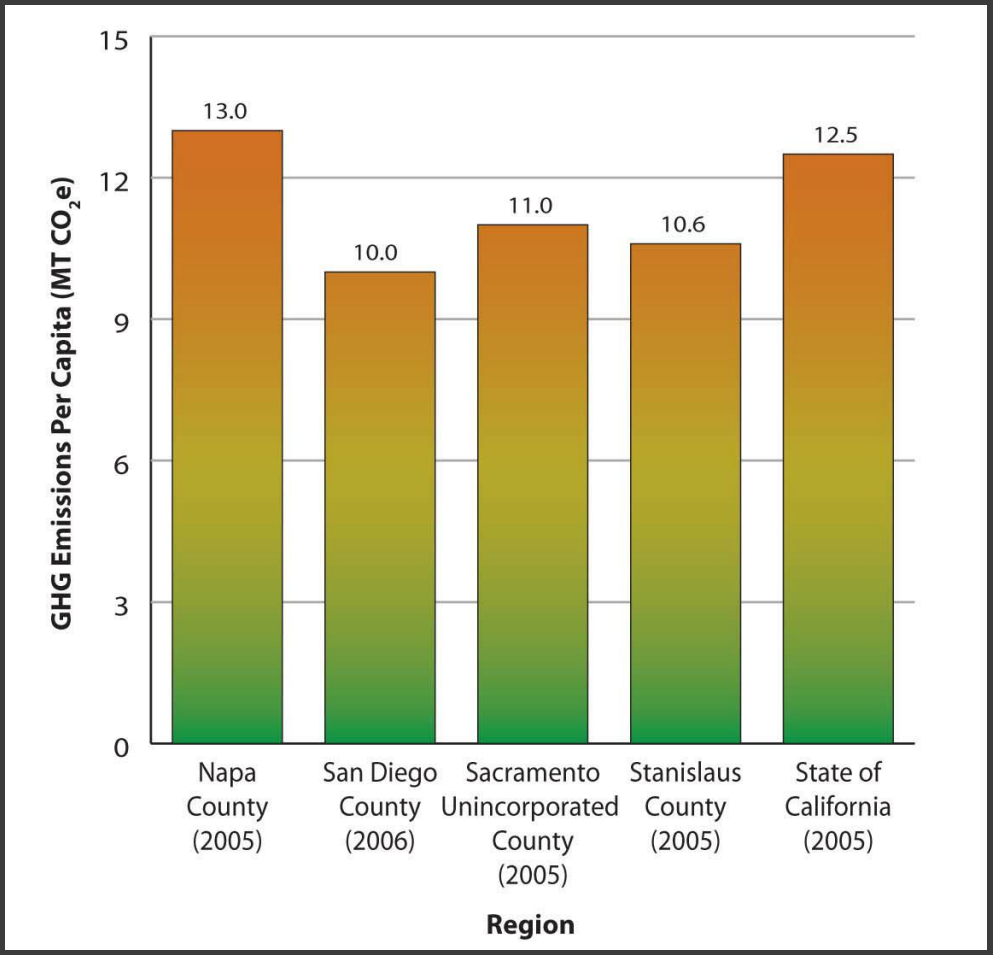

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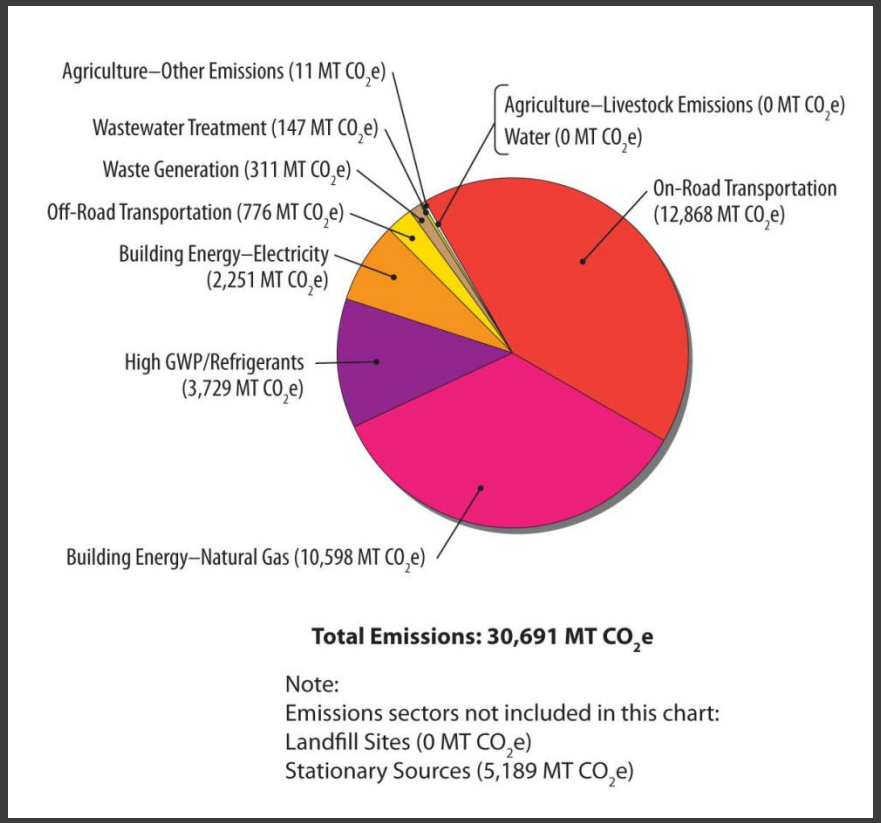

