

***CAP-AND-INVEST FOR
MARYLAND:***

A PRIMER

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**Climate Law &
Policy Project**

Climate Law & Policy Project

Climate Law & Policy Project is a 501(c)(3) non-profit organization. CLPP's mission is to help formulate and advocate environmentally, socially, and scientifically sound policies to reduce emissions and protect communities around the world from the impacts of climate change.

CLPP operates like a think tank – seeking practical and politically viable strategies – while simultaneously advocating for strong responses to avert the increasingly urgent problem of climate change.

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Introduction

Maryland has some of the most ambitious greenhouse gas (GHG) reduction targets in the country. By law, it must reduce emissions 60% from 2006 levels by 2031 and achieve net-zero emissions by 2045.

In December 2023, the Maryland Department of the Environment (MDE) released [Maryland's Climate Pollution Reduction Plan](#) (CPRP) laying out its strategy to achieve the state's near-term climate goal and place it on a path to achieve its 2045 goal. The CPRP includes an economy-wide cap-and-invest program both to close a 3.5 million metric ton emissions gap remaining after MDE's other policy recommendations are implemented and to raise revenue to fund several of these policy programs. (The plan requires new revenue of approximately \$1 billion per year.) Alternative mechanisms, such as a carbon fee, are also included as potential revenue-raising options.

Del. Dana Stein's [HB1272](#) would require MDE, in collaboration with the Maryland Commission on Climate Change, to develop an economy-wide cap-and-invest program consistent with the recommendations in the CPRP.

Not all stakeholders may be familiar with cap-and-invest and how it works. The purpose of this paper is to explain the basics of cap-and-invest, briefly describe how it is being implemented in other jurisdictions, and identify some key design elements that must be considered to ensure cap-and-invest supports and complements other facets of Maryland's efforts to address climate change.

Put simply, a cap-and-invest approach establishes a declining cap on emissions levels, requires polluters to purchase emission allowances, and invests the proceeds of allowance sales (which can be substantial) in achieving a rapid, effective,

and equitable transition to a decarbonized economy.

Such investments can accelerate emissions reductions, enhance resiliency to climate impacts, protect underserved and overburdened communities, and help achieve many other climate-related objectives.

Maryland already participates in a cap-and-invest program — the Regional Greenhouse Gas Initiative (RGGI), a multi-state program covering only the electricity sector. Its experience with RGGI gives the state a strong foundation for building out an economy-wide program. Economy-wide cap-and-invest is already in use in California and Washington (as well as Quebec), and it is currently being planned in New York.

If Maryland adopts a cap-and-invest program, decisions will have to be made about a range of important program design elements, including:

- Which **economic sectors and entities** the program will cover;
- Whether all allowances will be **auctioned** or some will be freely allocated;
- Whether and to what extent **offsets** (projects that reduce, avoid, or remove emissions not covered by the cap) can be used to meet a portion of an entity's compliance obligation;
- Whether to **link** Maryland's program with those in other jurisdictions; and
- How to ensure **equity** in program design, program implementation, and investment of revenues.

These and other design decisions will have enormous implications for what a Maryland cap-and-invest program looks like, how it operates, how effective it is in reducing emissions, and who benefits most from it.

There is little detail in the CPRP about how cap-and-invest might be designed to best serve Maryland's needs. MDE says it plans in 2024

to study "how expanding Maryland's current cap and invest program (RGGI) to cover additional sources could work."

Informed stakeholder engagement during MDE's 2024 evaluation of cap-and-invest will be crucial. The aim of this paper is to provide a starting point for stakeholders interested in such engagement.

Overview of Cap-and-Invest

Cap-and-invest is a market-based policy that imposes a price on climate pollution.

Greenhouse gases, like all pollutants, produce environmental "externalities" — costs resulting from the pursuit of private economic activities that are borne, not by the private entities engaged in those activities, but by society. In the context of climate change, this cost is referred to as the social cost of carbon. The purpose of pricing pollution is to "internalize" this externality, shifting the cost from society to polluters. The practical effect of a price on pollution (particularly when the price rises over time) is to: (1) create a financial disincentive to pollute, encouraging polluters to find ways to reduce their emissions; (2) promote cost-effectiveness by incentivizing less expensive reductions ahead of more expensive ones; and (3) create a potentially vast stream of revenue that can be used to serve a range of climate-related purposes.

