Climate Action Plans
Survey of Best Practices and Implementation
A Seven-Year Update 2018-2025

NAEP Annual Conference
May 6, 2025

California Association of Environmental Professionals Climate Change Committee

Presenters

- Michael Hendrix, AEP Climate Change Committee Chair and Principal at Michael Hendrix Consulting

- Rich Walter, AEP Climate Change Committee Member and Vice President at ICF

- Brian Schuster, AEP Climate Change Committee Member and Senior Consultant at ESA

Celebrating AEP 50 years

California Association of Environmental Professionals (AEP)

- AEP was founded in 1974
- Affiliated with NAEP in 2005
- Currently AEP has over 1,700 members within nine chapters within California
- AEP Highlights:
  - CEQA Portal
  - AEP Institute
  - Legislative Review Committee
  - Climate Change Committee
  - 2018 CEQA and Housing Survey

AEP Climate Change Committee

- Formed in 2006 to address emerging climate change issues.
- Add Hoc Committee meant to disband as soon as the issues were addressed.
- Climate Change Committee Highlights:
  - Published 12 White Papers providing guidance in addressing climate change and air quality related analysis and plans.
  - Provides assistance and guidance to air districts, legislators, and the California Governor's Office of Planning and Research (OPR) in climate change issues when asked.
  - AEP Climate Change Committee White Papers cited by OPR, CalTrans, New York Department of Environmental Conservation to name a few.

Setting the Scene: California and Climate Change

- 2006
  - AB 32 establishes state targets to reduce GHG emissions to 1990 levels by 2020
- 2010
  - SB 97 mandates addressing GHG emissions in California Environmental Quality Act (CEQA) documents for new discretionary development

- 2016
  - SB 32 target to reduce GHG emissions to 40 percent below 1990 levels by 2030.
  - State emissions = 2% below 1990 levels; 11% below 2006; 11.0 MT/capita
- 2022 Carbon Neutrality
  - AB 1279uUpdated State reduction target to be net carbon neutral by 2045 or sooner.

Survey of CAP Best Practices and Implementation

- Randomized initial survey of CAP Best Practices
- Deeper dive re: implementation for select 9 CAPs
- Recommendations
- Acknowledgements:
  - White Paper leader: ***Chris Gray, WRCOG***
  - White Paper contributors:
    - Nicole Vermillion Placeworks
    - Tammy Seale, Placeworks
    - Brian Schuster, ESA
    - Michael Hendrix, LSA
    - Rich Walter, ICF
    - Dave Mitchell, Mitchell Air Quality Consulting

Selecting CAPs for Study

- Identified CAPs in California from CalPoly San Luis Obispo statewide database from (500 CAPs)
- Randomly selected 35 Climate Action Plans and added 3 large cities (> 200K pop. as random sample did not include any).
  - Equal distribution between Northern California and Southern California
  - Equal distribution between urban, suburban, and rural communities
  - Representation of both coastal and inland communities
  - Representation of rural mountain community
  - Two county CAPs
- CAP Initial Survey: Investigated 35 selected CAPs through review of CAP documents to answer 17 questions on CAP structure, content, reporting, and implementation.

CAP Initial Survey Results

Question	Percent with Yes Response
#1- Formal Adoption by Legislative Body	69%
#2- Completed Environmental Document	43%
#3- CAP Update to Previous CAP	9%

CAP Initial Survey Results

Question	Percent with Yes Response
#4- Mitigation Measures	91%
#5- Voluntary and Mandatory Measures	83%
#6- Do the GHG Mitigation Measures Describe the Implementation Party	71%
#7- Do the GHG Mitigation Measures Include Some Which are the Responsibility of the Local Agency	86%
#8- Are there Quantifiable Outcomes Tied to the Mitigation Measures	91%

CAP Initial Survey Results

Question	Percent with Yes Response
#9- Does the CAP Describe Any Monitoring or Feedback Process	77%
#10- Does the CAP Contain Any Information About a Monitoring Tool?	29%
#11- Is there a Recommendation for Regular Updates?	77%
#12- Has the Jurisdiction Completed Any Implementation Reports?	20%
#13- Is there a Specific Department or Person Responsible for CAP Implementation?	63%

