

Getting to Yes: Internal Preparations—State Carbon Trading Checklist for a Meeting with the Governor

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THE POLITICAL CASE

- ☐ Why act on climate?
- ☐ Why act now?
- ☐ When acting on climate, why a declining carbon cap, with trading?
- ☐ What will be the benefits of this program?
- ☐ What will be the cost of this program?
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NUTS AND BOLTS

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Public attention focuses on a policy once a governor makes a formal announcement and sets the debate in motion. However, much of the work happens before that moment, in conversations among state officials and their staff, and with key stakeholders. This memo is intended to support the work of “getting to yes” on a policy—in this case, a declining cap (and trade) program to reduce carbon dioxide emissions—once internal leadership has decided it is worth exploration. The memo reflects conversations with representatives of about a dozen states, including those that have capped carbon pollution, those that are in the process of doing so, and those that see this as a potential policy solution going forward.

Part One of this memo tackles the political case for action on a carbon dioxide cap-and-trade program. Part Two describes the practical, nuts-and-bolts considerations to make before a policy announcement, to anticipate questions about design and legal authority, and to rally critical state and third-party resources.

PART ONE: THE POLITICAL CASE

Why Act on Climate?

Why should the governor spend time and political capital on climate change mitigation policies? Three sets of facts converge on this question.

✓ *Scientific facts.* The scientific consensus, as reflected in peer-reviewed research compilations from the Intergovernmental Panel on Climate Change, is that we must keep average global temperatures at less than 2 degrees Celsius above pre-industrial levels—and ideally, [below 1.5 degree Celsius](#)—to avoid catastrophic climate change. (Humans have already increased global temperatures by about 1 degree Celsius.) To remain under 2 degrees, the world must reduce carbon dioxide emissions 25% from 2010 by 2030, and net zero emissions by 2070; to remain under 1.5 degrees, the numbers are more drastic—45% by 2030, and net zero by 2050. These facts argue for climate change action.

✓ *Political facts.* As noted in the polling section below, a sense of urgency about man-made climate change has been slowly growing. In early 2019, the [Yale Program on Climate Change Communication](#) reported that 60% of Americans are now “alarmed” or “concerned” about climate change; the share of “alarmed” responses (29%) is twice the response rate in 2013. A [March 2019 Gallup poll](#) found for the first time since 2001, a majority of Americans (51%) identified themselves as “concerned believers” in climate change. There is great variability in responses, with women, young people, and people of color more likely to believe in climate change and express concern about its impacts. [Voters rank other issues higher than climate change](#) and express concern about [the cost of climate action](#). However, the Yale Program found that [people are willing to pay \\$177 a year](#) to reduce greenhouse gases, if the money goes to clean energy investment. Moreover, as Table 1 suggests below, support is galvanized when a specific government action is suggested. These facts suggest that climate change is growing in importance among voters, but to ensure deeper support states should seek solutions that emphasize public health improvements, clean energy, and economic benefits.

✓ *Governing facts.* In most states, the governor has four years to set and implement an agenda; Vermont and New Hampshire have just two-year terms. The laws of 36 states have limited the number of terms a person can be governor; voters also can limit continued service at the polls. Therefore, governors have limited opportunities to make their mark. Many state administrations question how to prioritize climate change over other important issues.

In combination, these facts suggest that climate change is important to tackle, and that mapping this issue onto constituent concerns and your governor’s priorities is the best way to attract attention, build support, and earn a spot on the governor’s agenda. Did your governor campaign on health care or promise to expand Medicaid? If so, drawing a clear line between health impacts of climate change and Medicaid savings from cleaner air and a stable climate could build support for climate action by your governor and her supporters. Is your state focused on job creation? A program to attract new, clean tech firms to your state might well include the creation of market signals for investment in clean energy.