Carbon pricing can take a variety of forms, with the most common being some version of a carbon tax or cap-and-trade system. Under a carbon tax (or carbon fee), polluters are charged a set amount for every ton they emit of carbon dioxide (CO₂), and potentially for their emissions of other GHGs as well (converted to tons of CO₂ equivalent, based on their global warming potential). The *price* of emissions (i.e.,

the tax) is therefore certain, but the *level* of emission reductions resulting from the carbon tax is uncertain. To achieve Maryland's targets, a carbon tax would have to be periodically adjusted to make sure it is driving the necessary level of emission reductions.

Under cap-and-trade, a limit (which declines over time) is placed on the total amount of emissions permitted in a jurisdiction, and allowances are auctioned or allocated to cover emissions permitted under the cap. Allowance holders also can buy allowances from and sell allowances to each other between auctions (the "trade" part of cap-and-trade). For each ton emitted, emitters must hold and retire one allowance. Entities that fail to submit enough allowances to meet their obligations can be subject to fines and other penalties. Certainty under cap-and-trade is the inverse of certainty under a carbon tax: the *level* of emissions resulting from the cap is certain, while the *price* is uncertain (i.e., the market sets the price).

Carbon pricing schemes generally make polluters pay for their pollution, raising revenue that can be utilized in a range of ways. Many now agree that a principal use of revenue should be to complement and enhance the core

purpose of carbon pricing by funding actions that mitigate climate change and its effects (e.g., abatement of emissions, adaptation to impacts, research and development of technologies needed for decarbonization), as well as to reduce potential negative effects of climate policy (e.g., impacts on low-income communities and/or communities economically dependent on fossil fuels). When paired with a carbon cap, this approach is known as *cap-and-invest*.

Under cap-and-invest, both the cap and the investment are designed to drive progress in achieving a rapid, effective, and equitable transition to a decarbonized economy. As described further below, some states and jurisdictions are already using the approach as a way to raise revenue and as a backstop policy to ensure that their emissions targets are met (i.e., the cap fills any shortfall in reductions achieved by other emissions abatement policies such as incentives, standards, and mandates).

Both of those features of cap-and-invest are important in Maryland. MDE's modeling

suggests the CPRP's sectoral abatement policies will fall 3.5 million metric tons short of achieving Maryland's 2031 target, and MDE also flags the need to raise \$1 billion in additional revenue annually to support those sectoral abatement policies. Accordingly, the plan recommends the Maryland General Assembly adopt economy-wide cap-and-invest or an alternative mechanism to close the emissions gap and raise the needed revenues.

As discussed later, cap-and-invest as implemented in many jurisdictions is actually a hybrid system, combining features of both cap-and-trade and a carbon fee. Like cap-and-trade, it sets an emissions budget and requires emitters to hold and retire allowances to cover their emissions. To raise revenue for investment, however, cap-and-invest requires some or all allowances to be auctioned, and the auction reserve (or floor) price — the minimum price at which allowances can be sold — as well as other auction features operate much like a carbon fee to provide some price certainty.

Cap-and-Invest in North America

Cap-and-invest programs already exist or are under development in some other North American jurisdictions.

California authorized its cap-and-invest [program](#) by legislation in 2006, and the first auction of allowances was held in 2012. The program started with electricity generators and large industrial facilities and expanded over time to be economy-wide, covering roughly 80% of the state's greenhouse gas emissions. California linked its system with Quebec's cap-and-invest system in 2014. Proceeds from California's allowance auctions are deposited into the [Greenhouse Gas Reduction Fund](#)

(GGRF), and the California Legislature appropriates money from the GGRF to agencies for a wide range of California Climate Investments programs, focusing on facilitating greenhouse gas reductions and providing environmental, economic, and public health benefits. At least 35% of California climate investments must benefit low-income and disadvantaged communities and households. As of July 2023, allowance auctions have generated more than \$24 billion for the GGRF.

Quebec established its cap-and-invest [system](#) in 2013 and, as noted above, linked it with California's in 2014. The program is economy-wide, including industry, electricity, and distributors of fossil fuels; the program covers roughly 80% of Quebec's greenhouse gas emissions. All proceeds from allowance auctions are deposited into the [Electrification and Climate Change Fund](#) (ECCF) to fund efforts to reduce emissions, adapt to climate impacts, and electrify the economy. As of November 2023, more than \$8 billion (Canadian) in proceeds have been paid into the ECCF.