CAP Initial Survey Results

Question	Percent with Yes Response
#14- Was the CAP Completed Using Non-Profit Resources	43%
#15- Was the CAP Completed Using any Kind of Grant Resources	51%
#16- Was the CAP Completed using Consultants?	66%

CAP Initial Survey– Observation #1

- Observation #1- Broad range of documents addressing GHG reductions
  - The majority were traditional Climate Action Plans.
  - But also other documents:
    - Sustainability Plans
    - Energy Action Plans
    - Resource Plans.
  - Nearly all of the documents surveyed addressed Climate Change in a by incorporating elements of a CAP such as a GHG inventory or reduction strategies (32 out of 35).

CAP Initial Survey– Observation #2

- Observation #2- Formal Adoption of the CAP was common
- Majority percent of the CAPs were formally adopted by the local legislative body (24 out of 35),
- In some instances, the adoption of the CAP was concurrent with other actions taken by the Agency, such as the adoption of a CAP as part of a General Plan update.

CAP Initial Survey– Observation #3

- Observation #3- Formal Environmental Analysis of the CAP was not common
- Only 15 of the 35 CAPs conducted any type of environmental review.
  - Some were standalone CEQA document like an EIR or Negative Declaration (ND).
  - Some occurred in conjunction with another action, such as the bundling of a CAP with a General Plan Update and an EIR which addressed both documents.
  - CEQA compliance important element to determine whether follow-on projects can tier from CAP.

Celebrating AEP 50 years

CAP Initial Survey– Observation #4

- Observation #4- Almost All CAPs Have GHG Mitigation Measures
- Nearly every document contained some GHG reduction measures (32 out of 35).
- Most had a mix of voluntary and mandatory GHG reduction measures (29 out of the 35)
- Most described responsible party for measure implementation (25 out of 35)
- Many detailed descriptions of which element of the local government would implement the measure.

CAP Initial Survey – Observation #5

- Observation #5- Many CAPs included Monitoring/Feedback
- The majority of the CAPs (27 out of 35) included some description of a proposed monitoring, reporting, or feedback process.
- These same 27 CAP documents also contained some recommendation regarding regular updates to the CAP.

CAP Initial Survey – Observation #6

- Observation #6 …. But Few Agencies Report Progress
- Regular reporting was much less common than general description of implementation and monitoring in the CAP.
- Monitoring or implementation reports on only 7 out of the 35 documents reviewed (20 percent).

CAP Initial Survey– Positive Findings

- Broad range of documents which were addressing Climate Change
- Most formally adopted by the decision-making body of the local agency
- Most incorporated GHG reduction measures, including a mix of mandatory and voluntary measures.
- Most identified responsible parties and implementation details, including recommendations for regular updates and monitoring.

CAP Initial Survey – Challenges

- Only 1 in 5 jurisdictions surveyed prepared any kind of regular monitoring or reporting document.
- As a result, difficult to assess implementation success based on available reporting only.

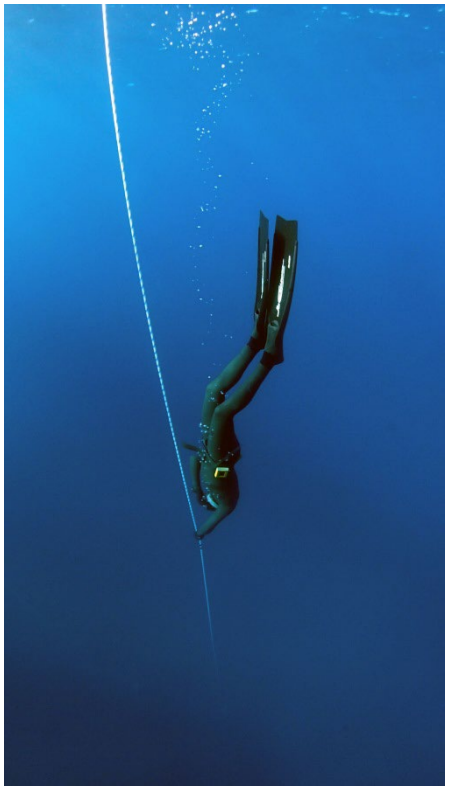
So…What's Going On ….w/ CAP Implementation?

