

Options for Addressing Early Action Greenhouse Gas Reductions and Offsets in U.S. Federal Cap-and-Trade Policy

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When implemented properly, an early action component of a cap-and-trade program can reward early actors while preserving or enhancing the environmental outcomes of the cap-and-trade program. If designed and implemented poorly, however, early action credits can inflate the emissions cap and reduce the overall environmental integrity of the program. This paper presents a range of options for addressing early reductions and discusses their implications.

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I. EXECUTIVE SUMMARY

Among the issues the U.S. Congress must address in designing federal climate change legislation is whether and how to address greenhouse gas emissions reduction activities that have occurred before the federal program takes effect (“early action”).

When implemented properly, an early action component of a cap-and-trade program can reward early actors while preserving or enhancing the environmental outcomes of the cap-and-trade program. If designed and implemented poorly, however, early action credits can inflate the emissions cap and reduce the overall environmental integrity of the program. A key consideration in this regard is whether early action credit comes out of the allowances that make up the emissions cap (“under the cap”) or whether they are awarded in addition to the cap (“above the cap”). If early action credit is awarded without increasing the total number of allowances in the system, then environmental integrity is preserved. If early action credit comes in the form of allowances added to the cap, then a number of potential concerns around the legitimacy of the early reductions come into play. This brief explores these issues by defining and examining key questions for policymakers surrounding early action. Its purpose is to inform the design of early action policy in U.S. climate policy.

II. KEY FINDINGS

- Awarding credit for early action from a pre-established, finite amount of allowance value taken from under the national GHG cap allows policy makers to recognize early actors without compromising the emission reduction goals of the cap and trade program.
- Emissions reduction activities eligible for early action credit should be restricted to those projects or programs that can demonstrate the early action taken resulted in voluntary, real, permanent, quantifiable, and

verifiable reductions. Additionality should also be considered if allowances are allocated that add to the emissions cap then those reductions, or offset credits are rewarded. However, because registries for project-based and entity-level emissions reductions do not collect the full range of information required to assess key elements such as emissions leakage, the environmental benefits of the cap-and-trade program are likely to be reduced if allowances are rewarded for these projects in addition to the cap.

- A number of states and regions have developed, or are in the process of developing and implementing their own cap-and-trade programs. If a federal program wishes to incorporate regional programs into the federal emissions trading program, provisions to help smooth this transition should be implemented. This transition should be designed in a manner that avoids price spikes and speculative activity in these markets in advance of the federal program taking effect.
- Clear regulatory guidance and defined crediting periods in advance of a federal greenhouse gas (GHG) control program taking effect will be important in order to send clear signals to affected entities. Ensuring that regulated entities and voluntary actors clearly understand what actions will and will not qualify for early action credit will provide regulatory certainty and encourage action in those areas policy makers deem most important.

III. WHO ARE THE EARLY ACTORS AND HOW IS EARLY ACTION DEFINED?

Early action is broadly considered to be those greenhouse gas (GHG) emissions reductions (activities or projects) undertaken by entities in advance of the implementation of federal regulation of GHG emissions. There are a wide range of activities that could potentially be considered as early action, such as energy efficiency projects and fuel switching. These activities and actors fall into four categories.

1. Voluntary Direct Reducers. These are actors who have voluntarily undertaken reductions in their direct GHG emissions. For example, by implementing efficiency improvements that reduce onsite out-of-stack emissions.

Many of these actors have registered those reductions in a recognized federal registry (e.g., Department of Energy 1605b), as well as regional and state non-profit registries (e.g., The Climate Registry, California Climate Action Registry and American Carbon Registry), or have joined a voluntary GHG control regime (e.g. Chicago Climate Exchange). These actors tend to be larger electric utilities and companies in energy intensive industries. The World Resources Institute (WRI)/World Business Council for Sustainable Development (WBCSD) GHG Protocol classifies direct emissions as Scope 1 emissions.¹

- 2. Voluntary Indirect Reducers and Purchasers of Renewable Electricity.** These are actors who have voluntarily undertaken reductions in their indirect GHG emissions. The GHG Protocol defines indirect emissions as those that are a consequence of the operations of the reporting company, but occur at sources owned or controlled by another company. Indirect emissions can be broken down into Scope 2 and Scope 3 emissions. Scope 2 indirect emissions include the use of purchased electricity. Scope 3 emissions include all other indirect emissions associated with the activities of a company, such as extraction and production of purchased materials, transportation of purchased materials, and use of sold products and services.² In addition, some actors may voluntarily purchase renewable electricity.
- 3. Voluntary Purchasers of Offsets.** These are actors who have voluntarily purchased GHG reduction credits generated as a result of the actions of other entities, such as GHG offsets. These reductions differ from indirect emissions as they are not a direct consequence of the operations of the reporting company. For example, an automobile manufacturer may pay for the destruction of methane emissions associated with livestock. Many of these transactions are recorded in non-profit and for-profit registries and are certified by third-party voluntary offset programs such as the Voluntary Carbon Standard, the Climate Action Reserve,³ and the American Carbon Registry, among others. These actors include a broad range of entities including large corporations and businesses, industrial facilities, state and local governments, and individuals.