Washington passed legislation creating its cap-and-invest [program](#) in 2021 and held its first allowance auction in 2023. The program is economy-wide, covering roughly 75% of the state's emissions. Auction revenues are deposited into accounts (and sub-accounts), from which the legislature can appropriate funds to support public and alternative transportation, reductions in transportation emissions, the transition to clean energy, ecosystem resilience, carbon sequestration, and projects that reduce criteria pollutants and health disparities in overburdened communities. Washington is pursuing linkage of its program with those in California and Quebec. Allowance

auctions raised almost \$2 billion in revenues during the program's first year.

The Regional Greenhouse Gas Initiative (RGGI) is a cooperative regional cap-and-invest [program](#) among several Northeastern and Mid-Atlantic states (including Maryland). RGGI solely covers the electric power sector. Since 2005, RGGI states have raised over \$6 billion from allowance auctions. Each member state has discretion in how it spends its RGGI revenues, with most investing the revenues in areas such as energy efficiency, clean energy, beneficial electrification, and customer bill assistance.

New York is in the process of developing an economy-wide cap-and-invest [program](#) to ensure the state meets its climate targets. Two-thirds of proceeds will go into a Climate Investment Account to support emission reductions, energy efficiency, clean transportation, and other projects, with priority to investments in disadvantaged communities. At least 30% will go into a Consumer Climate Action Account every year to mitigate any potential cost increases for consumers. The program will be designed with the capacity to link with other programs.

Key Issues for a Maryland Cap-and-Invest Program

Creating a cap-and-invest program in Maryland will require decisions on a range of key program design elements.

Emissions Reduction Trajectory

The fundamental instrument of cap-and-invest is the allowance. For each ton of covered emissions, emitters must hold and retire one allowance. The number of allowances auctioned and/or allocated is determined by the

cap (the emissions budget). The Climate Solutions Now Act (CSNA) of 2022 sets Maryland's greenhouse gas emission reduction goal at 60% below 2006 levels by 2031 and net-zero by 2045. The corresponding

emissions levels would, accordingly, be the caps for those years.

Maryland law, however, does not specify emission levels in the years preceding the 2031 and 2045 targets, so the rate of decline of the allowance caps (i.e., the emissions budgets) in the intervening years remains to be determined. The reduction in cap levels could simply be linear, drawing a straight line from current levels to target levels. Alternatively, reduction trajectories could be steeper at times, whether tied to the expected implementation of particular policies or the result of investments of carbon price revenues. Careful investment of revenues could help achieve more emission reductions sooner than would be achieved by the carbon price signal alone.

Climate change is driven by the accumulated concentrations of greenhouse gases in the atmosphere, so earlier reductions will have more impact than later ones in averting catastrophic harm from climate change. Decisions about emission levels during the years in-between Maryland's legislative targets will therefore play a very important role in determining the climate impact of the state's policies.

Periodic Program Reviews & Automatic Adjustments

It is important that the state not take a "set it and forget it" approach to reduction trajectories (or to the targets themselves). Comprehensive periodic reviews of a cap-and-invest program are essential to ensure success and to refine program design elements every few years. (For instance, it is possible that emissions targets will have to be strengthened in the future to achieve not just net-zero but net-negative emissions.) Decisions would have to be made about how frequently program reviews should occur for a Maryland program.

The world moves quickly, however, and developments will arise that were not anticipated when program caps and trajectories were established. Even the best planning can fail to foresee changes in the economy, technologies, geopolitics, and more that can make emission reductions cheaper or more expensive to achieve. It is not practical or feasible to go through a rigorous program review process every time some new development occurs. Instead, it is important to design a cap-and-invest program with automatic adjustment mechanisms that can respond to changes in real time and provide participants with more certainty about their obligations under the program.