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Example - City of Hughson

Report

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Greenhouse Gas Definitions

Greenhouse Gas—A GHG is any gas that absorbs infrared radiation in the atmosphere. GHGs include, but are not limited to, water vapor, carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrochlorofluorocarbons (HCFCs), ozone (O_3), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6). Of these, all but water vapor and O_3 are regulated under AB 32 and accounted for in the state's GHG inventory.

Community GHG Inventory—The community inventory includes GHG emissions associated with the activities of the community as a whole, including residents, businesses, and the municipal government operations.[2] For example, a community GHG inventory includes emissions due to

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Table 1-1b. California GHG Inventory 2005

Sector	Million MT CO_2e	% of total state emissions
Transportation	186	38
Electric Power	109	23
Commercial and Residential	41	9
Industrial	93	19
Recycling and Waste	7	1
High GWP	14	3
Agriculture	33	7
Wildfire Emissions	< 1	<1
Total	483	100

Source: California Air Resources Board 2011a

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National and State Legislation

Although there is currently no federal overarching law or policy related to climate change or the regulation of GHGs, recent activity indicates that EPA will take a lead role in regulating certain sources. Foremost among recent developments has been the settlement agreements between the EPA, several states, and non-governmental organizations (NGOs) to address GHG emissions from

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Methods

Chapter 5 contains a detailed description of the data collected and the methods used to calculate the emissions if a City wants to complete another comparable inventory at a later date.

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Building Energy

What the Sector Includes

Building energy emissions include both direct emissions from onsite natural gas consumption (heating and cooking) and indirect emissions from electricity consumption. This sector captures both residential and commercial/industrial buildings or facilities. Indirect emissions from electricity consumption occur as a result of combustion of fossil fuels at power plants, although the activity of using electricity occurs (e.g., lighting or air conditioning) within the jurisdiction's boundaries.

Methodology

Electricity and natural gas data usage data (aggregated by end user categories) was collected from utilities serving each jurisdiction. These utilities include: MID, PG&E, and TID. GHG emissions due to electricity use in each jurisdiction were calculated by applying utility and year-specific CO_2 emission factors (MT CO_2e/MWH) to the total electricity consumption within that jurisdiction. CO_2 electricity emission factors for MID and PG&E were taken from Public Utility Protocol Reports[10] (these utilities publicly report their emissions to the California Climate Action Registry), while the CO_2 electricity emission factor for TID was provided by TID. Weighted averages of the emission factors were calculated for cities that receive electricity from more than one utility. Electricity emission factors for CH_4 and N_2O were taken from on E-Grid (U.S. Environmental Protection Agency 2010) values for California and are identical for all three utilities. TID and MID confirmed that no direct access customers are present within their service areas. Electricity consumption data as provided by PG&E accounts for direct access customers within their service area.

Natural gas is provided to all jurisdictions in Stanislaus County by PG&E. Natural gas consumption by end user category within each jurisdiction for 2005 was provided by PG&E. GHG emissions due to natural gas consumption were estimated by multiplying natural gas consumption (therms) by the natural gas emission factors for CO_2, CH_4, and N_2O from the Climate Registry General Reporting Protocol version 3.1 (California Climate Action Registry 2009).