4. Mandated Reducers under other Regulatory Programs. These are actors who were required to reduce direct or indirect emissions or purchase offsets through a regulatory GHG control regime in advance of the federal system's implementation. These programs currently include the northeastern Regional Greenhouse Gas Initiative (RGGI) and Oregon and Washington's carbon dioxide standards. This is a much smaller group, largely comprising regulated utilities and power plants located in those state.

B. How can credit for early action be awarded?

There are a variety of options for addressing early actions,⁴ these include:

1. Awarding allowances (or allowance value) set aside from under the greenhouse gas emissions cap. If allowances are allocated from under the cap, the total permissible emissions from the capped sectors remains unchanged, and the early actions retain their emissions reduction benefit. Figure 1 on the following page illustrates this concept.
2. Awarding allowances (or allowance value) that is created in addition to, or above the cap. If allowances are allocated in addition to the cap, then the total permissible emissions from capped sectors increases, and there is no emissions benefit from the early actions.
3. Awarding no credit for early action. Depending on how emissions allowances are distributed, the need for explicit recognition of early action could be obviated. In a system with 100% auction of emissions allowances, firms that have reduced their baseline⁵ in advance of the start year will have fewer permits to buy, resulting in a financial benefit to the company. In other words, firms under this scenario are rewarded by the fact that they need to purchase fewer emissions allowances as a result of the early emission reductions. In a system with free allocation of emissions permits based on historical emissions, firms that acted to reduce their emissions in advance of the baseline years will be penalized because they will receive fewer free emissions permits than if they had not taken early action. However, firms that reduced their emissions after the baseline years would be advantaged by their early actions as they would receive more emissions permits than are potentially needed for compliance.

IV. VOLUNTARY DIRECT REDUCERS

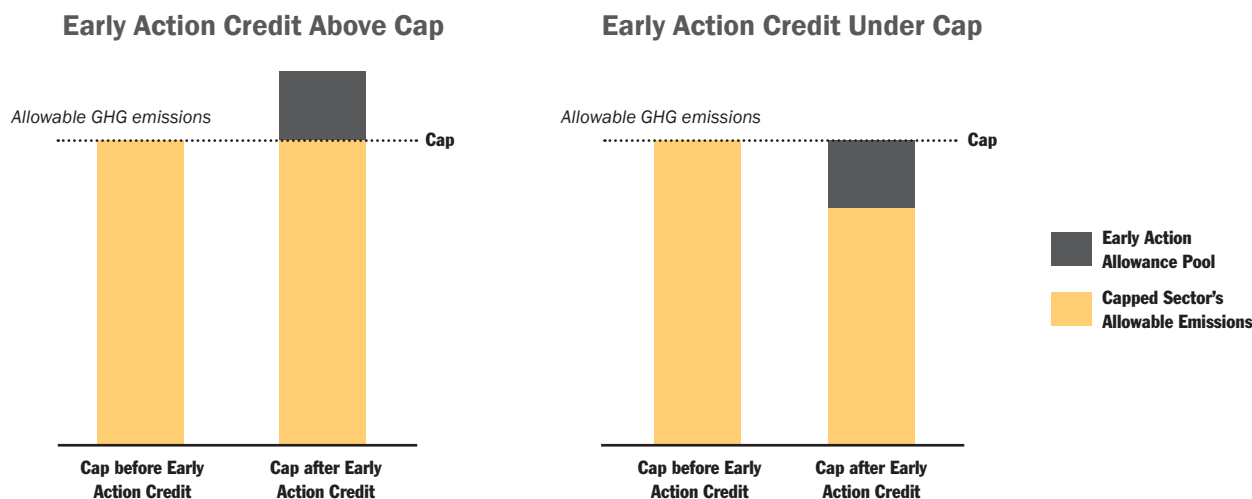
A. When and how should early action be recognized?

There are a number of factors that should be taken into account when considering whether and how to recognize early action as part of a cap-and-trade system. These include determinations regarding i) why an early action was undertaken, and ii) whether or not the emissions reduction benefit of that action was negated by an increase in emissions at another location.

Retroactively determining the underlying motivation for undertaking an emissions reduction project in advance of regulation, and accurately assessing the true environmental impact of a particular project is challenging. For example, shifts in relative fuel prices (i.e., the relative price of natural gas compared to oil), such as those recently seen in the Northeastern U.S., can change the economics of fuel consumption and drive reductions in the absence of a climate regulations.⁶ In other cases, facility emissions may have declined due to reduced activity at the emissions source. For example, some emissions reductions experienced by industrial emitters may be due to declining production, or the shifting of production to oversea facilities. Because these reductions would have occurred anyway, rewarding these "early actions" with allowances or allowance value in addition to the cap would undermine the mitigation benefits of the cap-and-trade program.

Alternatively, early action allowances could be sourced from under the cap to ensure that rewarded actions do not undermine the environmental integrity of the GHG program. If credits are issued from under the cap, then "slippage" in the environmental integrity of the emissions reduction activities seeking early action recognition becomes less important because total permissible emission levels under the cap are unchanged by the early action credits. Protection against this "slippage" becomes more important and more challenging the further back in time credits are awarded because reporting infrastructure and procedures were less available and it is more difficult to determine whether or not a reduction was undertaken in response to a particular policy signal.