Table 1: Sample Climate Polling Results

Percent of adults that:	North Carolina	Virginia	Maryland	New York
Support regulating CO ₂ as a pollutants	77%	78%	81%	83%
Support setting strict limits on coal-fired power plants	70%	71%	76%	78%
Support requiring fossil fuel companies to pay a carbon tax	67%	70%	73%	74%
Think their governor should do more to address global warming	57%	57%	59%	62%
Think Congress should do more to address global warming	61%	63%	68%	68%

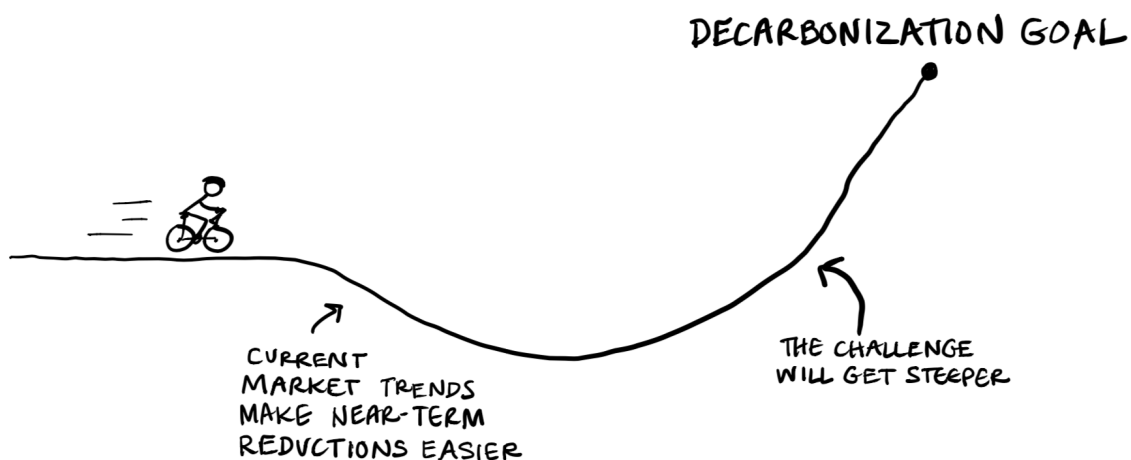
Howe, P. Mildenberger, M., Marion, J.R., and Leiserowitz, A., "Geographic Variation in Opinions on Climate Change at State and Local Scales in the USA," *Nature Climate Change*. DOI:10.1038/nclimate2583 and Yale Climate Opinion Maps, at <http://climatecommunication.yale.edu/visualizations-data/ycom-us-2018/>.

Why Act Now?

What is the political case for acting now on climate change, and not ten years from now, or in the governor's next term?

Tackling greenhouse gas emissions at this moment in time, particularly from the power sector, was likened in one discussion with states to bicycling downhill. Right now, market forces are at our back, pushing us downhill into deeper carbon reductions in the power sector. At the same time, electrification provides an opportunity to make gains in the transportation and building heating sectors. Pedaling downhill will deepen the reduction trajectory in the near term while making the later climbs easier. And a substantial climb likely awaits us after this near-term dip in the terrain. Indeed, at least three hills lie ahead. First, by the mid-2020s, projections show emissions reductions in the U.S. power sector stalling, as coal retirements slow and more gas comes online. Second, our carbon-free nuclear fleet, responsible for 20% of America's electricity, is aging and may need to be replaced. Third, the midcentury net-zero goal that scientists say is necessary will require more fundamental changes in our energy infrastructure. As the figure illustrates, taking action builds on our momentum and helps us pick up our pace before the next hill.

PEDALING DOWNHILL WILL MAKE THE CLIMB EASIER



Credit: Franz Litz.

When Acting on Climate, Why a Declining Carbon Cap, with Trading?

If your governor wants to act on climate change, why should he or she consider a declining cap on carbon as a mechanism, or the mechanism, for achieving greenhouse gas reductions?

States (and Canadian provinces) taking climate action have coalesced on several approaches: a declining carbon cap on one or more sectors of the economy; a Renewable Portfolio Standard (RPS) requiring utilities to generate or purchase a share of their electricity from non-emitting or clean sources; a Low Carbon Fuel Standard to lower the average carbon intensity of transportation fuels; tax credits and incentives to purchase and use energy efficient, low-emitting, and energy management technologies; policies to deploy low- and zero-emitting vehicles; and in limited cases, a carbon tax.