Data Sources

- Electricity consumption by jurisdiction and end user category and 2005 carbon intensity of electricity (residential, commercial, industrial) for 2005—TID
- Electricity consumption by jurisdiction and end user category and 2005 carbon intensity of electricity (residential, commercial, industrial) for 2005—MID
- Electricity and natural gas consumption by jurisdiction and end user category and 2005 carbon intensity of electricity (residential, commercial, industrial) for 2005—PG&E
- CO_2, CH_4 and N_2O emission factors for natural gas combustion—California Climate Action Registry General Reporting Protocol v. 3.1

Methods – Unique Challenges

Agriculture – Used state methods; differences in state level data and USDA level data for livestock; differences in the way in which livestock is classified and counted; no site specific info on manure management practices; County could do a much more detailed analysis in order to examine opportunities for GHG reduction.

Building Energy – TID and MID, not collected by City; Cities with multiple service providers; consistency in reporting of EFs.

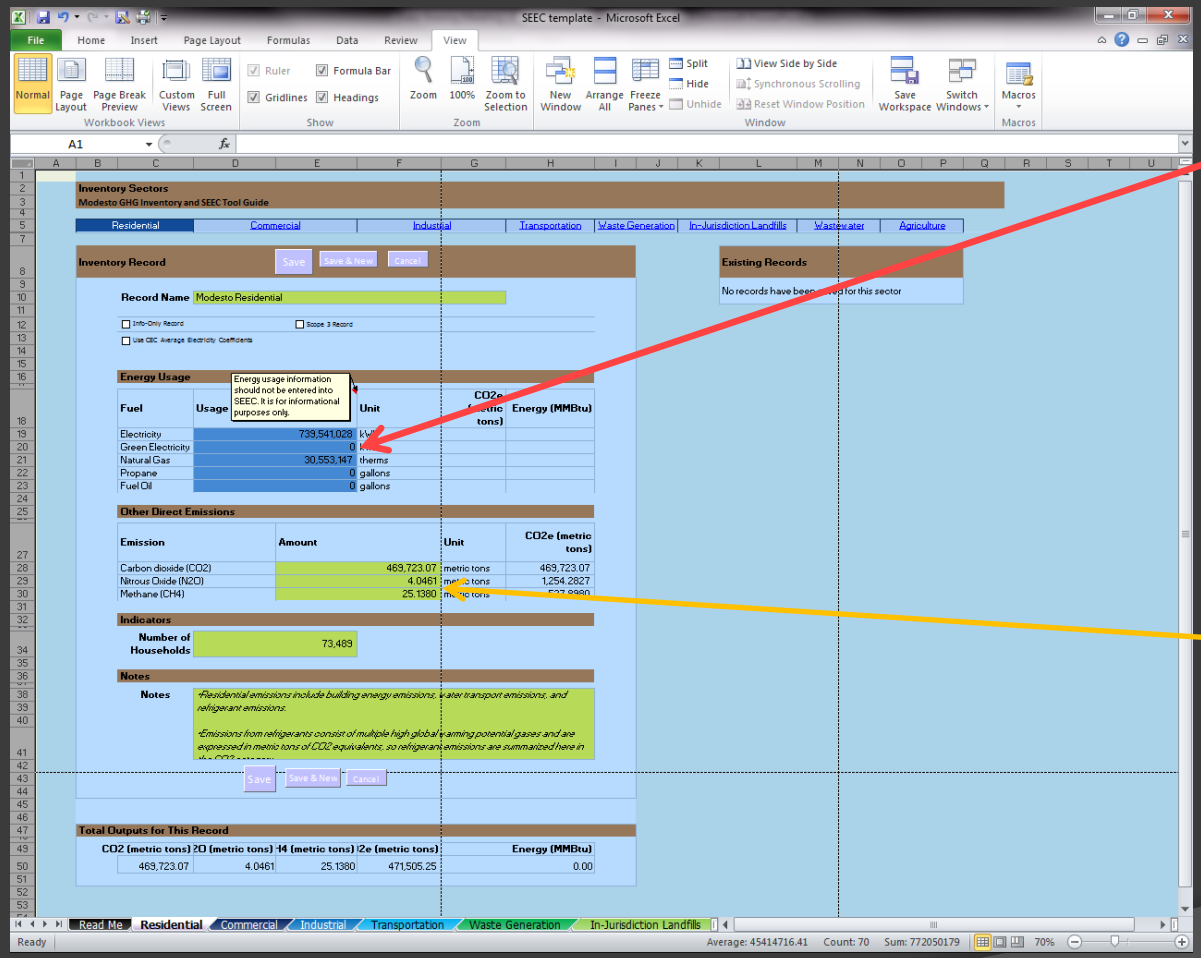
On-Road – Origin-Destination Analysis for the StanCOG region. Will need this model run again.