Figure 1 | Early Action Crediting and Emissions Caps



Rewarding early action allowances in addition to the cap has a similar impact on the emissions cap as offsets. In both cases more emissions are allowed from regulated sectors during the compliance period in return for voluntary emissions reduction activities. Therefore, if allowances are to be rewarded in addition to the cap for early reductions, criteria similar to that used to evaluate offsets should be applied (i.e., is a reduction real, additional, verifiable, and permanent?).

B. How far in the past should credit be awarded for early action?

There are three distinct time periods that should be addressed when considering crediting for early action in the United States. These can be thought of as: 1) the period of time before legislation requiring the establishment of a GHG control regime was passed, or the *pre-legislative phase*; 2) the period of time between legislative passage and system launch, or the *pre-regulatory phase*; and 3) the period after the program comes into effect, or the *regulatory phase*. Figure 2 illustrates these time periods.

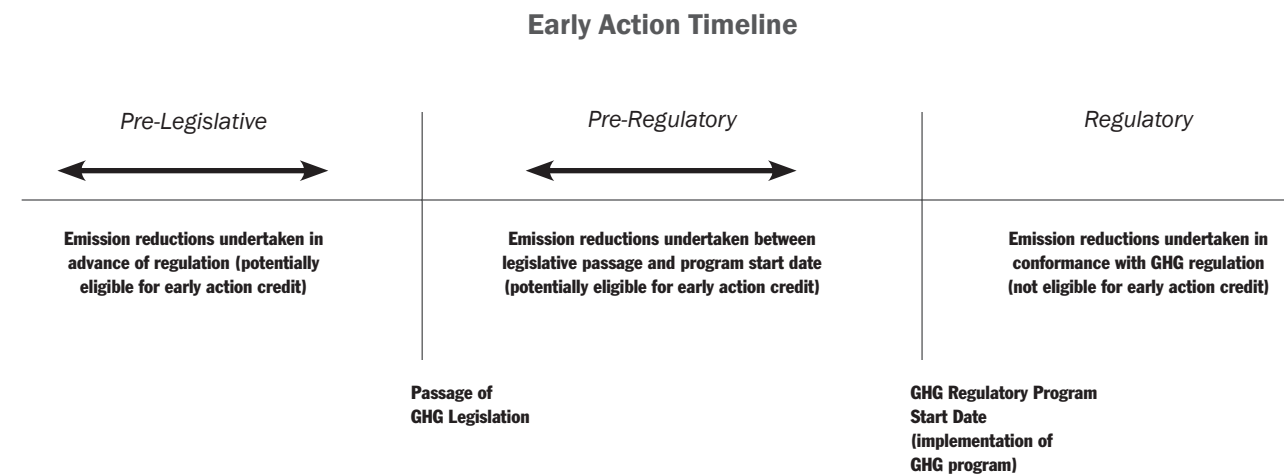
Pre-Legislative

The first period of time to consider is the “pre-legislative” phase. This time period includes emissions reductions that occurred in advance of the passage of federal climate legislation. Because these emissions reductions occurred when the future regulatory landscape was unknown, it can

be difficult to determine why a particular action was undertaken and what its resulting impact was on GHG emissions. In order to ensure the environmental integrity of the emissions cap, the prudent approach is to draw those allowances from under the cap.

If early reductions were made in the absence of regulatory or legislative certainty about how they will be treated, then it is less likely that they were pursued in anticipation of that future reward. Therefore, it is unlikely that they were additional from the perspective of the early action program intending to reward actors that reduce emissions in advance of a specific regulatory program. Many of these projects were likely implemented because they were cost-saving in nature. Pursuit of such win-win reductions is important, and should be encouraged. However, given the uncertainty of future reward those reductions are less likely to be additional, and the emission reduction targets of the program would be compromised if those projects received allowances in addition to the cap. Other reductions may have been made as part of the company’s consumer relations or social corporate responsibility strategy. Rewarding allowances above the cap for such actions would reverse their environmental benefit by allowing an emission in the capped sector to occur as a result of the allowance allocation. This occurs because in order to realize the value of the allowance allocation, the receiving company will have to sell the emissions

Figure 2 | Early Action Crediting and Emissions Caps



allowance back into to the capped sector, where it would enable an additional ton of emissions to be emitted.

Furthermore, government-recognized protocols for estimating direct emissions reductions are not yet in place. As a result, it can be challenging to determine the actual emissions benefit of a given activity; that is to say whether the emissions reductions were voluntary, real, permanent, verifiable, and quantifiable.

Establishing the eligibility date for early action is challenging because there is no one definitive date for legislative clarity, and no clear commencement date for the “carbon market.” The further back in time the eligibility date is set, the less likely it is that reductions took place in anticipation of carbon regulations, and the more challenging it will be to obtain reliable data about those actions. Furthermore, if allowances come from under the cap, later dates will increase demand for allowances, which will reduce total allowances available for other purposes (e.g., direct allocations to regulated entities). Meanwhile, if allowances come from under the cap, and the set-aside is constrained, then going further back in time will also dilute the reward for more recent projects if the allowances available for early action are limited.

