UCDAVIS
Graduate Program of
Environmental Policy and Management

To: Senator Bill Dodd

From: JieQi Yan

Date: June 2nd, 2023

RE: Evaluating Criticisms of California's Climate Mitigation Policy

---

Cap-and-Trade and the Complementary Measures

California's cap-and-trade (T&C) system is a market-based approach that aims to create economic incentives for industrial entities to reduce greenhouse gas (GHG) emissions. However, clean air management poses a complex problem that cannot rely solely on economic-driven actions. It is important to consider adding complementary measures to the current aggressive C&T program to allow policymakers to combine multiple strategies to address sector-specific challenges, promote technology development, and tackle environmental justice concerns.

Impact on California's Industries and Overall Economy

Despite concerns about the potential economic side effects of implementing the C&T program to reduce GHG emissions, most Americans do not support this argument. Over the past decade, even during economic hardship, the percentage of Americans who believe addressing climate change will negatively affect the economy remained stable and low from 2010 to 2020, at 27% and 29%, respectively (Krosnick and MacInnis, 2020). Evidence of California's climate policy providing economic benefits can be observed throughout the state. For example, a report by the UC Berkeley Center for Law, Energy, and the Environment (CLEE) on the economic impact of major climate programs in the San Joaquin Valley revealed that the current aggressive C&T program with complementary measures directly provided "...benefit of $119 million to the San Joaquin Valley, and boosted the economy by $200 million when you include indirect and induced

economic benefits" (CLEE, 2017a). Similarly, in the Inland Empire region, evidence of economic improvement of "$25.7 million from the first four years of program implementation (2013-2016)" (CLEE, 2017b).

The Permit Market

Although C&T allows for price variations, the price of permits is regulated through containment reserves and price ceilings to ensure market stability and effectiveness. The California Air Resources Board (CARB) provides an Allowance Price Containment Reserve for covered entities to access permits within a reasonable price range while implementing a price ceiling to prevent unfair market values and uncontrolled price spikes (CARB, n.d.).

Considering Additional Complementary Policies

The term "complementary policies" may be familiar to many people from Robert N. Stavins' argument that complementary policies like the Low Carbon Fuel Standard is "...not reducing net emissions, while driving up statewide abatement costs, and suppressing allowance prices in the cap-and-trade market" (Stavins, 2016). However, it is important to note that Stavins' argument solely focuses on the GHG emission reduction aspect of California's climate policies and overlooks the significant role of renewable energy procurement.

Energy legislation such as Senate Bills 350 and 100 requires the state to procure 60% of its electricity from renewable sources by 2030 and 100% from carbon-free sources by 2045, respectively (de Leon, 2015 and 2018). Although these complementary policies may not be the

most efficient in GHG emissions reduction, they play a crucial role in driving technology development and reducing toxic pollutants. Thus, complementary policies should be supported. Their value should not be evaluated only on GHG reduction but also on their contribution to advancing cleaner energy technology and improving overall environmental quality.

Environmental Justice Concerns

Lastly, it is crucial to address the concern about the impact of the C&T program on widening the environmental justice (EJ) gap. CARB claims that "there is no evidence that the Cap-and-Trade program has exacerbated local air pollution in environmental justice communities" (CARB, 2021). However, CARB also acknowledges the difficulty in tracking the relationship between the C&T program and local air pollution with other existing programs that may also influence air quality.

To comprehensively analyze the effect of the C&T program on the EJ gap, Hernandez-Cortes and Meng (2023) employ an explicit pollution dispersal model to assess the spatial shifts in pollution concentration that may occur due to the C&T program. Their result found that between 2008-2012, the EJ gap had been widening until the implementation of C&T in 2013, where the "...EJ gap trend fell by 150%, 140%, and 170% for PM2.5, PM10, NOx,

respectively…"(Hernandez-Cortes and Meng 2022). The EJ gap continues to decrease slightly over time, whereby 2017's pollution level is about the same as in 2008. However, the narrowing of the EJ gap is not the same across California where "...EJ gaps narrowed the most for disadvantaged zip codes in California's Central Valley…" but Los Angeles County had "...experienced widening post-C&T EJ gaps" (Hernandez-Cortes and Meng 2022). In