- Scenario #1- Implementation is occurring but jurisdictions are not reporting their progress.
- Scenario #2- Jurisdictions are not actively implementing their GHG reduction measures, but reductions are occurring due to state and private actions.
- Scenario #3- Jurisdictions are making limited progress toward implementation and because of this lack of progress, limited GHG reductions are occurring.

Celebrating AEP 50 years

CAP Implementation Analysis– Deep Dive

- San Diego CAP (urban So Cal coast)
- Paso Robles CAP (rural central coast)
- Marin County CAP (Northern California County)
- Emeryville (Suburban Northern California coast)
- Murrieta (Southern California suburban inland)
- Mono County CAP (rural Central California inland mountain community)
- San Francisco CAP (urban Bay Area)
- Hesperia CAP (High Desert suburban community)
- Walnut Creek CAP (suburban Bay Area community)
  - *Survey questionnaire of 20 question specific to implementation*



Deep Dive – Conclusion #1

- **Regardless of the size of the local agency or its resources, every agency has implemented tangible strategies to address GHG Emissions**:
- Range of strategies includes:
  - Zoning code amendments to allow more rooftop solar installations (City of Hesperia)
  - Reducing energy use in municipal buildings (Mono County)
  - Facilitating EV chargers in new development (City of Emeryville)
  - Using 100 percent renewable energy for municipalities (Marin County)
  - Conducting a Community Choice Aggregation Feasibility Study (City of San Diego)
- Many of the strategies identified by the local agencies related to municipal operations, local building requirements, and transportation.

Deep Dive – Conclusion #2

- **In General, Larger Agencies Were Able to Achieve Higher Levels of Implementation**
- In general, larger agencies surveyed (City of San Diego, Marin County, and City of San Francisco) had a greater track record of completed actions, as compared to the smaller jurisdictions.
  - City of San Diego: Tangible accomplishments including Citywide Transportation Master Plan, an Urban Forestry strategy, and a new resource recovery center at the Miramar landfill. GHG emissions in San Diego dropped 3.4% in the first full year since CAP adoption in 2015 and GHG emissions in 2016 were 19% below 2010.
  - Marin County: Tangible Results: Community Choice Aggregation effort and Energy retrofit incentives. 2015 emissions were 15 percent below 1990 levels
- Outlier: City of Emeryville: Tangible Results: Municipal Buildings 100% renewable

Deep Dive – Conclusion #4

- **Dedicated Staff is Usually Key**
- City of San Diego: Sustainability Manager and Sustainability Director. Additional staff members for key initiatives such as the effort to implement the use of 100 percent renewable energy in the City.
- Marin County: Three-member Sustainability Team including two Planners and a Marketing and Outreach Specialist.
- Agencies with limited implementation often had no dedicated staff.
- Outlier: City of Emeryville hired no new staff but has been able to implement some of the CAP Strategies.

Deep Dive – Conclusion #5

- **Agencies that Have Something Significant to Report are Reporting Regularly**
- Agencies which are implementing their CAPs at a high level are also regularly reporting on their progress.
  - Examples: Regular reports in Marin County and City of San Diego.
- Those that aren't making significant progress are not preparing regular reports.

Reviews of Large City CAPs in other parts of the United States

- New York City, NY (Northeast)
- Los Angeles, CA (West Coast)
- Chicago, ILL (Midwest)
- Houston TX (Gulf Coast)
- Philadelphia, PA (East Coast)
- Dallas, TX (Central Texas)
- Seattle WA (Northwest)
- Denver CO (Mountain West)
- Portland OR (Northwest)

New York City, New York

- 2007: PlaNYC
- Current Goal: Carbon neutrality by 2050
- Inventories: 1990 – 2005 every 5 years; annually since
- 2017 emissions
  - 17% below 2005 level
  - 5.9 MT/capita
- 2019 Climate Mobilization Act:
  - Emissions caps for buildings over 25,000 square feet (including fines); starting in 2024 retrofitting buildings with new windows, heating systems, and insulation
  - Replacing fossil fuel plants in city with renewables/batteries; renewable energy loan program; roof retrofits (greenroof, solar panels, small wind).
- 2021: Congestion Pricing comes to Manhattan!