Pre-Regulatory

Emissions reductions undertaken during the pre-regulatory phase, between the passage of legislation and program implementation, is generally thought to be the time where it is easiest to identify reductions undertaken in response to pending regulation (i.e. more likely to be additional). This is because the regulatory certainty provided by the passage of legislation, and the promise of rewards for early reduction make it more likely that these reductions are additional than pre-legislative reductions are likely to be. Providing early action credit for reductions during this period provides regulated entities greater temporal flexibility and can reduce the costs of compliance. However, in order to encourage regulated entities to begin reducing emissions quickly, clear regulatory guidance will be needed regarding the types of emissions reduction activities that will be eligible for early action crediting during this time period. In order to ensure that the early action program is of the highest quality, the guidance will also need to stipulate strong emissions and output monitoring requirements. The guidance should also clarify that early reductions during this period will not affect baseline emissions or output used to determine any free allocations.

Regulatory guidance regarding early action crediting could either be spelled out in the enabling legislation, or promulgated by the administering agency within a specified period of time after the legislation is passed.⁷ Such metrics are

likely to require a high level of technical expertise, and therefore it may be preferable to leave much of the detailed work to the program administrator.

C. The Importance of Output Data

Early actions should result in real emissions reductions, i.e., that the reductions claimed at one facility do not result in an increase elsewhere (this is commonly referred to as “leakage”). The Regional Greenhouse Gas Initiative (RGGI) program addressed this by not rewarding early action allowances for unit shut-downs, and incorporated electric output when calculating emissions benefits.⁸

Facilities should not be rewarded for emissions reductions that are the result of decreased production, as so doing merely shifts the emissions to other facilities located elsewhere in the United States, or abroad. Therefore, a robust early action program requires not just sound emissions data, but it also requires sound output data at the facility level. Concerns about leakage and the need for output or activity data are magnified if allowances are rewarded from above the cap, as failure to screen out projects with significant emissions leakage will compromise the emissions reduction goals of the program.

A number of registries have been established to enable firms to voluntarily track and report their GHG emissions and reductions over time; these include the Department of Energy’s (DOE) 1605b registry, the American Carbon Registry and The Climate Registry. Although not a registry, many companies also report their GHG emissions and track reductions through EPA’s Climate Leaders program. Some of the registries, such as the California Climate Action Registry (the precursor to The Climate Registry), were established with the explicit purpose of ensuring that firms who took early action had a record of those actions in an independent, third-party emissions tracking registry. However, these registries contain varied emissions data and employed different reporting techniques. Therefore, one approach for addressing the uncertainty surrounding emissions reduction projects undertaken in advance of the cap is to limit early action credit eligibility to only those emissions reductions registered in a reputable early action registry, as determined by the program administrator of the

federal program.⁹ The primary concern about this approach is that few existing registries require the reporting of output data, and therefore they do not allow for an accurate assessment of leakage.

Alternatively, the program administrator could be tasked with developing guidelines for determining early action benefits. It may be possible to retroactively calculate the appropriate reward for those entities by using fuel-use and output data. This would allow all entities that have made early reductions to be treated equally, instead of favoring those that have registered with an existing registry. As noted previously, all such retroactive examinations will face significant challenges to establishing additionality whether or not the reductions are recorded in a registry. Therefore, it may be appropriate to provide them with allowances from under the cap in order to ensure that this does not compromise the environmental benefits of the program.

V. VOLUNTARY INDIRECT REDUCERS AND PURCHASERS OF RENEWABLE ELECTRICITY

Voluntary indirect reductions present all of the same challenges and implications of direct emissions reductions, as detailed in section IV. This section discusses the additional challenges that they present to an early action program.

A. Scope 2 Emissions Reductions¹⁰ & Voluntary Purchases of Renewable Electricity

Greenhouse gas emission reductions could result from on-site reductions in electricity consumption and generation and purchases of renewable energy because they may avoid the operation of a fossil-based power plant. These types of projects cause an “indirect” emission reduction to occur because the emission reduction takes place at a location other than the site of the activity or project.

Without an accurate generation tracking mechanism, it is difficult to determine what generation was actually avoided by any particular activity, and therefore it is challenging to accurately calculate its emissions benefits. Current voluntary programs, such as EPA’s Climate Leaders and the

Climate Registry provide guidance on how emissions reductions claims should be calculated. However, these emission reduction benefits could be claimed by multiple parties: once by the implementer of the energy efficiency project (Scope 2 emissions) and once by the utility that registered the reduction in its stack emissions (Scope 1 emissions). Avoiding double crediting and double claiming of emission reduction benefits is an important component of accurately tracking and crediting emission reduction benefits in GHG control programs generally, and also applies to accurately recognizing early actors.

Therefore, if these emissions reductions are to be rewarded, then it may be appropriate to do so with allowances from under the cap.

B. Scope 3 Emissions Reductions¹¹

Scope 3 indirect emission reductions should not be rewarded for early action. These reductions are likely to be classified as another company's voluntary direct emissions reductions (Scope 1), and retrospectively assessing ownership is very challenging. Therefore, the risk of double counting emissions benefits as both direct and indirect reductions is very high. This double counting would undermine the environmental benefits of the program unless these early actions are credited from under the cap.

VI. VOLUNTARY OFFSETS

Many early actors purchased GHG offsets from the voluntary market as a component of their corporate social responsibility programs or for other reasons. However, the voluntary GHG offset market lacks standardization and is unregulated, leading to a wide range of quality of GHG offsets traded to date. There are currently a number of independent, voluntary, third-party registration and certification services for GHG offsets, with a wide range of quality. Registries include but are not limited to: the American Carbon Registry, the Chicago Climate Exchange, the Voluntary Carbon Standard and the Climate Action Reserve.