There are many reasons why a state might deploy one mechanism over another or more than one mechanism simultaneously. For instance, some states expressed support for actions that could be messaged as delivery of innovative clean energy, or economic development; they raised concerns that a declining cap on carbon pollution might be harder to sell as anything but a climate policy. However, the following are arguments for including a declining cap in the mix of approaches for a governor to consider:

- A declining cap can serve as a backstop to other policies to ensure that emissions actually will be reduced. EV tax credits or an RPS, for instance, do not guarantee emissions reductions.
- A cap-and-trade program achieves reductions in the most cost-effective way.
- Under the financial notion of “option theory,” even a modest cap encourages robust investment in clean energy technologies, because it signals to investors that carbon will continue to be reduced and (thereby amplifying the results of complementary clean energy targets).
- Moreover, the *market* selects the technologies; policymakers need not pick “winners and losers.”
- With the use of “cost collars” (mechanisms to prevent the cost of a pollution allowance from going too low or too high), the cost of a declining cap program is relatively predictable and can facilitate long-range business planning. A new report suggests these mechanisms may also drive additional reductions!
- Pollution allowances are readily incorporated into electricity pricing, whether in a traditional cost-of-service state or in a competitive power market.
- Revenue from allowance auctions can be used to invest in other popular and effective climate actions, including investment in energy efficiency and clean energy.

What is a cap-and-trade program, exactly? In existing U.S. cap-and-trade programs, a state or group of states set a pollution budget for a group of emitting sources, and a timetable for reducing the budget in future years. The budget is divided up into carbon “allowances”—each allowance permitting the source that holds it to emit one ton of carbon dioxide into the atmosphere. States allocate allowances at the start of the year, either by handing them out for free based on the size or historic emissions of each source or by auctioning them. The sources then have options: they can emit exactly the number of tons reflected in the allowances they hold at the start of a compliance period; emit fewer tons and sell the excess pollution credits; or emit excess pollution and buy the right to emit those extra tons by buying pollution credits. Some programs allow sources to “bank” allowances for future compliance purposes.

What Are the Benefits of a Cap?

The governor will also want to know what benefits would flow from a declining cap program and the level of certainty you can place on those benefits.

Based on the declining cap over time, you will be able to project significant emissions reductions for the sources covered by the cap. That is a clear, measurable benefit of the program.

Economic activity benefits should accrue as well. For initial conversations with the governor, you could point to evaluations of existing programs. For instance, the [Analysis Group](#) determined that from 2000 to 2017, RGGI generated approximately \$4 billion in economic value added for the participating states.¹ A 2017 analysis by the [California Air Resources Board](#) determined that cap-and-trade was three to five times less expensive than traditional regulation to achieve the same greenhouse gas reductions.

What Will Be the Cost of a Declining Cap Program?

If you propose this mechanism to the governor, he or she will want to know what this will cost covered entities and consumers, relative to the cost of other mitigation programs, or [the cost of inaction](#). Traditionally, a carbon tax was viewed as a mechanism with a known cost but an unknown environmental outcome; a declining carbon cap, on the other hand, had a known environmental outcome but an unknown cost. However, computer modeling can be employed to project the expected allowance price (per ton of carbon). With sophisticated analysis, and price floors and cost containment reserves, several existing declining cap programs feature relatively predictable prices.

When considering whether to undertake a cap-and-trade program, you can have initial modeling runs completed to project the range of allowance prices and other important impacts. Alternatively, where modeling is not possible or practical, for initial conversations with the governor, you can use the range of allowance prices and consumer prices in existing U.S. carbon markets as a ballpark estimate. For instance, [RGGI allowance prices](#) have ranged from \$1.86 a ton to \$7.50 a ton over its 10-year history. That said, it is important to note that the allowance price will be different than the experienced cost of the program. Moreover, program design is key; for instance, investment of auction revenues in energy efficiency or bill mitigation could bring down experienced cost.

What Will Be Our Consistent Description of This Program?

How will you describe this initiative, inside and outside government? Having this conversation now will reduce confusion and crossed signals between agencies and the governor's office down the road. You can build your description on the governor's priorities and constituents' concerns. You can also seek to avoid legal risk; for instance, by making clear the cap is not a tax, in states where a true tax would require [supermajority approval](#) in the state legislature. Discussions with states generated the following ways to describe these programs:

- A cap-and-trade program;
- A public health standard, or regulation with a limit on carbon pollution that declines over time (for governors with a strong health platform, or health and environmental justice);
- A market signal, or a market-based program (for states with a track record of success on clean energy investment, perhaps, or for governors with "open-for-business" platforms);
- Action by a "first mover" state to attract clean tech (for states that feel economic competition with their neighbors, or are facing the loss of a legacy industry); or
- A bipartisan climate change program (for states with divided government, perhaps, or for governors who have run on a moderate platform).

The most important thing to note is that all of these descriptions are true. This is not a branding exercise but an effort to describe a declining cap program accurately while matching the needs of the governor and the people of the state.

What Role Will the Legislature Play?