Los Angeles, California

- 2008: Green LA Action Plan
- Inventories: Annual since 2013 (periodic before then)
- 2016 Emissions
  - 25% below 1990 level
  - 6.6 MT/capita
- 2019 L.A.s Green New Deal Commitments
  - 50% below 1990 levels by 2025; Net Zero by 2050
  - 100% Renewable Electricity by 2045
  - Electrify 100% Buses by 2030
  - 70% water sourced locally;
  - Recycle 100% of Wastewater
  - Plant 90,000 trees by 2021

Chicago, Illinois

- 2008 – Chicago Climate Action Plan
- Inventories: Every 5 years since 2000
- 2015 emissions
  - 11% below 2005 level
  - 12.0 MT/capita
- Key Current Commitments
  - Committed to Paris Accord
  - Interim Target: 26 to 28% below 2005 levels by 2025.
  - 100% Renewable Electricity by 2035
  - Electrification of CTA bus fleet by 2040

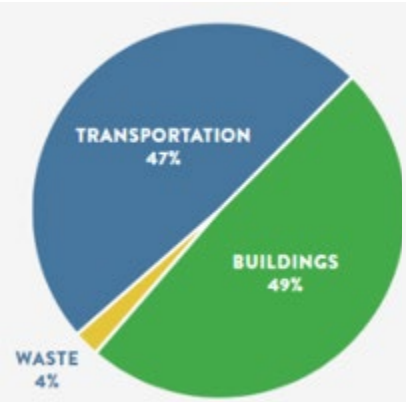
Philadelphia, Pennsylvania

- Inventories: started in 2005; every two years after 2010
- 2014 emissions
  - 17% below 2006 level
  - 11.1 MT/capita
- Key Current Commitments:
  - Reduce emissions 28% below 2006 by 2025; 80% by 2050
  - Clean Energy Vision Action Plan –100% renewable electricity by 2050
  - Connect (Strategic Transportation Plan)
  - Zero Waste and Litter Plan – 90% by 2035
  - Climate Change Mitigation and Adaption Plan by 2020

Figure Credit: Draplin Design Co.

Houston, Texas

- 2014 Community GHG Inventory 34.3 MMT CO_2e
- Draft CAP with Targets to be completed by December 2019.
- Funded by CenterPoint Energy and Shell Oil through the Harvey recovery planning efforts.



