

Energy and Clean Technology Alert: Offsets Drive Opportunities in the New Carbon Economy

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In the emerging carbon economy, projects that reduce, eliminate, or sequester carbon emissions will have enormous value. An examination of climate change legislation recently passed by the U.S. House of Representatives¹ indicates how important such projects will be and the many questions that remain about them. Those who participate in the legislative and regulatory processes that will define the amounts and types of eligible projects can gain a competitive advantage by ensuring they capture the full value of such projects.

To date, most technology entrepreneurs, project developers and investors, anticipating a “cap and trade” regulatory system, have focused on the number of allowances that the government would issue. This makes sense: the availability of allowances will have an important influence on the severity of the reductions required by “capped entities” and, correspondingly, on the competitive advantages of non-carbon fuel sources.

But allowances are not the whole story. In fact, from the perspective of driving investment decisions and market valuations, they may be less influential than carbon offset credits. The price for emitting carbon and the prospects for non-emitting competitors will be heavily influenced by the amount of offsets that can be used for compliance, the types of projects eligible to create offsets, and whether or not they are located in the U.S.

Carbon offset projects avoid, reduce, or sequester carbon emissions, and generally include activities such as:

- Capture and destruction of methane emissions from landfills
- Sequestration of carbon through forest preservation and expansion
- Reduction in CO₂ emissions through energy efficiency in buildings
- Avoidance of methane emissions through management of agricultural manure.²

The influence of offsets on the economic impacts of a federal cap and trade carbon control policy is vividly demonstrated in a recent study by the Congressional Research Service (CRS). It examines the potential costs of the climate legislation passed in June by the U.S. House, officially known as the American Clean Energy and Security Act (referred to here as Waxman-Markey, after its principal authors, Representatives Henry Waxman and Edward Markey). In its review of seven reports that used computer models to predict the economic impacts of the cap and trade portion of Waxman-Markey, the CRS found that the ability to use carbon offsets to

achieve compliance is “potentially the key factor in determining the cost” of the bill’s proposed cap and trade program.³

Waxman-Markey sets two important constraints on the use of offsets for compliance with its cap and trade program. One is a limit on the total amount of offsets that can be used for compliance. The other sets a limit on how many of these offsets can be obtained from outside the U.S. These two constraints will be crucial in determining the long-run marginal price of carbon offsets, indirectly the long-run price of carbon allowances, and the future competitive positions of low-carbon energy sources like wind, solar, and biomass.

The Total Amount of Offsets Allowed for Compliance

Waxman-Markey allows the federal government to issue five billion tons of allowances beginning in 2012, increasing that amount slightly each year until it reaches its high point of 5.05 billion tons by 2015. The limit then drops steadily each year, so that for example, by 2030, total annual allowances would be reduced to 2.9 billion tons.

The number of allowances alone is very likely insufficient to enable “business as usual” emissions, even at the outset, and these insufficiencies grow larger over time. Obviously, marginal industries may choose to comply with these new requirements by simply ceasing operation, making compliance relatively easier and less expensive for those that continue to operate. But the vast majority of emitters will seek to find a way to comply. If the supply of allowances is insufficient, bidding to purchase an allowance could produce prices that get very high indeed. The most important antidote to this is to expand the supply of compliance options by allowing the use of carbon offsets. Since the total cap on emissions cannot be exceeded, the environmental effect of purchasing credit for an emissions reduction from an offset project is the same as purchasing an allowance.

Because offset credits and allowances are interchangeable for compliance purposes, long-run prices for them will tend to converge. Whenever the long-run marginal cost of an offset project appears likely to yield an offset price that is less (by a significant margin) than the anticipated long-run price of allowances, it will make more sense for developers to build, and investors to invest in, carbon offset projects.⁴

Waxman-Markey would allow for the use of up to two billion tons of offset credits for compliance each year starting in 2012. This means that offsets, if they were fully used, would expand the compliance options available to capped entities by about 30% in 2012 and by about 67% in 2030. If offset projects are supported by investors and built by developers, they will constitute a dramatic expansion of the supply side of the carbon market and will moderate the price of allowances significantly.

One of the studies examined by the CRS suggests the large impact of allowing offsets to be used interchangeably with allowances for compliance. It estimates that if the two billion tons of allowances in Waxman-Markey were disallowed, allowance prices in 2030 would be expected to

increase from \$40 per ton to \$138 per ton and that, between 2012 and 2050, the average annual savings from offsets could be about 70%.⁵

On the other hand, offset projects take time to be approved, financed, and built. The CRS report notes that the seven studies generally agree that it will take time for the supply of international and domestic offsets to start producing credits, and that offset limits in the bill are generally not reached until 2025, if at all.⁶ This suggests that the price moderating effect of offsets will be quite modest at the outset, but increase over time as the price-escalating effects of diminishing allowances take effect.

Types of Offsets Projects Allowed for Compliance

Waxman-Markey sets up a process to determine which types of projects are eligible and which projects actually receive credit. An offset credit would be awarded to project developers for each ton of CO₂ equivalent reduced, avoided, or sequestered after January 1, 2009.⁷ Each project would receive credits from the Administrator of the Environmental Protection Agency (EPA) based on an assessment prepared by an independent third party who verifies the quantity of greenhouse gases that would be reduced, avoided, or sequestered.

