



# Voluntary Actions: Behavioral Measures in Local Climate Action Plans

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# Agenda

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- Background
- California Context
- Climate Action Plan Components
- Example Behavioral Measures
- Resources and Next Steps

# What are Local Government Climate Action Plans?

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- Local governments = mostly cities, towns, counties
- Climate action plans = strategies, programs, measures to reduce greenhouse gas emissions
  - Within the sphere of influence of jurisdiction (e.g., city boundaries)
    - ICLEI Community Greenhouse Gas Emissions Protocol (US)
    - Electricity/natural gas/water usage, solid waste, gasoline/diesel combustion, industrial emissions
  - Achieve a specified level of emissions reductions
    - Based on state targets/Intergovernmental Panel on Climate Change (IPCC) recommendations
- **Today's focus:** California regulatory environment for climate action plans, and role of behavioral measures

## Background – California Climate Legislation

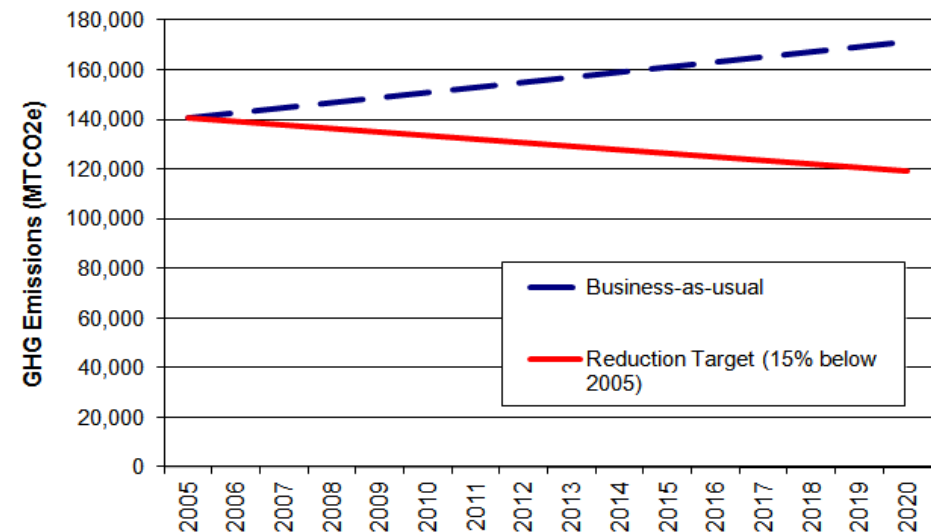
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- 2006: California Assembly Bill 32 (AB 32) Global Warming Solutions Act
  - Reduce greenhouse gas emissions state-wide to 1990 levels by 2020
- 2009: California Environmental Quality Act (CEQA) amended to include greenhouse gases
  - Required whenever cities approve permits for new development projects, city planning documents (General Plans, Specific Plans), large construction projects, etc.
  - Public agency to include greenhouse gas analysis and mitigation in environmental review documents
- 2010: Local air district guidance (Bay Area Air Quality Management District)
  - Climate Action Plans as mitigating strategy in environmental review under CEQA
  - Opportunity to streamline environmental review
- **Result:** Local government climate action plans have regulatory compliance value

# Key Climate Action Plan Components

Bay Area Air Quality Management District provides “Standard Elements of Greenhouse Gas (GHG) Reduction Strategy” (i.e., Climate Action Plan)

1. GHG baseline emissions inventory (2008 or earlier)
2. GHG reduction target
  - Reduce emissions 15% below baseline level by 2020
  - Reduce emissions to 1990 level by 2020
3. Analysis of reductions needed
4. Measures and actions to achieve target emissions levels



## Key Climate Action Plan Components (continued...)

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Bay Area Air Quality Management District provides “Standard Elements of Greenhouse Gas (GHG) Reduction Strategy”

5. Implementation steps and responsible parties/departments
6. Procedure for monitoring and updating GHG inventory (at least every 5 years)
7. Adopt GHG Reduction Strategy in public process following environmental review
  - Public meetings
  - City Council adoption



# Example Typical Climate Action Plan Measures

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- Energy
  - Streamlined or expedited permitting for energy efficient/green building new construction or major remodels, or solar permitting
  - Green building ordinances and beyond Title 24 reach codes
  - Leverage existing energy efficiency programs (e.g., education/outreach, financial incentives for equipment upgrades)
- Transportation and land use
  - Identify neighborhoods and areas for high density, transit-oriented development
  - Safe routes to schools (e.g., walking bus, designated safe routes)
- Solid waste
  - Zero waste goals
  - Mandatory recycling programs
- Water
  - Xeriscaping programs, incentives for low-flow fixtures

