

Strategies for Extreme Heat Disasters:

Institutional Design and Policy Instrument Analysis

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Introduction

- ❖ **Local Climate Governance:** Under California's statewide climate framework, municipalities actively utilize Climate Action Plans (CAPs) to shape and institutionalize local climate actions.
- ❖ **Pathway Heterogeneity:** Even when operating under identical state mandates, local cities develop highly diverse and customized climate governance trajectories.
- ❖ **Research Gaps:** While literature thoroughly documents CAP effectiveness, it remains unclear why—and under what political, geographic, and institutional conditions—cities diverge so sharply in their pathways..

Research Questions

- ❖ How do Alameda County cities strategically leverage CAPs to promote and anchor local climate action?
- ❖ Why do municipalities under the same state-level policy framework develop fundamentally different climate governance pathways?
- ❖ What specific political, geographic, and administrative factors drive and shape these localized climate trajectories?

Methods & Material

- ❖ **Methodology:** This study employs a Qualitative Comparative Analysis (QCA) approach to examine institutional designs.
- ❖ **Analyzed Materials:** Document analysis of Climate Action Plans (CAPs), Community CAPs (CCAPs), General Plans, Climate Emergency Resolutions, sustainability reports, and public climate dashboards.
- ❖ **Comparison Metrics:** Pathways were evaluated based on emission reduction targets, building electrification policies, transportation decarbonization, climate justice, adaptation strategies, and state-local policy alignment.

CAP Evolution

- ❖ **First-Generation CAP (Early Framework)**
Core Logic: Carbon management and administrative mitigation.
Key Focus: Government operational emissions, energy efficiency, and basic greenhouse gas inventories.
- ↓ Evolved into ↓
- ❖ **CAP 2.0 (Modern Framework)**
Core Logic: Integrated climate governance and local climate action.
Key Focus: Deep decarbonization, building electrification, resilience adaptation, climate equity, and quantitative dashboards.

Discussion

- ❖ **Highly Localized Action:** Local climate action remains highly fragmented and localized despite operating under a shared state policy framework.
- ❖ **Political Culture as a Path Dictator:** A city's political culture strongly shapes its governance pathway—directing resource-rich, progressive cities toward structural equity, while directing suburban cities toward technocratic metrics.
- ❖ **The Centrality of Electrification:** Building electrification has transitioned from a fringe green policy to the absolute strategic core of CAP 2.0.
- ❖ **Platform Shift:** CAPs have successfully evolved from static carbon-accounting spreadsheets into dynamic governance platforms driving urban energy transition and hazard adaptation.

Takeaways

- ❖ **Rejecting Template Copying:** Municipalities must design climate plans (CAPs) that align with local political mobilization capacity and administrative resources, rather than blindly copying hyper-mobilized pioneer models to prevent empty compliance.
- ❖ **Mitigation-Adaptation Integration:** Coastal and hazard-vulnerable cities should collapse carbon mitigation and hazard adaptation (LHMP) into a single cohesive resilience platform (like Alameda's CARP) to optimize municipal funding.
- ❖ **Double-Track Policy Tooling:** Leverage quantitative dashboards for administrative tracking while actively deploying community-led co-production frameworks to mitigate social friction during aggressive electrification phases.

Typology	Cases	Core Logic	Major Policy Instruments	Policy Style / Mobilization
Climate Justice / High Mobilization	Oakland Berkeley	Climate action as social transformation, equity governance, and structural reform.	Climate emergency declarations; natural gas bans; full building electrification.	Highly politicized; strong community mobilization.
Technocratic / Regulatory	Fremont Hayward Pleasanton Dublin	Climate action as technocratic governance and quantified decarbonization.	Dashboards; CEQA integration; quantified reduction targets.	Regulatory and technocratic; moderately politicized.
Pragmatic Suburban / State-Following	Union City Newark Albany	Climate action as administrative responsibility and state policy implementation.	Early-generation CAPs; General Plan integration; voluntary measures.	Pragmatic and conservative; low political mobilization.
Resilience / Risk Governance	Alameda	Climate action as urban risk governance and resilience planning.	CARP; LHMP; flood governance; sea level rise adaptation.	Adaptation and disaster-oriented; moderately politicized.