The main types of automatic adjustment mechanisms are cost containment reserves (CCRs) and emissions containment reserves (ECRs):

- *Cost containment reserves* kick in when allowance prices are high. When auction prices exceed a certain predetermined level, additional allowances are auctioned to increase supply and reduce costs. Where these extra allowances come from is an important consideration in terms of the integrity of the overall cap and emissions targets. Some systems in other jurisdictions create new allowances that are added into the market, which risks raising the overall cap and exceeding targets. Other systems take the extra allowances from future auctions, making more allowances available in a particular auction without jeopardizing the overall integrity of the program's cap.
- *Emissions containment reserves* kick in when allowance prices are low. When auction prices fall below a certain predetermined level, allowances are removed from the auction to reduce

supply. For example, if a sectoral program is more effective than regulators anticipated, it will reduce the demand for allowances in that sector, causing allowance prices to drop. Automatically reducing the allowance budget prevents the low allowance price from spurring emissions increases in other sectors (“the waterbed effect”). The low price of allowances implies emissions are inexpensive to reduce, meaning more reductions can be easily achieved, and fewer allowances are needed than originally anticipated.

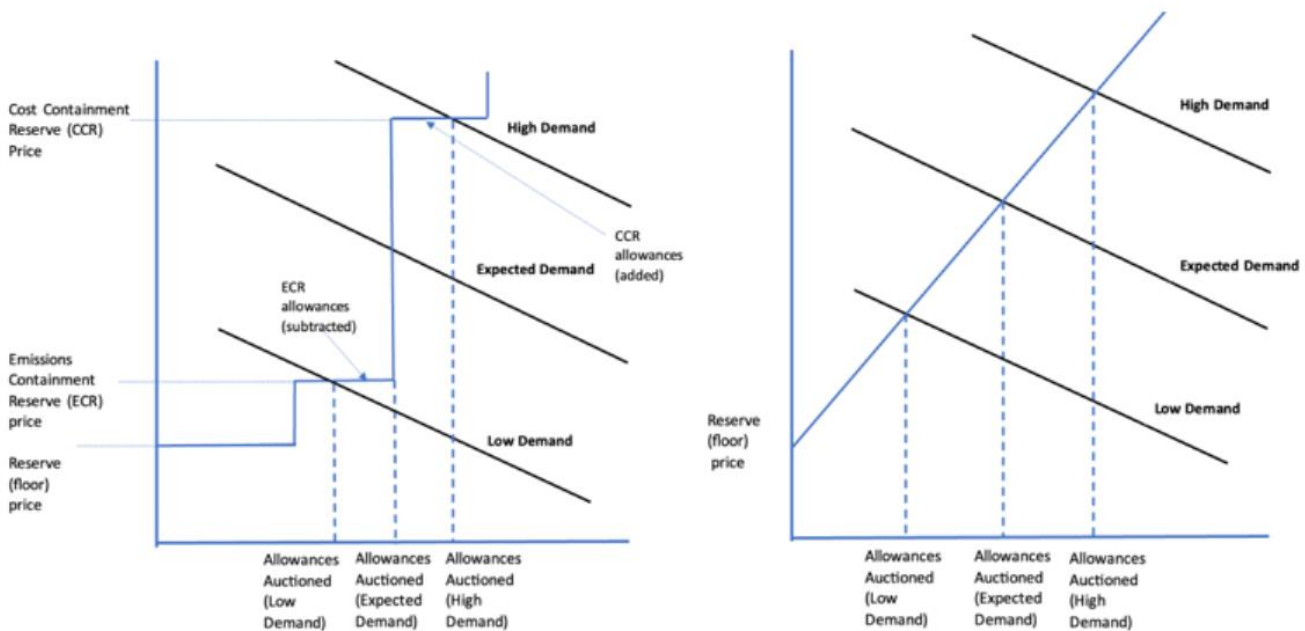
In most systems, the addition or removal of allowances under the cap occurs in steps. In other words, when a price point is reached, a tranche of allowances is added or removed. There may be only one price point and tranche (one step), or there can be multiple price points and tranches (multiple steps) to better fine tune quantity of allowances and corresponding price

levels. The most fine-tuned approach would be a continuous, rather than stepped, system, where the quantity of allowances added or removed is directly correlated with the price level. (See Figure 1)

In addition to (and sometimes linked to) automatic adjustment mechanisms, cap-and-invest programs usually include price ceilings (which prevent allowance prices from rising above a certain point) and price floors (which guarantee a minimum carbon price and level of revenue). The price floor is sometimes referred to as the auction reserve price.

The combination of price ceilings, price floors, CCRs, and ECRs gives cap-based systems some features of a tax / fee, since these elements provide some additional price and revenue certainty. They create what is sometimes referred to as a hybrid pricing mechanism.