Waste Generation – Used CalRecycle data + EPA WARM model; Discrepancies between local data and state data. Differences in waste profile assumptions; City specific information would be better for reduction planning.

Wastewater Treatment - Plant specific EFs; technologies at small and large plants; septic users; double counting issues.

Data – SEEC Tool

ICF will provide an Excel workbook with your baseline data and GHG emissions



Cities will have activity data even if not using SEEC to do the calculation.

SEEC allows you to override the calculations and just enter your own. SEEC is used as a record of your inventory and access to resources.

Please Review

MINIMUM:

- Read ES and Chapter 2
- Read your City's section in Chapter 3
- Read Chapter 5
- Questions, comments, revisions to Margaret or Kristin by 9/30

MAXIMUM:

- Read All Chapters and Appendices
- Read other City's sections in Chapter 3
- Questions, comments, revisions to Margaret or Kristin by 9/30

Next Steps for Climate Action Planning

- Adoption of an Inventory does not create an obligation to take action
- …But can be the first step of local climate action, if the municipality decides to do so.

Next Steps for Climate Action Planning

- Potential actions
  - Climate Action Plan (Optional)
  - General Plan Update (Optional)
  - CEQA Compliance on GHG emissions for new project (Mandatory)

Two Basic Planning Approaches

- Climate Action Plan/GHG Reduction Plan
  - Separate from the General Plan
  - Advantages: Can address much more than land use and transportation; focus on GHG reduction; can be amended without amending the General Plan
- General Plan
  - New element or new policies in existing element
  - Advantages: Links GHG reduction to land use and circulation decisions; adaptation can be addressed in land use, conservation, and safety elements

Why Prepare a Climate Action Plan?

California
Environmental
Quality
Act

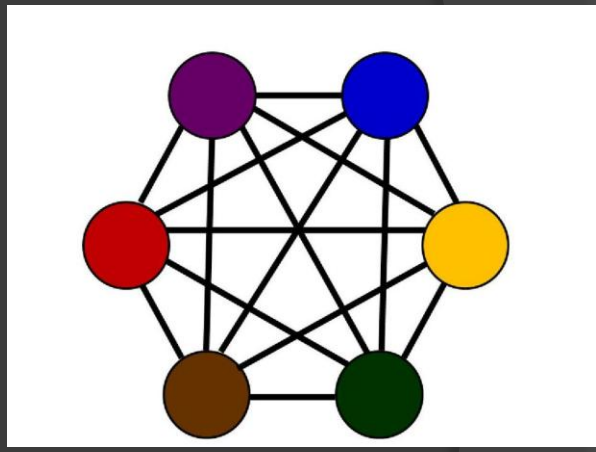
- Assess all GHG emission sources comprehensively and consistently.
- Streamline project approvals and CEQA.
- Identify feasible means to reduce GHG emissions including some that can save the city/community money.
- Identify the local "role" in reducing GHG emissions in light of larger state efforts.
- Take "credit" for prior and ongoing city actions.

What is a Climate Action Plan?

- GHG emissions inventory (*DONE!*)
- BAU emissions forecast
- Emissions reduction target
  - Consider AB 32 Scoping Plan's local role
- Reduction Policies/programs
  - Quantified reduction expectations
- Implementation and monitoring provisions
  - Getting there from here
  - Tracking effectiveness and adapting if needed

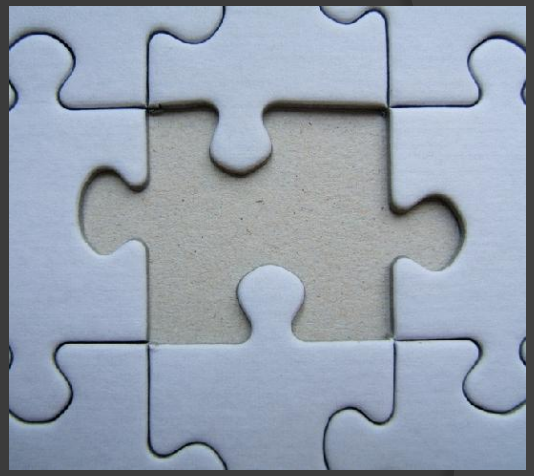
Local Reduction Measures

- Green Building Ordinance
- Energy efficiency/renewable energy upgrades
- Transit-oriented development
- Alternative fuel infrastructure
- Infill development priority
- Waste minimization/reuse/methane capture
- Water conservation
- Changing municipal operations (vehicle fleets, energy/water conservation, renewable energy)
- Etc.