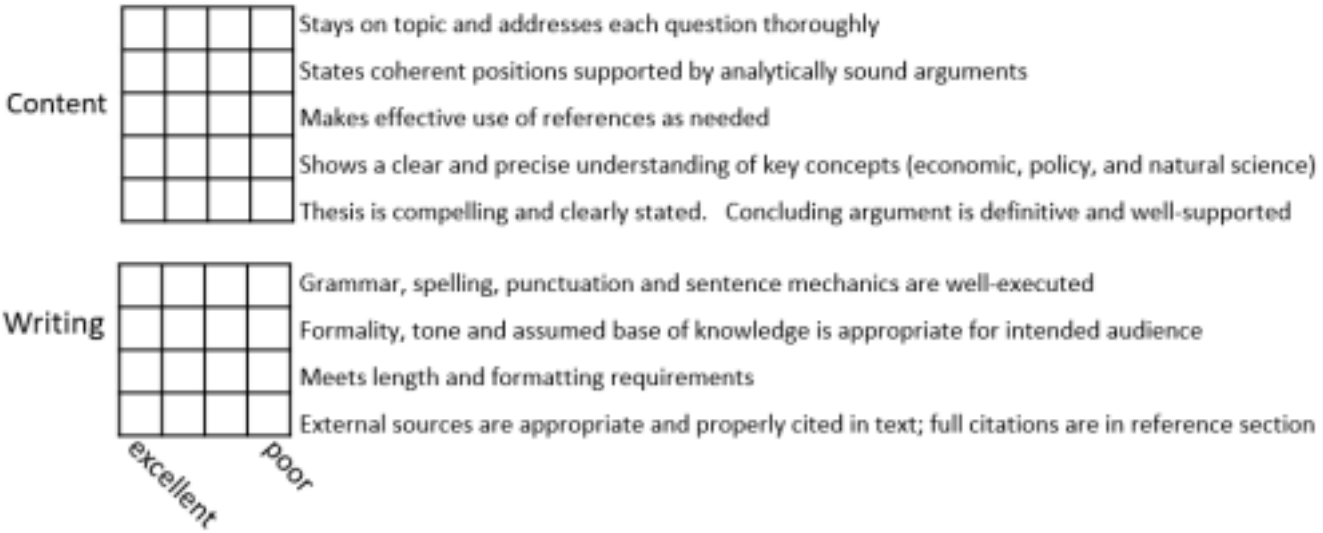
situations like Los Angeles County, the additional complementary measure is critical in addressing the EJ gap.

Conclusion

Combining the aggressive C&T program with complementary measures has demonstrated the potential for positive economic impacts, advancements in renewable energy, and the narrowing of EJ gaps in most regions. Additionally, there are no concerns regarding uncontrolled market prices of C&T due to the price regulations implemented by CARB.

UCDAVIS
Graduate Program of
Environmental Policy and Management

Word count:786



Reference

California Air Resources Board. “Cost Containment Information .” ww2.arb.ca.gov. Accessed June 2, 2023. https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/cost-containment-information.

California Air Resources Board. “FAQ Cap-And-Trade Program,” 2021. https://ww2.arb.ca.gov/sites/default/files/2021-05/nc-FAQ_CT_Jan2021.pdf. Center for Law, Energy, and the Environment. “The Economic Impacts of California’s Major Climate Programs on the San Joaquin Valley.” Berkeley Law, 2017. https://www.law.berkeley.edu/research/clee/research/climate/economic-impacts-of-californias-major-climate-programs-on-the-san-joaquin-valley/.

Center for Law, Energy, and the Environment. “The Net Economic Impacts of California’s Major Climate Programs in the Inland Empire.” Berkeley Law, 2017. https://www.law.berkeley.edu/research/clee/research/climate/net-economic-impacts-californias-major-climate-programs-inland-empire/.

Hernandez-Cortes, Danae, and Kyle Meng. “Do Environmental Markets Cause Environmental Injustice? Evidence from California’s Carbon Market.” *SSRN Electronic Journal* 217, no. 104786 (2022). https://doi.org/10.2139/ssrn.4041857.

Krosnick, Jon, and Bo MacInnis. “Climate Insights 2020: Policies and Politics.” Resources for the Future, September 23, 2020. https://www.rff.org/publications/reports/climateinsights2020-policies-and-politics/. León, Kevin de. Senate Bill No. 350, leginfo.legislature.ca.gov § (2015). https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201520160SB350. León, Kevin de. Senate Bill No. 100, Ca.gov § (2018). https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100.

Stavins, Robert N. “State’s Low Carbon Fuel Standard Doesn’t Cut Net Emissions.” Capitol Weekly, January 27, 2016. https://capitolweekly.net/low-carbon-fuel-standard-emissions-cut8909-2/.