Figure 1: Automatic Adjustment Mechanisms with and without Steps



Automatic adjustment of auction budget with ECR and CCR “steps”

Automatic adjustment of auction budget with continuous price/quantity trajectory

Banking and Borrowing

Emitters may want to protect themselves against any unexpected rise in their emissions or spike in allowance prices. To accommodate this need, cap-and-invest systems ordinarily allow emitters and other purchasers to buy more allowances than they may need during a given auction period. Unused allowances can be banked for future use. To keep things straight, allowances should be *vintaged*, that is, bear the date (and usually place) of origin.

Having a large stock of banked allowances, however, could weaken an emitter's mitigation efforts and place achievement of the state's emission reduction goals in jeopardy in later years. Potential ways to minimize the risks of excess banking while still providing emitters with flexibility could include limiting the lifespan of allowances and limiting the amount of banked allowances that can be used for compliance by an entity (and/or by all covered sources).

Generally, cap-and-invest systems do not permit emitters to borrow against future allowance purchases to cover allowance shortfalls. Emitters that face a shortfall must go into the market to purchase additional allowances (or pay fines or other compliance payments).

Program Coverage

Maryland's CPRP includes a broad suite of proposed incentives and standards, and the plan highlights the need for new funding solutions that can provide at least \$1 billion annually to pay for these investments. To raise these funds, the plan recommends an economy-wide cap-and-invest program (as one among several possible financing plans, with the choice left to the General Assembly). What "economy-wide" means in regard to cap-and-

invest would have to be determined. It is important to include all major emitting sectors, but the details of which sectors are or are not included can be tricky.

For instance, how an economy-wide Maryland cap-and-invest program would interact with the existing electricity-only regional cap-and-invest program, RGGI, would have to be determined. It is possible that Maryland could decide to leave electricity solely within RGGI and have the new cap-and-invest program cover only other sectors. Alternatively, if electricity is included in an economy-wide program, electricity sector purchasers could receive credits to account for what they have spent on RGGI allowances, so they would end up paying the RGGI portion to RGGI and the remainder (the difference between the costs of Maryland allowances and RGGI allowances) directly to Maryland.

It is essential to include the transportation and buildings sectors under a cap, as both are high-emitting sectors. For the transportation sector, Maryland might adopt an approach that builds on the Transportation and Climate Initiative, an interstate cap-and-invest program for the transportation sector that Maryland was instrumental in designing but that was never implemented. (TCI's design was based on RGGI.) For the buildings sector, factors determining coverage might include building size, building type and use, and administrative burden (e.g., single-family homes pose obvious enforcement difficulties). Some difficult-to-count emissions associated with buildings, such as methane leakage from natural gas pipes, would also have to be considered. Many of these difficulties could be circumvented by placing the point of regulation for both sectors farther upstream, to the fuels themselves (as discussed below).

Other sectors raise different questions. The agriculture sector, for example, has energy-related emissions, but there are also non-energy-related emissions (e.g., from manure management). Should the agriculture sector be included under an economy-wide cap, and if so, which of its emissions should be included? Emissions can be included only if they can be accurately quantified and monitored, which may present difficulty for some non-energy emissions in the sector. Another question is whether and how the carbon sink contributions of agriculture (e.g., carbon absorbed by soils) should be factored into the allowance program after 2031. (Maryland law requires gross emissions to be reduced 60% by 2031, so sinks are excluded, but after 2031 *net* emissions are counted, so agricultural sinks will be counted toward the target.)

Similarly, the treatment of Maryland's industrial emitters under an economy-wide cap-and-invest program would have to be determined. Maryland's Greenhouse Gas Reduction Act currently exempts the manufacturing sector, but this issue is being studied and the exemption may be revised or eliminated. Nationally, energy-intensive, trade-exposed (EITE) industries are often given special treatment to ensure continued international competitiveness. Some state-level cap-and-trade programs provide freely allocated allowances to EITEs to reduce their costs and maintain their ability to compete with companies not similarly regulated. (This issue is discussed below as well, in the section on Auction and Allocation.)