As in the case of direct emissions reduction projects, one approach for addressing the uncertainty surrounding offset

projects undertaken in advance of the cap is to limit early offset credit eligibility to only those offsets registered in a reputable registry, as determined by the program administrator. Eligibility for offsets for early recognition will ideally be restricted to those projects or programs that can demonstrate the offset project implemented resulted in a real, additional, permanent, quantifiable, and verifiable emissions reduction. This should be accomplished through the careful review of program eligibility requirements and methodologies by the administrator.

There are two primary ways to recognize the voluntary offset market in pending federal cap-and-trade policy:

1. as a source of early offset supply, or
2. with early action credit through an allowance allocation.

In the case of registries and offset certification programs that meet high quality standards, as determined by the program administrator, approved offset projects could be allowed to create federal offsets for a limited amount of time after the enactment of a federal program. Once federal protocols are available, registries should not be able to approve new projects for use in the federal offset system as this could potentially allow developers to circumvent the federal protocols.

If voluntary registries are determined to have lower quality protocols than the federal program, then providing projects they have registered with federal offsets would compromise the environmental goals of the cap-and-trade program. If compensation is desired, then projects could either go uncompensated and be forced to continue participating in voluntary markets or they could be compensated with allowances from under the cap.

Offsets that have been retired to meet a voluntary emissions reduction goal could potentially be treated similar to on-site emissions reductions and thus awarded early action credit. As with on-site reducers, if this credit is awarded from above the cap, the environmental benefit of these retired offset credits would be negated because it would result in additional emissions from capped sectors. However, if this credit is rewarded from under the cap,

then the reductions originally obtained by the activities will be retained.

It is important that any program for rewarding early action establish clear ownership over emissions reductions to prevent double counting. Any project whose offsets can be rewarded under the early action program should not also be eligible for reward as a voluntary direct emitter. It may be challenging to develop and apply rules and accounting procedures for projects that have already occurred, and therefore some double counting may be inevitable.

VII. MANDATED REDUCERS UNDER OTHER REGULATORY PROGRAMS

There are a number of state and regional programs in place in the U.S. that currently require GHG emissions reductions. Those programs fall into two broad categories, and should be treated differently. They are:

1. Those that impose emissions reduction standards on individual facilities (e.g., the CO₂ standards adopted by Oregon,¹² Washington,¹³ and Massachusetts¹⁴); and
2. Those that impose a regional or state-wide cap-and-trade program (e.g., the Northeastern and Mid-Atlantic Regional Greenhouse Gas Initiative).^{15,16}

Existing programs that do not use a cap-and-trade program to reduce emissions, such as the Oregon, Washington, and Massachusetts Carbon Dioxide Standards, could see their environmental benefits undermined if allowances are awarded to complying facilities from above the cap when a federal cap-and-trade program comes into effect. This is because the firm awarded an early action allowance could sell it into the market, thus allowing a regulated entity in the capped sector to emit more. Alternatively, those facilities could be awarded allowances from under the cap without compromising the environmental objectives of the state programs, but still providing the same financial benefit to the firm awarded the credit. However, because awarding early action allowances would reward facilities for making reductions they were already required to make by law, it may be deemed inappropriate. This rationale

holds true for developers of offsets used to satisfy mandatory emissions reduction goals.

Existing cap-and-trade programs are different. They allocate or auction allowances equal to the permissible tons of emissions. For the system to function properly, regulated entities must buy, sell, and bank allowances based on their expectations about supply and demand of emissions permits or allowances. If those programs are terminated, or suspended, when a federal program comes into effect,¹⁷ it would change the time horizon of supply and demand considerations, and likely would significantly impact the price of allowances in that system. Cap-and-trade programs determine allowance budgets before the compliance period ends, and actual emissions are known. Therefore, it is very likely that upon the systems' conclusion the number of allowances will either exceed or fall short of total emissions. If there are too few allowances to meet demand, then prices would increase substantially. If there are too many allowances, then prices would crash, as seen at the end of Phase I of the European Union Emissions Trading Scheme (EU ETS).¹⁸

Dramatic price swings are unhealthy for carbon markets and the regulated entities that depend on them as uncertainty about carbon prices undermines the planning benefits that carbon markets are meant to provide. Such crashes do not occur when allowances can be banked from one period to the next. Likewise, this situation can be avoided during a transition from a regional program to a federal program if allowances are allowed to transition into the federal program. The easiest way to do this is to provide a limited exchange of federal allowances in exchange for regional allowances. That exchange should be designed to avoid price spikes and speculative activity in these markets in advance of the federal program taking effect.

Allowances from Existing Cap-and-Trade Programs

It is important to consider the year in which an allowance can be used for compliance (i.e., the allowance's vintage) when determining whether and how to transition it into the federal program. Allowances should be subdivided as follows:

1. Vintages before the federal program goes into effect (e.g., if the federal program commences in 2012, then allowances issued in 2009, 2010, and 2011)
2. Vintages after the federal program goes into effect (e.g., if the federal program commences in 2012, then allowances issued in 2012, 2013, 2014, etc.)

