Program Design of the Initial Distribution of Emissions Allowances (Kropke and Burtraw)

1. Explanation of Allowance Distribution

Emissions allowances enter the cap-and-trade market through two general mechanisms. About half are sold at auction with proceeds deposited in the Greenhouse Gas Reduction Fund (GGRF) and used for investments and program expenditures to address various legislative priorities, and about half are allocated for free to utilities and industry to address the effects on ratepayers, workers, and firms in those sectors.

This chapter addresses the objectives of free allocation and the possibility for reforms that might better address the objectives of free allocation as well as a consideration of the opportunity cost of free allocation in view of legislative priorities given to the GGRF. First, we summarize the objectives of the approaches to distributing allowances. Second, we address free allocation to utilities. Third, we address free allocation to industry. In doing so we develop criteria that might also apply to investments and expenditures from the GGRF.

2. Objectives for the Initial Distribution of Emissions Allowances

Auction proceeds deposited to the GGRF are the source of funding programs addressing legislative priorities including emissions reductions, research, mitigation of impacts on underserved and overburdened communities, adaptation, as well as other purposes. Funding for these programs is affected by the dedication of allowance value to free allocation to utilities and industry.[1]

Free allocation to electricity and natural gas utilities helped to rebalance the cost of greenhouse gas emission mitigation across sectors at the outset of the cap-and-trade program. Utilities implemented energy efficiency and renewable energy programs for over four decades. The impacts of these programs on ratepayer expenditures is the product of changes in energy consumption and changes in the price of energy. Energy consumption and emissions fell from business as usual levels due in part to these programs and concurrently energy prices rose in part due to the cost of these programs. Free allocation to utilities helps mitigate further price increases that might occur from cap and trade.

Free allocation to industry is intended to protect workers and firms in sectors that might be subject to unfair competition from unregulated entities outside the state. There would be no virtue in the state imposing requirements on compliance entities in the state if it resulted in the movement of economic activity with associated emissions to other jurisdictions. In many cases, California industry is relatively efficient, and leakage of economic activity to jurisdictions with relatively lax environmental standards could lead to an increase in emissions overall.

These motivations for different ways to initially distribute allowances come into conflict because they compete for the allocation of scarce allowance value. Free allocation to utilities or industry represents a decline in revenue to the GGRF, and vice versa. However, we note that these alternatives for the initial distribution of allowances also share some common objectives.

3. Allocation of Free Allowances to Utilities

[1] Funding for these programs also has been affected by the variability of proceeds from the allowance auction. Another chapter of this report examines the auction design and how it might be modified to provide greater stability in auction proceeds coming to the GGRF.

Electric and natural gas utilities receive a significant amount of allowances (as well as the monetary value attached therein), and face similar requirements, so they will be collectively analyzed here. Investor Owned Utilities ("IOUs") for electrical distribution receive a conditional allocation of allowances that cannot be used for compliance until they have been consigned to the allowance auction, with revenues from the auction returned to the IOUs. The Air Resources Board requires the auction proceeds from the consigned allowances to be used for the benefit of IOU rate payers, consistent with AB 32. Publicly Owned Utilities ("POUs") also receive free allocation but they are not required to consign their allowances to the auction before they can be used for compliance, although a portion of the allowances allocated to these utilities also are sold through consignment. POUs are not regulated directly by the Public Utility Commission and are assumed to direct the allowance value they receive to the benefit of their customers. IOUs for natural gas distribution have historically used about two-thirds of their allocation to reduce their compliance costs and directed about one-third to ratepayers. POUs for natural gas distribution use their allowance value primarily for compliance.

Aside from the allowances used directly for compliance by natural gas utilities, the IOUs have used allowance value to support various programs but the most important share is directed to the Climate Credit, which is given to residential customers on an equal per customer account basis within various climate zones in the state. Twice every year, electricity and natural gas IOU customers, whether a customer of the IOU or a customer of a community choice aggregator, receive an equal-per-customer-account, on-bill credit, known as the "California Climate Credit." The equal-per-customer-account Credit is differentiated by climate zone, justified in part by the different heating and cooling degree days in different parts of the state and associated household energy expenses.