It should be noted that in modeling its plan, MDE covered most economy-wide sectors in the cap-and-invest program, including road transportation, commercial and residential buildings, industry, and cement process emissions. It exempted electricity, agriculture, forestry and land use, direct emissions from the

fossil fuel industry, non-cement Industrial processes and product use, waste management, aviation, rail, shipping, and non-road diesel sectors. This modeling decision, however, should in no way be regarded as the final say on what the actual contours of a cap-and-invest program would be in Maryland. MDE will be evaluating cap-and-invest throughout 2024, and the General Assembly has yet to weigh in, so the sectors that would be covered remain to be determined.

Point of Regulation

Another key question is which entities within each covered sector would be responsible for complying with the cap (by having sufficient allowances). Regulating further upstream (i.e., closer to the well head or mine mouth) involves fewer entities and simpler administration, while regulating further downstream moves the price signal closer to the point of actual decision-making. For example, gas utilities might be required to hold allowances to cover the natural gas they sell to commercial and residential building owners, but utilities have little direct control over those emissions; they do not decide how well to insulate buildings, whether to buy the highest-efficiency appliances, or whether to electrify buildings. On the other hand, requiring every building owner to hold allowances could be quite burdensome and difficult for the state to manage and enforce.

Point of regulation is also relevant with respect to imports of fuel and electricity into Maryland. For simplicity, the point of regulation for imports should probably be the first point of sale within the state, though other factors may come into play (e.g., where excise taxes are collected). Another consideration is whether fuel is regulated before or after it is refined, as different petroleum products have different emission profiles.

Auction and Allocation of Allowances

Inherent in creating a cap-and-invest system for Maryland is the need to raise revenue to invest. That means some or all allowances must be sold, typically through an auction. Decisions would need to be made about auction frequency, ways to prevent market manipulation, and other rules, though auctions in other jurisdictions and in RGGI provide ample experience to draw on. As noted above, decisions may also have to be made about how best to coordinate the Maryland auctions with the RGGI auctions (in terms of both timing and cost).

Decisions would also need to be made about whether any allowances are freely allocated to particular entities. Some jurisdictions, for instance, have allocated allowances to electricity and gas utilities for them to auction or sell in the secondary markets, with the proceeds to be used for ratepayer benefit. As noted earlier, some have also allocated allowances to EITE industries to reduce their costs and keep them competitive. (There may be other ways to achieve these objectives without giving away allowances for free; for instance, at the national level, economists are looking at ways to protect EITEs by imposing carbon border tariffs on imports from countries that do not have comparable programs.)

Offsets

Offsets are emission-reducing, emission-avoiding, or emission-removing projects that occur outside the cap (and are thus tied to decisions made about the scope of program coverage, discussed earlier). These projects generate credits that can be used, under some cap-and-invest systems, to cover a portion (usually small) of an entity's compliance obligation, replacing the need for some allowances. Some jurisdictions reduce the

number of allowances issued by the number of offset credits used, to stay on track for their emission reduction targets.

Offsets represent a tricky area for cap-and-invest program design. Offset projects involve some kind of verification and certification to ensure they are real, permanent, verifiable, and quantifiable, but even so, the offset market has been beset by challenges about how real some of the purported reductions or removals are.

Maryland would have to determine how much of an entity's compliance obligation, if any, could be met by offset credits. If some level of offsets is allowed, Maryland would also have to decide which kinds of projects qualify under the program. Should emission avoidance projects count? Emission reduction projects? Or only emission removal projects? Should only projects that can demonstrate "additionality" (i.e., show they would not have happened if this project had not occurred) be allowed, or should projects not be measured against a counterfactual? If removal credits are allowed, are both biological (e.g., soils, trees) and engineered (e.g., direct air capture facilities) approaches acceptable, or only one or the other? If biological offsets are allowed, what rules are needed to ensure they are ecologically sound? Should projects only be eligible for offset credits if they are located in Maryland, or should offsets from other states or even countries be allowed? These questions are made more difficult by the failure of international negotiators to reach agreement on emissions trading under the UN Framework Convention on Climate Change and the Paris agreement.

One argument for offsets is that they can incentivize reductions in sectors not covered by the cap. If no offset credits are allowed under the cap-and-invest program (and, frankly, even

if they are), Maryland would have to find other mechanisms — such as investing revenue from allowance auctions — to achieve reductions in sectors not covered by the cap. Both public and private investment in these sectors, in addition to investments in carbon removal, will be needed.

Linkage

Maryland would have to decide if its economy-wide cap-and-invest program should link with other allowance-based systems in other jurisdictions, such as California, Washington, or (soon) New York.