Rewarding federal allowances for regional allowances of vintages before the federal program goes into effect (number 1 above) would smooth the transition from the regional to the federal program. Proactive reduction of emissions and the corresponding banking of allowances is an activity generally encouraged by cap-and-trade programs because they can reduce the cost of compliance. Providing this transition assistance would avoid penalizing regulated entities for complying with the law. Because it may be challenging to determine the actual emissions benefit of any given cap-and-trade program, it could be advantageous to exchange regional allowances for federal allowances set aside under the federal cap.

It does not seem necessary or appropriate to award federal allowances for regional allowances of vintages after the federal program goes into effect. Doing so would merely encourage states to allocate allowances significantly beyond the start date of a federal program. As long as states receive sufficient notice that their program will be preempted by a federal program, they should have time to modify their allowance distribution mechanisms. The RGGI program has auctioned a small number of future vintage allowances in order to enhance market liquidity. Given the current auction schedule, it seems likely that sufficient lead time could be provided for those states to cease the sale of future vintages, and to exchange sold future vintages with unsold current vintages.¹⁹

The only trading program in effect at this time is RGGI, and that program appears to be slightly over-allocated. This is the product of a modest program target coupled with the unpredicted switching of relative fuel prices, below-expected demand growth, and increasing renewable generation.²⁰ This makes it challenging to precisely calculate the actual emissions reduction benefits of the program. Therefore, it may be appropriate to provide this transition

assistance from under the federal cap in order to ensure that it does not compromise the emissions reduction goals of the program.

Price Implications

Because regulated entities depend on predictable carbon pricing, it is important that the transition mechanism not cause rapid price swings in the existing market. RGGI is currently selling allowances between \$3 and \$4 per short ton of CO₂, and federal allowances are expected to cost considerably more. Therefore, if federal allowances are exchanged on a ton-for-ton basis for regional allowances, then the price of RGGI allowances would increase to match the federal program. Such a transition mechanism could also lead to some hoarding by entities speculating about the price of federal allowances. Exchanging federal allowances for regional allowances on a dollar-for-dollar basis avoids these concerns and preserves the pricing of the pre-existing regional market. It also reduces speculative activity as unused allowances would merely be exchanged for an equal value of federal allowances. Regional and federal allowance prices could be determined using historical average auction prices.

Offsets from Existing Cap-and-Trade Programs

It may be desirable to provide a transition mechanism for offsets issued at the regional level (e.g. RGGI).²¹ As with allowances, there may be advantages to doing this on a dollar-for-dollar basis rather than a ton-for-ton basis. It is not yet clear whether the federal offset protocols will be more stringent than those that currently exist at that state and regional levels and regulators are unlikely to know before decisions regarding recognition of early action are made. However, this transition should be designed in a way that does not facilitate the circumvention of federal protocols by offset developers. Discounting regional offsets according to price will provide limited relief as developers of good projects would be more likely to apply for fewer high-priced federal offsets than more lower-priced regional offsets.

It may also be appropriate to establish strict eligibility timeframes. Restricting the regional offset transition mechanism to projects developed before the implementation

of federal legislation would ensure that projects do not apply for regional offsets in order to skirt the federal offset protocols. In order to protect the investment of the project developers, those offset projects could be allowed to create exchangeable offsets for some limited amount of time after the enactment of a federal program.

However, if the regional protocols are determined to be very robust, then it may be appropriate to allow regions to continue approving projects until the federal protocols are implemented to expedite development and liquidity of the regulatory offset market. Because this determination will require a high degree of technical expertise to ensure integrity of the system, it should be performed by the Administrator.

VIII. CONCLUSIONS

There are advantages and disadvantages to recognizing early action in the context of a U.S. federal GHG reduction program. On the one hand, GHG policy can take years to develop and implement, and if an early action recognition component is not included firms could be disincentivized from reducing emissions while they wait for regulatory guidance to be issued. On the other hand, recognizing actions that occurred far in advance of the GHG program, or under questionable auspices, could undermine the environmental integrity of the program.

Rewarding firms for activities that did not result in real reductions in GHG emissions (e.g. non-additional offset projects or reductions that create leakage elsewhere) with allowances above the cap would compromise the environmental integrity of the emission reduction system. Early action offsets and any direct or indirect reductions awarded with allowances above the cap should be demonstrated to meet the quality criteria of real, additional, measurable, permanent, and verifiable. Retrospective evaluations of these criteria will be challenging, and the challenge will likely grow the farther back in time the emission reductions occurred. However, by allocating allowances under the federal cap the environmental integrity of the program can be assured, while rewarding the contribution of early actors to the achievement of GHG emission reductions.

Early action provisions should also provide for a smooth transition for state and regional programs into the federal program. Those provisions should not undo any GHG reduction benefit from pre-existing programs, but rather find a way to transition unused state and regional allowances into federal allowances without inducing speculation and price spikes in regional markets. An allowance exchange based on relative price is an example of one such mechanism.