Ratepayer Monetary Benefit:

The focus of this discussion is whether the on-bill credit is the best way to benefit ratepayers in light of the economic changes associated with climate. The economic impact that a credit on a residential ratepayer's bill will have on one's household finances will vary greatly depending on the socio-economic status of the household. For Disadvantaged Community (DAC) members, utility bills (electric and gas) can represent a large portion of one's monthly expenses. And in these communities, the California Climate Credit can represent a relatively large contribution to balancing the household's financial resources. In contrast, the utility bills and Credit can represent a relatively small portion of the monthly expenses of higher-income earners.

This difference between impacts across households highlights several considerations that should be addressed as part of the Scoping Plan process in 2021. In view of objectives to address affordability and to mitigate financial impacts on overburdened communities (IEMAC 2019), the assignment of the Credit to all households implies is that the same allowance value is not available for targeted efforts. Giving the Credit to high-earning Californians does not address affordability concerns that most heavily impact lower income households.

It would be disadvantageous to the state's climate policy goals to differentiate Credit payments based on an individual household's energy consumption or utility bill because this would effectively undermine the economic incentive of the carbon price in the cap-and-trade program to promote energy savings. Further, utilities do not have financial information about households that would enable differential Credit payments based on income. However, in other programs, utility customers have been able to self-declare their income levels to qualify for bill relief, which provides coarse information that might be useful. In addition, the utilities could refine the differentiation of payments based on a customer's community of residence to anticipate impacts on households in overburdened (DAC) communities.

In contrast, a justification for equal per-household Credits stems from viewing the Credit value as compensation (Burtraw and Sekar 2014). A uniform Credit signals that all households are treated equally, which could help build support for climate action generally (Barnes 2014). However, as the Credit has been implemented, most ratepayers do not receive clear communication about the reason they receive the Credit, or that it is to provide compensation for their efforts to help the state achieve its climate and energy goals.

The Climate Credit is just one option for how allowance value could be used to benefit ratepayers. There may be other opportunities for how to benefit ratepayers by looking to the opportunity to benefit communities generally.

Climate Benefit:

The receipt of a modest on-bill Credit of for example, $35-$85 twice per year, benefits households directly and tangibly. However, aggregating the value of the California Climate Credits to collectively advance the climate and air quality interests of the state may deliver more substantial benefits. In aggregate, the Credit payments represent nearly a billion dollars of value. Many individuals, businesses (large and small), municipalities and ports are interested in advancing California Climate goals but lack the financial resources to do so. Investments in projects to reduce emissions and enhance efficiency and operation of these facilities would help achieve the states climate goals and may invoke further interest of labor and business in supporting California Climate goals. Starting in 2020 the natural gas Credit rebates will be reduced so that a portion of proceeds can be used for building decarbonization. However, much more substantial value rests with electric utility Credit rebates.

Workforce Development Benefit:

As part of helping households and communities adapt to and engage in the ongoing energy transformation, there is an urgent need to reconsider how we think about our workforce in the coming years (Zabin et al. 2020) Transitioning our energy sources and methods of transportation could displace good, high-paying jobs that provide family-sustaining wages, health care and retirement benefits. However, those same transitions could similarly provide opportunities to create good high-earning careers that pay similar wages and have comparable benefits and offer greater job security for the future.

Several climate-related objectives could be served by directing more cap-and-trade allowance-to funding projects including promotion of responsible contractor policies, Project Labor Agreements, joint labor-management apprentices, as well as targeted hiring practices to involve previously incarcerated hires, veteran hires, and DAC hires, to name a few. Including skilled and trained workforce development language to provide the good, apprenticeship-based career pathways that prior fossil fuel-related jobs have provided to Californians is imperative. The foregoing applies to workforce development in the skilled construction trades; however, responsible contractor policy should apply to all employers working on projects that might be funded with California Climate Credit allowance value or funded through the GGRF. In the following section, we suggest that similar standards should guide the free allocation of allowances to industry. Only projects with good labor practices should be permitted to receive support to ensure we are working on creating good careers for all Californians.