Eligible types of offset projects are not defined nor are the criteria on which their performance will be evaluated. Instead, Waxman-Markey directs the EPA Administrator to determine the types of projects that are eligible to earn offset credits and the criteria for obtaining certification of project performance. It seems likely that the version of climate legislation signed into law will leave substantial discretion to the EPA Administrator to conduct rule-makings and make determinations to clarify eligible project types and performance evaluation criteria.

International Versus Domestic Offsets

The cost of offset projects varies widely from one type of project to another. Moreover, the cost of similar types of projects can vary widely, depending on whether they are located in the U.S. or abroad. Experience with the use of offsets under the Kyoto Protocol has shown that offsets available in less-developed countries can be considerably less expensive than those produced domestically. Thus, it is widely assumed that allowing compliance using offsets from projects in other countries will tend to lower the price of allowances and the overall cost of compliance.

Waxman-Markey allows covered entities to achieve compliance each year by using up to one billion tons of domestic offsets and one billion tons of international offsets. Further, if the supply of domestic offsets is below 0.9 billion tons, the remainder can be made up with international offsets, up to an additional 0.5 billion tons.⁸ The EPA Administrator is allowed to issue offset credits for projects in other countries and to exchange U.S. credits for credits issued by an international body established pursuant to the U.N. Framework on Climate Change or the Kyoto Protocol.⁹

The CRS report notes that, of the seven reports it examined, three modeled scenarios in which international offsets could not be used for compliance. Those three studies predict that if

international offsets cannot be used for compliance, by 2030 the price of carbon allowances would increase dramatically, ranging from a low of 65% in one study to a high of 180% in another.¹⁰

Conclusion

The volume of carbon offset projects deemed eligible for compliance with emission requirements under federal cap and trade legislation will substantially influence the cost compliance for capped entities. A large supply of approved offset projects will bring down the price of carbon allowances, and make the overall cost of compliance lower than it would be otherwise. A large supply of international offsets available to be used for compliance will further reduce the cost of allowances and the overall cost of compliance.

At the same time, wind, solar, biomass, and other low carbon-emitting sources of energy are likely to see their competitive advantages over carbon-emitting sources of energy vary according to the supply and price of qualifying carbon offsets, and the supply of eligible international offsets allowed by the legislation will determine the degree to which investors choose to invest in domestic carbon-reducing technologies and projects.

Technology entrepreneurs, project developers, and investors may find their competitive positions in the new carbon economy heavily influenced by federal policies on carbon offsets. The degree to which this will be the case will be determined, not only as a result of the legislative debates now underway, but also even after legislation is enacted. Federal agencies will have to write the rules on eligible projects, performance evaluation, and verification requirements. Clean energy companies and offset project developers would do well to create a chorus of vibrant and influential voices throughout this process.

Endnotes

¹ The American Clean Energy and Security Act, H. 2454, June 26, 2009

² For an example of offset project categories approved in one cap and trade program in the U.S., see the categories eligible for compliance with the Regional Greenhouse Gas Initiative at <http://www.rggi.org/offsets/categories>.

³ Larry Parker and Brent D. Yacobucci, “Climate Change: Costs and Benefits of the Cap-and-Trade Provisions of H.R. 2454,” *Congressional Research Office* (Washington, DC: September 14, 2009): ii.

⁴ This is not to say that prevailing (i.e. short-run) prices for allowances and offsets will be identical. The certainty of compliance obtained by purchasing an allowance will always tend to give it a short-term advantage over the uncertainty of future production and compliance inherent in an offset project. Buyers will want to obtain a discount on the purchase price of offset credits

that reflects this risk difference. This short-run price advantage of allowances may be countered by the ability to buy project offset credits under a long-term contract and obtain a hedge against future volatility in allowance prices. Thus, while the prevailing price for allowances may often be slightly higher than the prevailing price for an equivalent amount of offsets, the tendency will be for long-run prices for allowances and offsets to converge.

⁵ Congressional Budget Office, “The Use of Offsets to Reduce Greenhouse Gases” (August 3, 2009); Economic and Policy Brief prepared by Natalie Tawil.

⁶ CRS, *ibid.* p. 46

⁷ At the EPA Administrator’s discretion, offset credits may be awarded to projects started after January 1, 2001 and to offset projects for which credits were issued by another regulatory or voluntary program, provided that the program’s evaluation standards are at least as rigorous as those used by the proposed federal program [See ACESA, Section 740 (a)].

⁸ Under Waxman–Markey, after 2017 international offsets are discounted by 20%; that is, five international offsets are required to offset four tons of emissions.

⁹ While the bill doesn’t stipulate the type of international projects that would be eligible for offset credits, it does establish guidelines regarding international offsets from reduced deforestation.

¹⁰ The three reports are (1) EPA/IGEM: “Data Annex” available on the EPA Web site, [here](#). (2) EIA/NEMS: EIA, Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009, (August 2009); and (3) NBCC/CRA: CRA International, Impact on the Economy of the American Clean Energy and Security Act of 2009 (H.R. 2454) (May 2009).

If you have any questions about the new regulations or the regulatory process, please call your Mintz Levin service professional or any of those listed below.

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