If a governor is going to act, he or she needs to know if the majority of their legislature will act as an ally, a bystander, or an active opponent. Legislation may not be necessary to establish a program; New York's program is based on regulation. Virginia's new program was also established by regulation. The Virginia General Assembly has restricted the Commonwealth from participating in RGGI for one year, however, [the governor "direct\[ed\] the Department of Environmental Quality to identify ways to implement the regulation and achieve our pollution reduction goals."](#)

¹ Much of this economic activity found in RGGI is driven by investments of the revenues generated through sales of pollution allowances.

Virginia, along with New Jersey and Oregon, are in the process of imposing a declining carbon cap, and California and the nine RGGI states have such a cap in place already. They are a part of a group of 24 states, that as of 2019, have joined the [Climate Alliance](#).

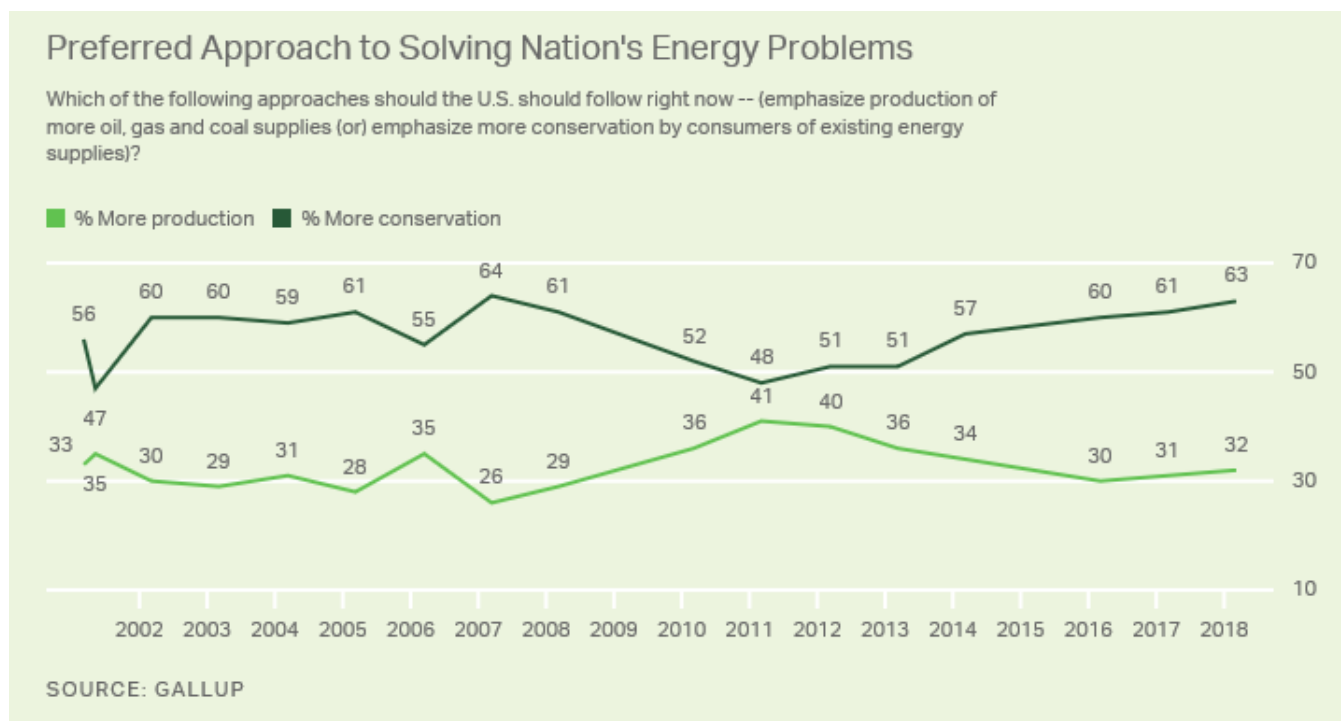
Of the 11 without a cap, six have the same party in the governor's seat and leading both houses of the legislature. It is more likely that the governors of Colorado, Hawaii, Illinois, Nevada, New Mexico, and Washington could consult with leadership in the legislature on designing an optimal state program. (Of course, relationships in individual states may vary.)