Notes and References

1. WRI/WBCSD Greenhouse Gas Protocol. A Corporate Accounting and Reporting Standard. March 2004. <http://www.ghgprotocol.org>.
2. Ibid.
3. Formerly the California Climate Action Registry.
4. See Appendix A for discussion of how various existing and proposed cap-and-trade programs have addressed early action.
5. A “GHG baseline” is the emissions from a given entity or sector against which future emission reductions are measured. For example, when evaluating the goal of reducing 80% below 2005 levels, the baseline would be the emissions levels in 2005. There are a variety of ways in which baselines are established, including an average of emission levels over one or a period of years, or the emissions associated with a unit of output, such as a MWh of electricity. Baseline establishment has important implications for the cost of a GHG reduction program and for allocation of reduction responsibility.
6. RGGI Emissions Trends and the Second Allowance Auction. Environment Northeast. December 15, 2008.
7. Presumably, mandatory GHG emission reporting requirements will be in place by the time federal climate change policy is passed, which will make tracking and reporting eligible emission reduction activities much more reliable.
8. Regional Greenhouse Gas Initiative. Model Rules, 12/31/08 final with corrections. The Regional Greenhouse Gas Initiative.
9. Careful review of program eligibility requirements and methodologies is necessary to ensure that only those emission reductions with actual environmental benefits are awarded. Such review should consider whether registries can demonstrate that facility actions resulted in voluntary, real, quantifiable, and verifiable emission reductions. And, if allowances are rewarded in addition to the cap, that such reductions are additional.
10. Scope 2 emissions reductions include on-site renewable electricity generation or implementation of energy efficiency measures that reduce fossil fuel consumption at a location not owned or controlled by the claimant.
11. Scope 3 emissions may include things such as extraction and production of purchased materials, transportation of purchased materials, and use of sold products and services.
12. Oregon Carbon Dioxide Standard ORS 469.503. <http://egov.oregon.gov/ENERGY/SITING/docs/rules/div24.pdf>
13. WAC 463-80. <http://apps.leg.wa.gov/WAC/default.aspx?cite=463-80&full=true>
14. 310 CMR 7.29 Emissions Standards for Power Plants.
15. The Regional Greenhouse Gas Initiative. <http://www.rggi.org>.
16. The Western Climate Initiative, the Midwestern Greenhouse Gas Reduction Accord, and the California program are currently scheduled to come into effect in 2012.
17. States may wish to continue operating their own state programs after a federal program goes into effect (but this will ultimately depend on how preemption is handled in the legislation). However, it is more likely that states will voluntarily terminate their own programs as they find it more advantageous to participate in a federal trading program. It is also possible that state programs will be preempted by federal legislation. Either way, transition is an issue that should be considered.
18. The price crash of emissions allowances at the termination of Phase I of the EU ETS is also widely attributed to the fact that emissions allowances were not able to be carried over for use in Phase II of the program.
19. Upcoming Auctions, current schedule of CO2 Allowance Auctions. Regional Greenhouse Gas Initiative. <http://www.veggi.org/CO2-auctions/upcoming>. Last accessed 8/06/09.
20. RGGI Emissions Trends. Environment Northeast. http://www.env-ne.org/public/resources/pdf/ENE_3rd_Emissions_Report_3.20.09.pdf
21. It should be noted that at the time of this article’s release no offset credits have been issued under any U.S. regional trading program.
22. American Clean Energy and Security Act. HR 2454. 111th Congress. § 782 & 795 (2009).
23. Lieberman-Warner Climate Security Act of 2007. S. 2191. 110th Congress. Subtitle B-Early Action & Sec 2408 (2007).
24. Lieberman-Warner Climate Security Act of 2007, Boxer Amendment Title VII, 110th Congress (2008).
25. Dingell-Boucher Discussion Draft. 110th Congress. § 725 (2008).
26. Regional Greenhouse Gas Initiative. Model Rule: Final with Corrections. December 31, 2008.
27. Western Climate Initiative. Design Recommendations for the WCI Regional Cap-and-Trade Program. September 23, 2008.
28. Midwestern Greenhouse Gas Reduction Accord: Draft Final Recommendations of the Advisory Group. June 2009.
29. California Assembly Bill 32. Climate Change Scoping Plan, a Framework for Change. California Air Resources Board. December 2008.