There could be significant benefits from linkage to other programs. Creating a bigger market should expand emission reduction opportunities, reduce compliance and administrative costs, and improve market security. On the other hand, linkage must be thought through carefully to ensure there is sufficient alignment in program objectives, stringency, and methods. The need for similarity between programs means linkage could reduce Maryland's ability to be innovative with its program. Linkage could also mean that the weaknesses of the other jurisdiction(s) are imported into the Maryland program. The pros and cons must be weighed carefully, but on balance linkage seems to offer significant benefits for Maryland.

Equity Protections

Environmental justice organizations have traditionally been wary of market-based mechanisms, such as a cap-and-trade system, out of concern that the disproportionate impacts that disadvantaged, pollution-burdened communities experience could be perpetuated (or exacerbated). A Maryland cap-and-invest

program must consider equity in all aspects of program design.

Participation and engagement measures, such as empowered advisory councils that have the power to weigh in on program design and implementation, are essential. (Existing councils, such as the Commission on Environmental Justice and Sustainable Communities, could potentially fill this role.) A focus on equity could also include various protections and prioritizations for underserved or overburdened communities, including prioritizing those communities for clean energy projects and workforce development, prioritizing the closure of emitting facilities in those communities, and explicitly considering the benefits of reducing co-pollutants that negatively impact community health.

Importantly, achieving equity goals will require focused investment of allowance auction revenues to provide benefits to disadvantaged communities and vulnerable populations. At a minimum, a Justice40-type commitment could be part of the program design, to ensure that at least 40% of the overall benefits from revenue investments flow to those communities. The benefits could flow from a wide variety of types of investments, including electrification of low- and moderate-income (LMI) housing, enhanced weatherization and efficiency improvements, installation of electric vehicle charging infrastructure, increased access to and electrification of public transit, increased electrification of port traffic, clean energy workforce training initiatives, and much more.

Revenue Investment

According to the CPRP, Maryland will need about \$1 billion per year in new revenue to fund all the programs included in the plan. How much revenue a cap-and-invest program would

generate for investment would depend on many factors, including the sectors covered, the stringency of interim emission budgets, and the amount of allocated allowances.

In any event, a cap-and-invest program would raise substantial revenue, so the “invest” part of cap-and-invest is crucially important.

Investment of revenues can make emission reductions easier and cheaper to achieve, can help achieve more emission reductions more quickly, and can support emission reductions in sectors not covered by the cap. Revenue investment can also support a range of other purposes, including reducing the regressive effects of the carbon price on the poor, helping fossil-fuel-dependent communities and workers transition to a clean energy economy, building a clean energy workforce, investing in research and development for next-generation decarbonization technologies, improving resilience to climate impacts, and much more.

Maryland would have to decide how best to utilize the substantial revenues likely to be raised from an economy-wide cap-and-invest program. Maryland could decide to focus

revenue investment very narrowly, on one or a few areas at a time; for example, the state could decide to dedicate substantial revenues to electrifying LMI buildings and deploying electric school buses, both of which could accelerate decarbonization while providing numerous economic and health benefits to vulnerable communities. Alternatively, the state could support a wide range of existing and new programs, such as those laid out in the CPRP. The state could decide to focus investments on areas that represent gaps in the suite of existing federal and state funding resources available, or it could decide to supplement those resources in the same areas. It could invest in research and development of new and improved technologies, or it could leave such investments to the federal government, other states, and/or the private sector.

The available funding from allowance auctions would be substantial, but it would not be infinite. The state would have to make difficult choices about where to direct its investments. A stakeholder engagement process is essential to provide input on and build public support for investment priorities and decisions.

Conclusion

MDE is exploring an economy-wide cap-and-invest program to supplement the sectoral programs in its *Climate Pollution Reduction Plan*, and HB1272 would require MDE to develop such a program.

Cap-and-invest would close emissions gaps left by the sectoral programs to meet Maryland’s 2031 and 2045 targets. In addition, it would raise substantial revenues to invest in accelerating emissions reductions, enhancing resiliency to climate impacts, and protecting underserved and overburdened communities.

Design details are critical, however, and informed stakeholder engagement during MDE’s evaluation of cap-and-invest will be crucial. CLPP plans to follow this primer with a series of deeper-dive briefs to help inform stakeholders.