By contrast, in five states—Michigan, Minnesota, North Carolina, Pennsylvania, and Wisconsin—the Democratic governor must contend with a Republican legislature. None of these legislatures have a super-majority; if they passed legislation to stop the governor from imposing a cap, the governor could veto the legislation and proceed. Nevertheless, the governor may want to prepare for criticism and negative legislation in the event he or she acts on climate change.

This discussion assumes based on recent history that Democratic-led state legislatures are more supportive of climate action. However, individual legislators may hold different views on climate and energy policy notwithstanding party affiliation. Depending on your state, your governor may want to seek strategic alliances with legislators of either party—for instance, clean energy hawks, or representatives of coastal areas vulnerable to sea level rise. As [Brookings observed in early 2019](#), many Republican strongholds—most notably in the Southeast—face the biggest consequences of climate change.

What Does Opinion Polling Say?

As noted above, polls suggest a slowly growing consensus in the United States that man-made climate change is real and a source of concern. About 66% of Americans polled by Gallup in 2019 said they believed in man-made climate change; 42% think that climate change will pose a serious threat in their lifetime. Storms and flood events make the case more clearly for voters; following the devastation wrought by Hurricane Florence, a [2018 Elon University poll](#) found that 83% of respondents (68% of Republicans and 94% of Democrats) “think it’s very likely or somewhat likely that climate change will negatively impact coastal communities in North Carolina within the next 50 years.” As a result, even after hearing attacks on regulations to limit carbon pollution as an “energy tax” to kill jobs—[68% of respondents in a 2019 Pennsylvania poll](#) expressed support for this kind of action.



There is also strong support for energy efficiency. Since 2001, Gallup has asked Americans, “Which of the following approaches should the U.S. follow right now, production of more oil, gas and coal supplies, or more conservation by consumers of existing energy supplies?” In 2019, [63% favored conservation](#).

Meanwhile, as [Vox’s David Roberts](#) puts it, “Renewables are a public opinion juggernaut. Being against them is no longer an option.” Roberts cited a 2018 poll by the Edison Electric Institute that found 70% agreed that “in the near future, we should produce 100% of our electricity from renewable energy sources such as solar and wind.” This support softened but remained above 50% even with a 30% increase in energy bills. Clean energy support appears to overcome partisan divides; a 2019 poll taken by the [Ohio Conservative Energy Forum](#) found that two-thirds of Ohio conservatives supported an energy portfolio that included 50% renewables.

During our discussions, one person observed that concern about climate change and support for clean energy may not translate into “rallies clamoring for cap and trade” or any other specific climate mitigation mechanism. Discussions supported the idea of sticking to “the front of the brownie box” (rather than digging into the fine print of ingredients on the back of the box) and avoiding the trap of polling to search for support for particular climate mitigation approaches.

Who Are the Issue’s Key Stakeholders/Constituencies?

Climate change mitigation action holds generalized support but concentrated opposition. That is to say, while the public understands that climate change is happening, they may not have strong views on the best way to tackle it. (Moreover, [some polling suggests](#) that respondents are doubtful government can take meaningful action to stop climate change.) However, certain actors—energy-intensive, trade-exposed industry and fossil fuel companies, for instance—will have very strong views on the actions taken to reduce greenhouse gases.

Some environmental groups will not only support general climate action but will have policy expertise and deeply held views of their own on the best paths forward. Success in moving a climate change agenda will require engaging the stakeholders who are invested in the details or outcomes of a particular mitigation mechanism, often in advance of any official announcement of a program.

When briefing the governor, it will be important to map the stakeholder landscape. Which stakeholders will be strong allies for climate action and embrace the declining cap as the right approach? (Most national environmental groups, including Environmental Defense Fund and the Natural Resources Defense Council, will endorse a cap.) Which will support climate action but raise concerns about cap and trade? (Some [environmental justice organizations](#) have taken aim at market-based approaches, while others have engaged in program design to ensure equitable allocation of the program’s benefits.) Which will oppose the approach, or climate action generally? And which will be most affected by the program? For instance, if you are considering a power sector program, it will be important to engage early with the affected utilities.

The mapping should note where stakeholders might move. Could opponents be convinced to be neutral or tacitly support? Accommodations in the design of a trading program might appease some industry; complementary command-and-control regulations to tackle local air pollution problems may address environmental justice concerns. Meanwhile, are there allies that could be converted into champions, to make the case for a declining cap to key segments of the public?