Treatment of Early Action Under Existing and Proposed Cap-and-Trade Programs – July 2009				
Federal Programs				
	Early Actions by Capped and Uncapped Sources		Early Action Offsets	
Bill/Program	Eligibility Criteria	Where Allowances Come From	Eligibility Criteria	Where Allowances Come From
American Clean Energy and Security Act (HR 2454) ²²	“Will reward early action that occurs between 1/1/01 and 1/1/09. To be eligible, entities must have had publicly stated GHG reduction goals and publicly reported against those goals, demonstrated entity-wide reductions, and must be able to demonstrate that there were projects undertaken to achieve the reductions.”	Allowances come from under the cap. Total compensation is equal to 0.25% of allowances in 2012	<p>“A project must 1) be established before Jan. 1 2009, 2) have started after Jan.1, 2001, 3) have developed methodologies through a public consultation or peer-review process, 4) have publicly published standards that ensure emission reductions are real, additional, verifiable, and enforceable, 5) require that all credits issued are registered in a publicly accessible registry with individual serial numbers for each ton, 6) there is no conflict of interest between the offset project representative and the registry.</p> <p>Retired and expired credits are not eligible. Projects that were not established by state or tribal law, or were established after Jan.1 2009 but otherwise meet all other criteria can apply to the Administrator for consideration for early offset credit.”</p>	Allowances come from under the cap. Total compensation is equal to 0.75% of allowances in 2012.
Lieberman-Warner (S.2191) ²³	Owners and operators of covered facilities and other facilities that emit GHGs in recognition of actions taken since January 1, 2004 that resulted in verified and credible reduction of GHGs	Allowances come from under the cap. Total compensation is equal to 5% of allowances in 2012, 4% in 2013, 3% in 2014, 2% in 2012, 1% in 2016	Administrator may allow for transition into the federal offset registry banked offset projects and allowances, as of the effective date of this act, are registered under or meet the standards of The Climate Registry, the California Climate Action Registry, The GHG Registry, Chicago Climate Exchange, the GHG Clean Projects Registry, or any other state, federal or private registries or programs if administrator determines they meet the requirements of this act. Offsets are eligible unless they have expired, been retired, or cancelled under any other program, registry or market as of the effective date of the governing rules established in this act. Offset projects are only eligible for review under federal program if they commence on or after effective date of federal offsets program.	Will create federal offsets in addition to the cap in exchange for eligible early offsets.
Lieberman-Warner Boxer Amendment ²⁴	Owners and operators of covered facilities and other facilities that emit GHGs in recognition of verified GHG emission reductions taken 1) before promulgation of the rules required by this section and 2) that resulted in actions taken before January 1, 1994 and resulted in actions before the date of enactment of this act	Allowances come from under the cap. Total compensation is equal to 5% of allowances in 2012-2014, 4% in 2015, 3% in 2016-2017, 1% 2018-2025.	Unchanged from original language (above)	Unchanged from original language (above)
Dingell Boucher Discussion Draft ²⁵	Any entity located in the U.S. that as of Dec. 31, 2011 holds emission allowances from the state of California or RGGI	Allowances come from under the cap. Total compensation is equal to 3% of allowances in 2012 and 2013, and 2% from 2014-2025	Upon Administrator approval, will reward offset projects that 1) commenced after Jan. 1, 2002 but before date of enactment of federal program, and 2) are registered under or meet the standards of an existing state, regional or federal greenhouse gas registry, or meet the standards of an existing private registry or greenhouse gas reduction program, are eligible for early action allowances. To be eligible, projects must have commenced no later than January 1, 2006.	Allowances come from under the cap.

Treatment of Early Action Under Existing and Proposed Cap-and-Trade Programs – July 2009, <i>continued</i>				
Regional Programs				
	Early Actions by Capped and Uncapped Sources		Early Action Offsets	
Bill/Program	Eligibility Criteria	Where Allowances Come From	Eligibility Criteria	Where Allowances Come From
RGGI ²⁶	The regulatory agency may award early reduction allowances to a CO2 budget source (regulated entity) for reductions achieved by the source in the three year period after the RGGI MOU was signed (2006-2008). Emissions reductions are ineligible if they result from facility shutdowns or reduction in output. See RGGI Model Rule for specific methodologies.	Allowances are in addition to the cap.	None. Projects are only eligible for offsets if they commenced after the RGGI Memorandum of Understanding was signed on December 20, 2005. Offset projects that commence after that date must follow the methodologies established in the RGGI Model Rule.	Not applicable.
WCI ²⁷	Jurisdictions may reward early action by providing allowances in addition to the cap so long as those reductions occurred at covered entities and facilities between January 1, 2008 and January 1, 2012, and so long as those reductions are early reductions credited are voluntary, additional, real, verifiable, permanent and enforceable. Jurisdictions may also reward early action that does not meet the above criteria if it comes from under the cap.	Mixed. Allowances may be in addition to the cap or may come from under the cap depending on the nature of the reductions (see eligibility criteria).	Doesn't address early action offsets specifically, though Design Recommendations note that WCI partners "do not intend to regulate or restrict the existing voluntary market in offsets."	Unclear whether this is applicable.
Midwestern Accord ²⁸	The Advisory Group recommends that early action should be recognized using a consistent region-wide cut-off date for early action to be agreed upon by the Participating Jurisdictions.	The Advisory Group recommend that allowances come from under the cap.	The Advisory Group recommends that early action offset projects be rewarded provided that their integrity is comparable to offsets approved under the MGGRA program.	Allowances come from under the cap.
CA AB 32 ²⁹	Will reward early reductions that can be adequately quantified and verified. Primarily defines early action as reductions that occur after AB 32 went into effect on January 1, 2007. However, will evaluate whether some reductions that occurred prior to that time should also receive credit.	Will set aside unspecified amount of allowances from first compliance period.	Under development.	Will consider rewarding early offset projects with allowance set aside for early action.

WHO WE ARE

WRI is an environmental think tank that goes beyond research to find practical ways to protect the earth and improve people's lives.

Today's environmental challenges are complex and global in nature. They call for visionary and ambitious action grounded in sound science and objective analysis—the kind of action that has distinguished WRI for 25 years.

OUR MISSION & GOALS

Our mission is to move human society to live in ways that protect Earth's environment and its capacity to provide for the needs and aspirations of current and future generations.

We organize our work around four key programmatic goals:

- **People & Ecosystems** — Reverse rapid degradation of ecosystems and assure their capacity to provide humans with needed goods and services.
- **Governance** — Empower people and support institutions to foster environmentally sound and socially equitable decision-making.
- **Climate Protection** — Protect the global climate system from further harm due to emissions of greenhouse gases and help humanity and the natural world adapt to unavoidable climate change.
- **Markets & Enterprise** — Harness markets and enterprise to expand economic opportunity and protect the environment.

A fifth goal—Institutional excellence—supports and enhances WRI's ability to achieve results.