# Inclusion of Behavior-based Climate Action Measures

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- Most climate action measures are focused on mandatory and voluntary programs such as use of incentives, rebates, and education/outreach
- Some cities also including behavior-based measures, focused around three types of “challenges”:
  - Individual challenges
  - Residential neighborhood-based challenges
  - Non-residential sectors/city department challenges
- Other supporting measures for social norms
  - City website: Prominent placement of resources to help residents and businesses to reduce fossil fuel energy use and save money
  - Workshops: Education and outreach, peer-to-peer learning



# Individual Challenges

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- “Low Carbon Diet”
  - Based on book by David Gershon, subtitled “a 30 day program to lose 5,000 pounds”
  - City of Berkeley, in partnership with the Ecology Center, supports residents to host workshops to create low-carbon groups:
    - Calculate carbon footprint
    - Create individual goals
    - Goals range from giving up driving to insulating hot water heater to eating more vegetarian meals
    - Motivate and help each other meet these goals
    - Share tips, such as where to find dimmable CFL lightbulbs
- Climate action pledges
  - Initial awareness for residents
  - Important to follow-up with supporting programs and resources
    - e.g., reduced cost home energy audits, technical assistance

# Neighborhood Challenges

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- Neighborhood Energy Challenge

- Redwood Coast Energy Watch program (PG&E)
  - Challenge started in October 2012
  - School-based teams of at least 25 participants
  - Participants get energy assessments, plus other low cost efficiency measures like CFLs, faucet aerators
  - Win cash prize for school's energy project, awarded Earth Day (April 2013)
- City of Stockton (PG&E, Energy Upgrade California)
  - Open to single family homes
  - Includes home energy assessment
  - Aimed at completing energy upgrades, such as insulation upgrades, duct sealing, weatherization, etc

# Non-residential/City Department Challenges

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- ENERGY STAR Guide to Energy Efficiency Competitions for Buildings & Plants
  - Use of ENERGY STAR Portfolio Manager to track energy performance
  - Most applicable to city facilities and commercial buildings
  - May consider aggregating participants by city block, or type of business or industry
  - Different types of recognition targets:
    - Reduce energy use per square foot by certain percent (e.g., 30%)
    - Best in class (e.g., top performers in aggregated group)
  
- May be combined with energy use disclosure programs
  - Buildings over certain size threshold are required to monitor and report energy use

# Resources for Quantifying Greenhouse Gas Reductions

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- Limited studies on effectiveness of behavior-based programs, especially related to personal and neighborhood challenges
  - Most climate action plans roughly estimate greenhouse gas and energy savings, based on expected participation rates
  - Savings impact varies widely depending on program details and implementation
  - Some cities not quantifying these programs, in order to be conservative
- Available resources for greenhouse gas quantification:
  - California State-wide Energy Efficiency Collaborative (SEEC)
    - Numerous tools and resources for climate action planning
    - <http://californiaseec.org/>
  - California Air Pollution Controls Officers Association (CAPCOA)
    - Quantifying Greenhouse Gas Mitigation Measures
    - [www.capcoa.org](http://www.capcoa.org)

# Behavioral Measures in the Context of Climate Action

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- Structural measures yield larger greenhouse gas reductions, but take more time
  - Codes and standards
  - Mixed use, transit-oriented development
- Behavioral measures are harder to quantify, but also support long-term shifts in understanding how our actions contribute to emissions
  - Provides political support for the important structural programs needed for deep emissions reductions
  - Empower individuals to practice what they preach
  - Makes a difference on a local level, including supporting local economy and fostering stronger neighborhood and community ties

# Where are Climate Action Plans Headed?

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- Mitigation/reducing greenhouse gas emissions AND adaptation
  - How to prepare for extreme weather events
  - Recognition of the need to prevent further climate instability
  - Potential for federal climate legislation?
- Implementation of climate action plans written to date
  - Early climate action plans written over a decade ago
  - Only recent legislation resulting in regulatory value of climate action plans
  - Unclear how oversight of implementation actions may or may not occur
- Monitoring and verification of greenhouse gas reductions
  - Updating greenhouse gas inventories
  - Tracking performance (e.g., participation)
  - Evaluation?



Thank you.

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# Best Practices and Challenges

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- Best Practices:
  - Appoint an individual with sufficient availability and expertise
  - Identify supporting resources for participants, both technical and financial
  - Consider business sponsors for cash or in-kind donations