It bears noting that industrial stakeholders that were once wary of a cap in the states participating in RGGI are now largely supportive of the program. Indeed, RGGI has created new constituencies for climate action that previously did not exist. For examples, consult the stakeholder comments on the [RGGI, Inc. website](#). Similarly, the oil and gas industry supported 2018 legislation to expand California’s cap-and-trade program.

How Can We Build the Record and Gain Public Support?

What education is needed, within state government, among key stakeholders, and in the general public? How can listening sessions and stakeholder processes be used to build support for the endeavor? These questions are relevant for the time period before an announcement, as well as after a public decision is made.

It will be important to raise awareness about a declining cap approach, its relative merit, and design options among government officials. Your primary education targets (or sources of information) might be:

- Environmental and nonenvironmental key staff in the governor’s office;

- Cabinet leads of environmental, energy, and natural resource agencies and their staff (depending on the possible scope of the cap, leadership at other agencies such as the state Department of Transportation should be engaged as well);
- Staff of top allies in the legislature;
- Staff on the “front lines” of constituent interaction (for instance, agriculture extension officers).

Education could include briefings on climate action alternatives and examples of existing state cap-and-trade programs. It may be especially compelling to identify counterparts in other states with existing programs to speak to your key targets.

Engagement with key outside stakeholders, discussed in the previous section, might also include an educational component.

Next, it is important to think about how to educate and socialize the idea following a public announcement. The governor might issue an executive order calling for a stakeholder process to design a declining cap program most suitable to the state’s needs. Alternatively, or in addition to a formal stakeholder process, the governor’s office might engage universities and other organizations to host listening sessions for interested members of the public.

What Other States Might Be Interested in Collaborating?

Your governor may want to know about other states that are considering a carbon cap. As noted above, 10 Climate Alliance states have not yet capped their carbon dioxide emissions. Governors in some of these states have signed executive orders [to set carbon mitigation targets](#), or [evaluate a market-based carbon reduction program](#). Non-Climate Alliance states have also taken action to deploy clean energy or explore [capping carbon pollution from the transportation sector](#). Talking to your counterparts in other states to study these mechanisms in parallel, or even to explore linking state markets, may be a good way to support your governor’s efforts. State partnerships can leverage resources, making the initiative less expensive for each participating state. These partnerships can also provide political “safety in numbers.”

PART TWO: PRACTICAL QUESTIONS

For a primer on “Carbon Trading: Nuts and Bolts,” [please view this eight-minute video](https://vimeo.com/339553958) (<https://vimeo.com/339553958>).

What Sectors of the Economy Should the Program Cover?

Your administration will have to decide how much of the economy to cover with a declining carbon cap. All existing state programs cover the electric power sector. [California’s program](#) began as a power sector and industrial source program, and phased in transportation and building fuels. Oregon is contemplating an economy-wide cap. Meanwhile, most of the RGGI states, along with Pennsylvania, have announced they are exploring [a program to cap transportation emissions](#).

While states have not capped emissions from forestry or agriculture (or set targets for carbon sequestration by these activities), [California](#) and RGGI states like [Maryland](#) have enabled covered sources to meet part of their allowance obligation through investment in carbon reduction or sequestration activities in those other sectors. Compliance offset programs are not heavily utilized at this point but suggest an alternative to an agriculture cap.

There are several factors when determining when to cap a particular sector. One is the availability of information about current emissions and a robust method for estimating reductions. If you can’t measure emissions easily from a sector, it is difficult to establish a baseline or measure progress.

Other factors may be supply-side elasticity of demand in a sector and the ability to switch to cleaner energy sources. Both data availability and elasticity may explain the popularity of power sector caps. In the United States, monitors installed on fossil fuel fired power plants provide real-time reporting of carbon emissions. And the power sector has alternative technologies—wind, solar, battery storage, demand response, and more efficient natural gas—that enable it to respond readily to a market signal like a cap while producing the same or more electricity over time. With growing interest in hybrid and all-electric vehicles, the transportation sector will increasingly have the option of fuel switching and warm to the idea of a cap. Capping multiple sectors may also drive over-compliance in more elastic sectors.

There is also a political factor in determining what sectors to cover. Some sectors may resist a cap more than others. In addition, market design can attract new constituencies to support a cap. For instance, highway tax revenues are declining because of an uptick in the use of hybrid, electric, and more fuel-efficient vehicles. If your governor proposes a transportation sector cap-and-trade program that raises revenues, and then proposes to use some of the revenues to pay for roads and bridges, he or she might be more successful at bringing along transportation advocates and construction unions.

