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2019 IEMAC Affordability Sub-Committee Recommendations

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As California's climate ambition increases, the costs of achieving our GHG mitigation goals are expected to rise. This brings concerns about affordability to the fore. Affordability is a concern that spans a broad range of consumer expenditure categories in California –electricity, transportation, housing, and more. Given time constraints and the complexity of these issues, we have focused on two areas in our recommendations, high electricity prices and overlapping (sometimes called "complementary" or "companion") climate policies.

Electricity Prices

High electricity prices pose two formidable challenges for the state's ambitious climate change policies:

- First, with increasing amounts of renewable electricity, the electrification of transportation and buildings could offer the most cost-effective path to deep de-carbonization. However, high electricity prices could also slow transitions away from gasoline, diesel and natural gas if the cost to power an electrification alternatives.
- Second, the palatability and durability of climate change policy depends in part on how the cost burdens of reducing greenhouse gases are shared among households and firms. If the costs result in higher electricity prices, this could impose a large economic burden on low-income households at a time of high and increasing levels of economic inequality and undermine political support for California's climate program.

In light of these challenges, we recommend:

- Policy makers should be wary of recovering escalating costs of climate change mitigation and adaptation in electricity rates. For example, if the cost of wildfire damages and mitigation is entirely borne by electricity ratepayers, electricity rates will rise at the same time that other policies – e.g., storage mandates, integrating higher and higher levels of renewable resources onto the grid -- may increase rates. Burdening electricity prices with costs that are not going-forward expenses of supplying electricity is a form of taxation. It is essentially a sales tax on electricity consumption that discourages efficient substitution from other energy sources to electricity and, if poorly designed, disproportionately affects low-income households. Moving costs that are unrelated to the going-forward expenses of supplying electricity to a broader base could offer the opportunity to better address affordability concerns and help support efficient transitions away from petroleum and natural gas.

Complementary Policies

California has several policies that overlap, or "complement," one another in the sense that these policies target the same emissions from the same regulated parties. The most obvious of these is a suite of policies that prescribe how particular emissions reductions must be made even when those emissions are also covered by the cap-and-trade program. For example,

electricity sector emissions are subject to the state's cap-and-trade program but utilities must also comply with the state's Renewable Portfolio Standard (a program that requires the state's utilities to procure an increasing percentage of their energy from renewable sources, 60 percent by 2030). As a result, many of the emissions reductions utilities must make under the cap-and-trade program will be accomplished through the RPS. Other complementary policies include the Clean Car standards and the Low Carbon Fuel Standard, among others.

There can be good reasons to enact complementary policies. For example, if more than one market failure is slowing the adoption of socially cost effective investments in GHG mitigation, a combination of policy incentives could be required to achieve an efficient outcome. However, complementary policies can also interfere with the working of the cap-and-trade market, increasing the cost of delivering the level of abatement required by the cap. There can be tension, then, between using complementary policies that increase the cost per ton of carbon dioxide equivalent reduced and using cap-and-trade to seek out the cheapest reductions. In light of mounting concerns about affordability, these tensions should be carefully and explicitly addressed

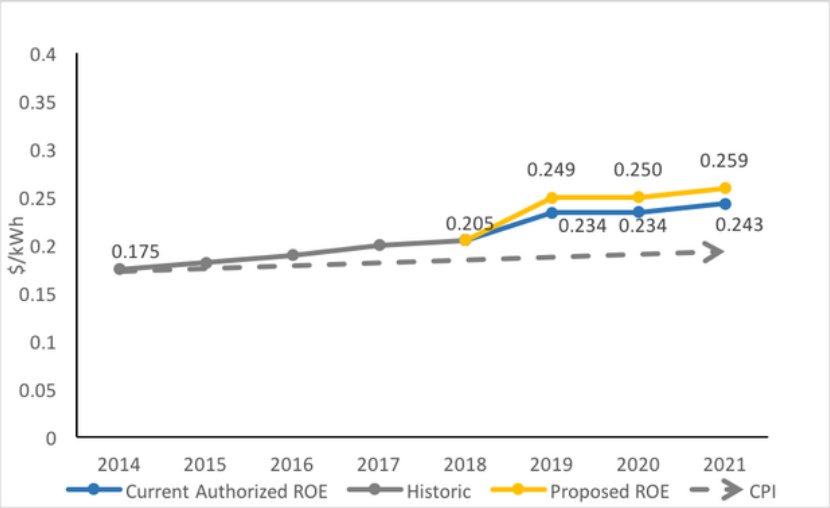
We recommend that:

> The Air Resources Board and the Legislature use special care in enacting and keeping in place complementary policies by analyzing and demonstrating that there is real value added by the policy that (a) would not be achieved through sole reliance on the cap-and-trade market, and (b) could plausibly justify the additional cost.