For example, both The Port of Long Beach and the Interstate 710 Freeway are in Southern California Edison territory. Collectively the Port, Los Angeles Metropolitan Transit Agency, Cal-Transportation Agency and leadership in the Gateway Cities Council of Governments, as well as residents have come to an uncomfortable conclusion- many of the electrification goals, while important, lack the requisite funding. Converting the medium and heavy-duty trucking fleets to zero-emission

models, including installation of the charging infrastructure and potential upgrades necessary also requires additional funding. These projects, with clear workforce development language as discussed above, may be possible through collective utilization of the California Climate Credit.

These considerations point to the potential reconsideration of the California Climate Credit that is provided to individual ratepayers. There may be advantages to collectively use the Credit value for grants to fund more clean energy, clean transportation, and other, pre-defined air quality improvement projects. All such projects should create opportunities for apprenticeship-based career pathways for highly skilled workers via the strategies discussed above. This approach might be blended with the continued provision of California Climate Credits for DAC residents and ratepayers enrolled in the California Alternative Rates for Energy program.

4. Free Allocation to Industry

Free allocation to industry is intended to prevent the leakage of economic activity and emissions to other jurisdictions. To provide an incentive to maintain economic activity in the state, allowances are awarded for free to specific industries in proportion to their recent level of economic activity in the state, with this formula updated and allocation adjusted regularly. This output-adjusted allocation provides a production incentive because allowances are earned with every unit of product. The free allowances reduce the variable cost of operations to keep California industry competitive with industry in other jurisdictions, while also providing an incentive to reduce the emissions intensity of activity because the award of allowances is not tied to facility-specific emissions.

As part of the Scoping Plan process that will initiate in 2021, the Board has the opportunity to examine how these industries have been affected by the program or if they have grown or shrunk over the last decade. This would be a good time for an empirical assessment of the need for free allocation. Is this allocation of allowance value helping to enable innovation? Does it protect jobs and communities? Or is it a transfer from consumers to shareholders?

The industry group that receives the greatest allocation of allowances are refineries. This allocation is intended to keep refinement of product in the state, which incidentally has relatively efficient facilities compared to out-of-state facilities. Employment at and around the refineries offers relatively high-paying jobs. Unionized jobs pay family sustaining wages and provide a middle-class career pathway for those that lack the resources or desire to attend a traditional college. Working opportunities at many refineries provides careers that include health care and retirement benefits, the loss of which could be catastrophic to those workers, as well as the local communities in which they live and reside, where they patronize businesses, day care facilities and otherwise locally reinvest their incomes.

The 2010 report of the Economic and Allowance Allocation Committee (EEAC 2010) provided a justification for free allocation to refineries based on the cost differential between imports and fuels produced in California, with the goal to preserve good paying jobs and protect business activity in the state. The report argued that the regulatory cost associated with the trading program that would be sufficient to overcome the increased cost of transportation and blending to meet California specifications would begin when allowance prices reached around $50 per ton ($60 in 2020 dollars). With allowance prices around $17 currently, the threat of leakage of refining activity may not be realized. In view of many competing justifications for the distribution and use of allowance value, the Scoping Plan process provides an opportunity to reexamine tradeoffs and priorities for the free allocation of allowances.

Recommendations

The Air Resources Board should take advantage of the Scoping Plan process to evaluate the outcome from free allocation in consideration of broad program goals and alternative approaches. Among these goals it would be important for the Board to highlight the following:

- The Climate Credit directed to electricity and natural gas utility customers usefully preserves an incentive for ratepayers to conserve. Universal eligibility across customer accounts may build support for the program among ratepayers, but the Climate Credit has not been delivered or communicated in a way that is likely to capitalize on this potential. Universal eligibility has the disadvantage that it undermines affordability goals that might target ratepayers who face the greatest affordability challenges associated with the costs of climate policy and the impacts of climate change.

- An alternative to ratepayer credits, at least that portion accruing to higher income households, might be to aggregate allowance value and direct it toward investments to expand electrification of the economy and accelerate decarbonization of the electricity grid. Electrification could deliver valuable air quality benefits, especially in goods transport hubs and corridors.

- Refineries receive the largest share of free allocation among industry. The rationale for this free allocation should be evaluated considering past and future expected trends in allowance prices.

- Workforce development including the preservation and/or creation of good-paying careers should be a condition of free allocation to utilities and industry and serve as an important criterion in choosing investments from the Greenhouse Gas Reduction Fund.

References

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