Should We Sell or Freely Allocate Allowances?

In a cap-and-trade program, a state or group of states sets an emissions budget and periodically allocates allowances. Each allowance authorizes a source to emit one ton of carbon dioxide in that year. Sources must measure, monitor, and report their emissions to confirm compliance. In no instance can a source emit more than the allowances it holds, nor can the sources collectively emit more than the number of allowances in the market.

As noted in the inset box on page 4, states may freely allocate allowances, set aside allowances to benefit particular sectors—such as renewable energy providers who can re-sell the allowances to raise capital—or auction allowances to raise revenue. Auction revenues can then be used to invest in further emissions reductions, insulate consumers from possible energy price increases, or meet another social need and win over constituencies. An auction also enables [price discovery](#)—making it clear to the market what the cost of abating a ton of carbon is in a particular geographic area.

A state agency may need explicit authorization by its legislature to collect allowance auctions. Therefore, for governors who do not enjoy a close working relationship with the legislature, running a direct auction may be off the table. Another option in that case might be to follow [Virginia's](#) lead. The Commonwealth plans to freely allocate allowances but then require sources to re-sell in a “consignment” auction. This enables price discovery; then, the utilities are expected to use the auction proceeds to pass savings onto their customers.

If a state decides to freely allocate allowances, it must then figure out how many allowances to give each covered source (or mitigate the impact of any rate increases). There are [a number of allocation approaches](#) to follow, for instance to keep manufacturers from relocating or to protect consumers from rate increases.

Do We Have Data on Emissions Baselines, Trends, and Projections?

As noted above, your program will need to be able to accurately track emissions to be effective. Therefore, it is important to collect all of the current information available about the carbon dioxide being emitted from sources in your state. In fact, if your state does not already have one, launching a [state greenhouse gas inventory](#) is a great first step to understanding the magnitude and nature of your emissions, and will help you decide which sectors might work well under a declining carbon cap. In addition, data collected by the U.S. Environmental Protection Agency and the U.S. Energy Information Administration can provide a good deal of information.

It is also important to understand the general emission trends and likely trajectories of each sector under a “business as usual” scenario. In general, this can be accomplished using computer modeling as discussed above. For the power sector, you might consult Integrated Resource Plans (IRPs) if your state utility commission requires these of utilities, and if these IRPs are considered reliable sources of information in your state. You might also work with your Department of Commerce, to understand trend lines for different types of businesses in your state. This information will help you identify the right rate of decline for your cap, to drive reductions in a reasonable way.

Have We Modeled Results of a Program? What Assumptions Should We Model?

When deciding to proceed with a cap-and-trade program, modelling can help your team get a general sense of the effects of the cap on emissions, electricity rates, and generation mix. As soon as your governor announces interest in this type of program, he or she is going to get questions on the environmental and economic impact of the program, and modeling provides a good back-of-the-envelope sense of this. A number of organizations exist that can help a state conduct modeling for a program, before or after an announcement is made.

It will be important to reassess model assumptions and generate new model runs after a year passes. This is particularly the case for the power sector, where rapid changes and greater understanding of power sector trends can rather quickly make assumptions obsolete. As Virginia hammered out the details of its cap-and-trade program, from 2017 to late 2018,

emissions projections under a business as usual scenario changed so much that the Commonwealth went from proposing a cap of 33 to 34 million tons of carbon dioxide per year to a cap of 28 million tons.

What Does Our Current Legal Authority Enable Us to Do?

When briefing the governor on a possible cap-and-trade program, you will need to know whether the state administration can act without legislative action. If the legislature is supportive of action, it is worth considering seeking legislative authority for the program, as it makes the program more durable against legal challenges and changes in state leadership. There may also be design elements that are not available to you, absent legislative action. For instance, in many states, it may not be possible for an environmental agency to run a carbon allowance auction and collect and spend the proceeds without the legislature granting that specific authority. As noted, this is why, for example, Virginia proposed to operate a consignment auction instead of a revenue-generating auction for its electricity sector cap.

The best source of possible authority will be your state's general environmental statutes and laws focused on air pollution. Many states have run pollution trading programs for years, usually but not always as part of a broader federal program. Due to this history, your state may have explicit pre-existing agency authority to run this type of program. Other state laws may direct the state environmental or air quality agency to pursue market-based programs, or to advance cooperation with other states. This type of general language, coupled with an overarching directive to control air pollution, might give agencies the power to regulate carbon dioxide, and to do so through some form of a cap-and-trade program. Further study is necessary to determine what sources the agency may regulate by including them in the cap.