Appendix in Support of Recommendations

High Electricity Prices

Retail electricity prices in California have been rising faster than inflation since 2012. The graph the graph below shows historical and projected average rates for California's largest utility (PG&E).



Residential Average Rate Forecast with Pending PG&E Requests
Credit: Public Advocates Office and my Berkeley colleague Steven Weissman

California's exceptionally high electricity prices are *not* due to increasing renewable energy costs, but rather due to the state's use of retail electricity rates to pay for a wide variety of activities, ranging from energy efficiency programs to wildfire risk mitigation.

These retail electricity prices are too high by any measure. California has the highest retail electricity prices in the continental U.S. Borenstein and Bushnell (2019) compare California's retail electricity prices in 2014-2016 against the social marginal cost (i.e. fuel costs + pollution damages + climate impacts). California's average retail prices over this period were *more than twice as high* as the social cost per kWh. Retail electricity prices have increased by more than 25% since 2016.

These price increases have captured the attention of lawmakers. There is an ongoing PUC affordability proceeding that aims to develop a framework and principles to identify and define affordability criteria for all utility services under CPUC jurisdiction; and develop the methodologies, data sources, and processes necessary to comprehensively assess the impacts on affordability of individual CPUC proceedings and utility rate requests. [*insert commentary. For example, are prices a sufficient statistic for affordability?*]

Current proceedings seem to presume that compliance costs will be recovered in energy prices, so the question becomes how to use energy rate design in combination with redistributive policies to cover costs subject to affordability constraints however we choose to define them. Which customers bear these costs? And how do rate structures change to achieve this cost recovery. But taking a step back, one begins to question why cost recovery has to happen via higher energy prices. As climate change mitigation and adaptation costs escalate, it becomes

more important to explore ways to break down the barriers between sectors and regulatory agencies in order to maintain affordability in the large.

Complementary policies

If the central premise behind cap-and-trade is to allow market mechanisms to work in as unfettered a manner as possible in order to find the most cost-effective emissions reductions, complementary policies that designate in advance which emissions should occur will interfere with that premise. Though complementary policies, if well structured, can and will lead to reductions in carbon emissions, the point of cap-and-trade is to rely on market forces to find the cheapest emissions reductions without undue governmental interference. If the government enacts a cap- and-trade scheme—but independently regulates through complementary policies a significant percentage of the emissions that would otherwise be subject to cap-and-trade—the opportunities for reductions of emissions covered by cap-and-trade will be reduced. Moreover the emissions reductions occurring because of complementary policies may be more expensive than reductions a cap-and-trade scheme would produce independently—the point of cap-and-trade is to find the cheapest cost reductions, and those may be different reductions than the ones required by complementary policies.

There may be good reasons for complementary policies. There is evidence, for example, that market barriers may exist that prevent the cost-effective implementation of energy efficiency programs. One common example is a principal-agent problem in rental properties. If the landlord owns the building and rents out the property, the landlord may lack the incentive to invest in energy efficient appliances like air conditioners and heaters because, assuming the tenant pays for utilities, the cost savings will accrue to the tenant, not the landlord. A policy that mandates energy efficient appliances can overcome this market barrier even when a price on carbon may not. Complementary policies might also be warranted when they produce co-benefits, like air pollution reduction, that might not otherwise be captured in an allowance price under a cap-and-trade program designed to reduce carbon pollution. To put it in the words of California's Legislative Analyst, complementary policies should be used when "they are achieving benefits that carbon pricing [cap-and-trade] is not."

There is a large risk, however, that if complementary policies overlap with cap-and-trade and do not achieve sufficient additional benefits (over and above what the cap-and-trade program would deliver), then they add to the cost of reducing carbon without providing offsetting gain. Our recommendation to use due diligence in assessing the efficacy of complementary policies is based on this concern. And more specifically, to require explicit consideration of how complementary policies might impact costs and benefits.

We recognize, however, that evaluating the relative costs of carbon reductions via a complementary policy as opposed to cap-and-trade can be difficult, in part because it is difficult to know what alternative compliance path an emitter might utilize in the absence of a complementary policy. Put a different way, allowance prices in the cap-and-trade market are currently lower than they would be in the absence of complementary policies. If complementary policies were repealed, allowance prices would rise, making the evaluation of the costs of a pure cap-and-trade program compared with the existing system of overlapping polices tricky. Nevertheless, we think it important that policymakers have good reasons to adopt or maintain complementary policies and understand that the policies may result in higher costs that could in the long run undermine political support for the state's climate policies.