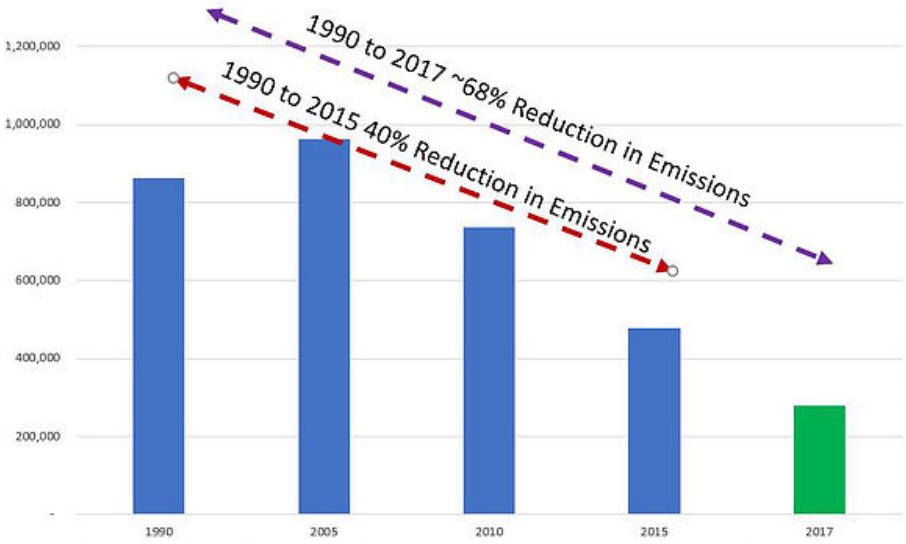
TIMELINE

FALL 2018	WINTER 2018	SPRING-FALL 2019	WINTER 2019	SPRING 2020
PLAN	**MODEL**	**ENGAGE**	**COMPLETE**	**IMPLEMENT**
• Finalize baseline • Stakeholder engagement and task force • Kick-off workshops • Governance and Communication	• Preliminary modeling • Scenario development • Stakeholder engagement	• Stakeholder dialogue • Community town halls • Incorporate feedback • Draft CAP plan	• Stakeholder plan review • Stakeholder meetings • Mayor approval	• City and Community action

Celebrating AEP 50 years

Dallas, Texas

- Comprehensive Environmental and Climate Action Plan (CEAP)
- 2005 baseline and 2017 Inventory update
- Goal: 39% below 1990 levels by 2017.
- Protects public health and safety.
- Seventy-two Percent of residents support reducing GHGs.

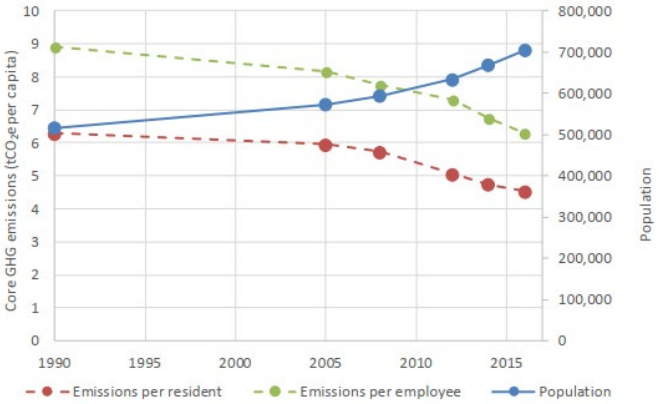


Denver, Colorado

- 2007: first CAP; 2018: 80 x 50 Climate Action Plan
- Inventories: every year from 2005-2016
- 2015 emissions:
  - 20% below 2005 level
  - 16.7 MT/capita
- Key Current Commitments:
  - 80% below 2005 level by 2050; interim targets every 5 years
  - 100% renewable electricity (2030); 50% ↓ in energy use (2050)
  - 30% EV use (2030); 100% electric light-duty vehicles (2050)
  - 40% mode share for transit/walk/bike/telecommute
  - 75% freight and 100% public transit using carbon-free fuel (2050)
  - 2014 Climate Adaptation Plan

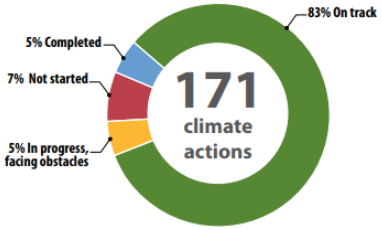
Seattle, Washington

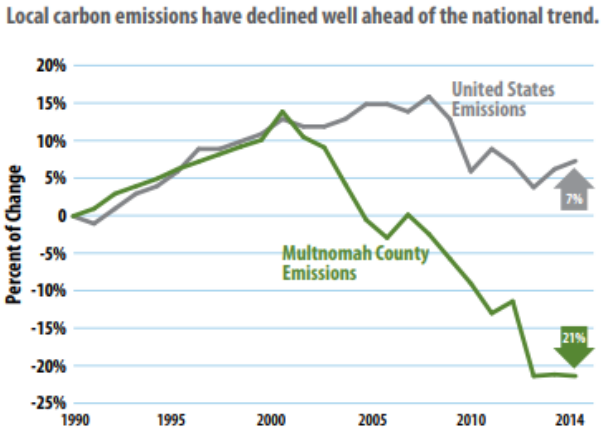
- 2011: adopted 2050 target; 2013: CAP
- Inventories: every few years from 2005-2016
- 2015 Emissions:
  - 5% below 2005 level
  - 4.5 MT/capita (17% decrease)
- Key Current Commitments:
  - Carbon Neutral by 2050
  - 20% reduction in passenger VMT
  - 75% reduction in passenger GHG
  - 25% reduction in building energy use
  - 40% reduction in energy emissions
  - Implementation Strategy document
  - Adaptation: Seattle Climate Preparedness Strategy