In addition, it will be important to research whether your state has any laws that might restrict action, even if the environmental statute seems broad enough to authorize a cap-and-trade program. For instance, the National Conference of State Legislatures estimates that at least 19 states have passed laws restricting environmental agencies from implementing rules or standards that are more stringent than those imposed by the federal government. The laws are worded differently from state to state, and state courts have reached different conclusions about the breadth of these restrictions. You should determine if your state has one of these laws, and whether a court has interpreted it.

Several governors or legislators have sought formal opinions from the state attorney general about existing authorities to launch a cap-and-trade program. For instance, in response to a request by a state delegate, [the Virginia attorney general determined](#) that the VA Air Pollution Control Board “is legally authorized to regulate GHG [greenhouse gas] emissions, including establishing a statewide cap on GHG emissions for all new and existing fossil fuel electric generating plants.”

What Can/Should We Ask Legislature to Do?

Based on your legal review above, you may consider working with members of your legislature to clarify agency authority to set a declining carbon cap or to authorize the use of specific design elements (for instance, an auction mechanism to raise revenue).

Of course, in some instances, the governor may not find a majority in the legislature willing to work on this project. It may still be worth exploring legislative proposals, or if one house in the legislature is sympathetic, to suggest hearings. Both types of actions could socialize the idea of capping carbon pollution and build a course for future action. Your legal review may suggest, and an attorney general opinion may confirm, that agency action is possible without the legislature.

What Staff and Resources Will This Take to Launch?

In state agencies, time and money are limited resources. For many states, regulating carbon dioxide is a relatively new activity, and is additive to all of the other pollutants and activities already regulated by the agency. Your governor and his or her environmental agency leadership will want to know how labor-intensive it will be to launch a carbon trading program.

The answer will turn on a number of factors, including the size of the state, the size of the proposed program, the agency's familiarity with pollution trading programs, the support you will have in the legislature (which could allocate additional resources to the effort), and the competing demands on environmental staff. However, one way to lighten the load may be to look to existing state trading programs. For instance, you could start with the [model trading rule](#) crafted by the state members of the Regional Greenhouse Gas Initiative, and then make changes to expand the program beyond the power

sector, or to match the particular needs of your state. You could consider using existing trading platforms for the purchase and sale of pollution credits, to reduce the burden of tracking credit transactions.

You could also reach out to a number of nonprofit organizations that have worked with other states on this issue, including the RGGI Project Series, Georgetown Climate Center, the Great Plains Institute, the Duke Nicholas Institute for Environmental Policy Solutions, and Resources for the Future. These organizations can provide modeling, econometrics, policy analysis, and stakeholder engagement services.

Should We Stand Up a State-Only Program, or Look to Create Pollution Credits That Could Be Traded with Sources in Other States?

Looking to existing state programs as a starting point can be a great way to save resources. In addition, your governor could consider linking to those programs directly or allowing covered sources to comply with equivalent allowances from other states. In that case, your state would negotiate with other states to reach agreement on basic characteristics of your program, so that all parties would agree that a pollution allowance in one state was fungible with an allowance from another state. With that comfort, each state could allow their covered sources to submit allowances from any of the linked state programs for compliance. Linking might result in even greater program coordination.

There are a number of factors to consider when deciding whether to link to or recognize allowances from other states. Some are economic—it is worth modeling but generally speaking, as the program expands over a wider geographic area, the program should experience greater price stability. In addition, in states dominated by one or two utilities, a single-state trading program could run into issues of market power, with those dominant utilities cornering the market on allowances and controlling their cost and supply. Other factors are political. Your governor may want to join up with other states, particularly those in the same region, or sharing demographics or political beliefs, in a “strength in numbers” strategy. On the other hand, there might be resistance to linking with particular states. Moreover, if your state links to a state that covers different sectors of the economy, you will have to design the linkage carefully to maintain the integrity of the program and ensure net emissions reduction benefits across the programs.

PART THREE: CONCLUSION

This annotated checklist is intended to help you prepare for a conversation with your governor about using a cap-and-trade program to reduce carbon dioxide emissions from one or more sectors of your economy. The questions raised in this document are based on conversations we held with a number of states, and reflect their experiences crafting or considering a program. There may be additional ways to answer or address these questions, or other questions altogether. Please contact us with your feedback!

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