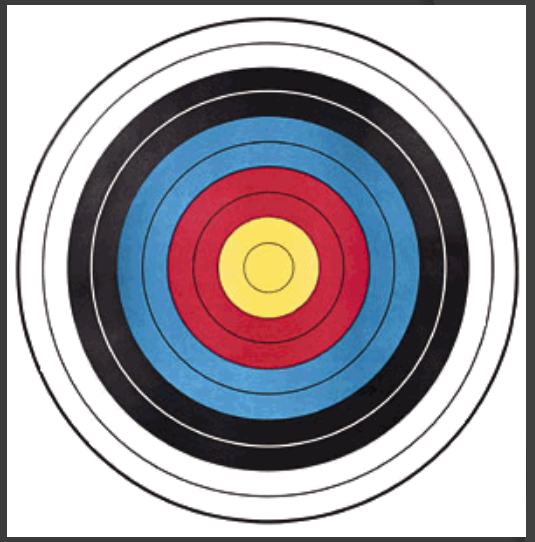


General Plan Update

- Incorporate Climate Change considerations in the mandatory elements
  - Land Use Element
  - Circulation Element
  - Safety Element (Adaptation)
  - Conservation Element (Adaptation)
- Or Adopt an Optional Element
  - Climate Change Element?
  - A component of a Sustainability Element?



GP Update: Contents



- Baseline GHG inventory
  - Background report
- Emissions reduction target
  - Key GP goal
- Policies
  - Consistent with the GP's other policies
  - Implemented through zoning, subdivision, capital improvement program, other mechanisms

CEQA and GHG Emissions

- Only triggered for new discretionary actions
  - New Development Projects
  - Specific Plans
  - General Plan Amendments/Updates
- CEQA Guidelines Updated in 2010
  - Analysis of GHG emissions required
  - Quantification, where feasible.
  - Determination of significance
  - If significant, adopt feasible mitigation
  - Does not specify thresholds

2010 CEQA Guidelines

- Tiering Option per Section 15183.5:
  - Summarizes the use of GHG reduction plans to streamline the CEQA analysis of individual projects
  - Describes the elements that “a plan for the reduction of GHG emissions” should contain.
  - A Climate Action Plan that incorporates these elements will qualify as a GHG reduction plan

2010 CEQA Guidelines: GHG Reduction Plan Requirements

- Quantify GHG emissions
- Establish a reduction target
- Analyze reduction measures
- Monitoring and Adaptation over time
- Approve the plan in a public process with CEQA review
- **BENEFIT: Subsequent projects can tier off of the CEQA review for the Plan**

SJVAPCD CEQA Guidelines

- Guidance:
  - Quantification of GHG emissions
  - Recommends Tiered Significance Thresholds
    - Tier 1: Categorical exemptions
    - Tier 2: Consistency with an approved GHG Reduction Plan
    - Tier 3: Meets Reduction Target of 29% with Best Performance Standards (BPS); no quantification required.
    - Tier 4: Needs project quantification to evaluate if meet 29% reduction target.
- Lead agency are not required to use District guidelines, but are advised to document clearly any departure from guidelines.

Project Inventory Tools

- California Emissions Estimator Model (CALEEMOD) (South Coast AQMD)
  - Calculates GHG emissions for transportation, building energy, waste, water and sequestration
- EMFAC2011 (California Air Resources Board)
  - Calculates emission factors from motor vehicles
- CT-EMFAC (California Department of Transportation)
  - Calculates emission factors from motor vehicles
- OFFROAD2011 (California Air Resources Board)
  - Calculates emission factors from off-road vehicles
- Road Construction Emissions Model (Sac Metro AQMD)
  - Calculates construction emissions for roadway projects

Climate Action Planning: Recommendations

- Move past general goals to specific policies and measures
- Focus on direction rather than end-state
- Quantify and consider costs and savings
- Consider co-benefits
- Consider working in a regional forum, where possible
- Involve the public and stakeholders early and often
- Recruit and support champions

Climate Action Planning: Factors for Success

- Community interest/support
- Technical and communication skills
- Connecting outcomes to local benefits
- Leveraging existing and ongoing initiatives
- Identify unique local opportunities
- Integrating climate protection into overarching local goals and policies

Discussion/Q & A

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