Portland, Oregon

- 1993: First U.S. city to create CAP; 2015: CAP Update
- Inventories: annual since 1990; consumption-based
- 2014 Emissions:
  - 21% below 1990 levels
  - 10.0 MT/Capita in 2013





- Regular progress reports; 171 Actions – 83% "on track"
- Key Current Commitments:
  - 80% below 1990 level by 2050
  - net zero carbon new buildings
  - 90% waste diversion
  - 30% reduction in per-capita VMT
  - 10,000 new EVs, carbon tax
  - Climate Action Through Equity Plan

Recommendations to Support Better Implementation

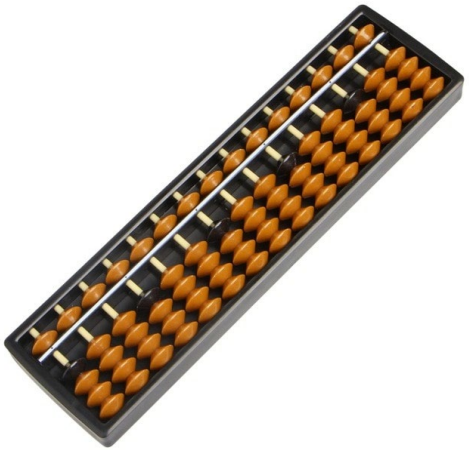
- State (federal?) support agencies to assist with staff for CAP implementation.
  - Funding or staffing assistance for entities unable to dedicate staff.
  - Many CAPs were completed with state or federal grants or received staffing assistance from programs like CivicSpark during the drafting process, but no such funding for implementation staff.

Recommendations to Support Better Implementation

- Shared resources for Implementation Staff?
  - Air Resources agencies, MPO's, other regional agencies could assist with reporting and monitoring.
  - Performing such functions at a regional level could provide a cost-effective way to do so, particularly if States were to allocate funding to this activity, which would allow these agencies to hire additional staff to focus on this issue

Recommendations to Support Better Implementation

- Air resource agencies, regional governments, or other regional entities could help with CAP monitoring by providing GHG inventory assistance.
  - Examples: Los Angeles Regional Collaborative (LARC), San Bernardino Council of Governments (SBCOG), formerly San Bernardino Associated Governments (SANBAG).
  - Preparation of multiple GHG inventories at the same time is much more efficient than one by one preparation.
  - A regional entity could prepare GHG inventories for local jurisdictions on a more frequent basis than individual cities, in particular, smaller cities.



Recommendations to Support Better Implementation

- Consultants preparing CAPs should also consider agency resources when preparing CAPs.
  - If agency is not able to provide dedicated staffing for the CAP, craft measures more readily implemented by the local agency staff with available resources.
  - Developing checklists for development review and approval process or other tools during CAP development, not after.

Recommendations to Support Better Implementation

- Wide disparity in policy-level support for CAP implementation even if CAP initially development.
- State/regional support for more expansive bottoms-up public engagement and participation
- In some communities co-benefits of actions, such as local economic development, air quality and health may be more important and more immediate than broader climate change concerns.
- Locally led engagement that promotes a locally appropriate dialogue.

Questions

Thanks…and Contact Information

- **Michael Hendrix, MHC**
  - MHendrix@MichaelHendrixConsulting.com
  - Tel: 951-236-1896
- **Rich Walter, ICF**
  - Rich.Walter@icf.com
  - Tel: 510-290-1860
- **Brian Schuster, ESA**
  - Bschuster@esassoc.com
  - Tel: 415-262-2308

Link to AEP Climate Change Committee White Papers:
https://www.califaep.org/climate-change