

## Policy Options Involving Offsets

# Addressing Uncertainty in Investment in Initial Offsets Projects

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This primer examines the options for addressing concerns that sufficient offset supply will not be available at the outset of the cap-and-trade program. We discuss the treatment of offsets projects in the American Clean Energy and Security Act (H.R. 2454), and offer ideas on how the provisions could be altered to address these concerns.

### Will sufficient offsets quantities be available early on?

There is some debate over whether large quantities of offsets will be necessary in the early years of the program. Economic modeling of H.R. 2454 by EPA and EIA suggests that offset purchases are expected to be very high at the beginning of the program, with all of the one-billion-ton international offset limit exhausted and about 200 million tons of domestic offsets used as well — a very high early demand indeed. These purchases are against a cap that would, at the beginning, require less abatement than those totals. So the offsets would largely be banked by regulated entities for use later when the cap becomes tighter and abatement more expensive, rather than used right away for immediate, less-expensive compliance. Some argue, therefore, that offsets are not as necessary in the early years. This point of view essentially relegates banking to a non-essential role, but banking is a powerful device emitters use to smooth out costs over time and should not be easily dismissed. Others have pointed out that while the overall cap does not require significant reductions in the initial years, the carbon allowance market could be rigid or illiquid in the early years and many individual firms may need to purchase large quantities of allowances or off sets to cover their emissions. Thus, given these substantive factors and current political concerns, for the purposes of this primer we presume that offsets will be needed in the early years of

a cap-and-trade program to help contain costs or concerns about cost, and that investment in these offsets will create early mitigation activity and innovation in project development.

### Why are offsets necessary?

The economic analyses referenced above suggests that offsets are among the most powerful cost containment elements under H.R. 2454. Economically viable offset projects generally represent less-expensive alternatives to emission reductions in capped sectors and thereby reduce the marginal cost of achieving the aggregate target. Offsets can therefore play an important short-term role as low-carbon technology takes time to penetrate the capped sectors. Nevertheless, offsets represent only one of a series of options for cost containment; other strategies include price containment mechanisms, such as a strategic allowance reserve or price collar, which are described in a separate primer in this series. This primer assumes that offsets will remain in federal climate legislation as an option for cost containment.

Even if offsets are included in the legislation, however, the federal protocols for an offsets program have yet to be developed. Based on previous experience, a standard rule-making process takes 1 to 1.5 years, and the development of performance standards has taken up to 5 to 7 years. It will

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be important to have an expedited process to ensure a full set of federal offset protocols.

H.R. 2454 includes provisions to address the need for some certainty in offset provisions, such as specifying a list of forestry and agricultural activities eligible for offsets and recognition of post-2009 projects through state, regional, or equivalent registries. But many potential offset project investors have expressed concern that there is insufficient certainty, which they fear will hold back early investment.

For example, investors have expressed concerns over the length of time that early offsets projects will be credited and the protocols or project types that will be eligible. There have also been some suggestions for widening the available pool of early offsets credits by altering language in the legislation concerning international offsets, reduced emissions from deforestation and degradation (REDD), and performance standards for stationary sources.

To identify and address these concerns, the Nicholas Institute has convened a working group that has held a series of conference calls with Senate staff, Administration officials, investors, and other offsets experts. The working group has discussed the concerns over the treatment of interim offsets— those from projects developed after enactment but before the federal protocols are issued— in H.R. 2454 and the potential solutions. The results of those discussions are summarized in this draft memo, which has yet to be reviewed and updated with the thoughts of the work group.

## **What are sources of uncertainty in H.R. 2454?**

### ***Uncertainty in timing for offset investment***

Under H.R. 2454, offsets can be generated under existing protocols by activities occurring between January 1, 2009, and three years after the enactment of the bill. This window of project eligibility may not provide sufficient investment certainty and length of contract to make early offsets projects viable. Investors say they need to know that projects they invest in now — projects that may take a year or more to initiate and five or more years before becoming profitable — will be viable throughout that period. In addition, there is concern that once the federal offset protocols are in place, there will not be enough time to develop offset projects and generate offset credits for the first years of the cap-and-trade program. Overall these

questions may result in little investment in early offset projects.

Investors in the working group have suggested that extending the minimum guaranteed crediting period from the current 3 years to 7–10 years for nonforestry projects and 30 years for forestry projects would allow them to see a return on investment. Because it could be difficult to switch a project developed under an existing protocol to the federal protocol once it is issued, extending the guaranteed crediting period beyond the 3 years specified in H.R. 2454 is seen as critical in encouraging investment in early offsets supply.

### ***Uncertainty over offsets project eligibility***

The only protocols the work group believes can meet the criteria for immediate eligibility are those from the Regional Greenhouse Gas Initiative (RGGI) and the Climate Action Reserve (CAR). All other existing protocols, including those from the Voluntary Carbon Standard (VCS) and Chicago Climate Exchange (CCX), would have to be identified by the Administrator as being of at least equal stringency as those from RGGI and CAR before they could become eligible. It is unclear how long that process would take, but it could be a minimum of 1 to 1.5 years after enactment.

Therefore, while H.R. 2454 does not include a positive list of eligible protocols, the criteria indicate a de facto positive list of RGGI and CAR protocols.<sup>1</sup> Although the inclusion of an actual positive list in the legislation could provide more certainty, this approach, given past experience, could open the floodgates for all kinds of activities, regardless of their suitability and readiness for an offsets program. Thus, such a process would have to be carefully controlled.

## **Potential for Expanding Initial Offsets Pools**

### ***Domestic offsets pools***

The protocols from state and tribal registries will potentially make eligible the crediting of many types of

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<sup>1</sup> While H.R. 2454 indicates that offsets generated under RGGI and CAR are initially eligible, it does not specifically state that the verification methods from these registries are acceptable. Legislative language stating that offsets generated and verified under existing state or tribal registries could help resolve any uncertainty around the verification of initial offsets credits and accordingly help to ensure initial offset supply.

offsets projects. This section outlines potentially eligible offset activities under CAR and RGGI.

CAR issued new forestry protocols on September 1, 2009, which include forest management and avoided (forest) conversion projects. Because these protocols are so new, however, their potential for supplying credits to the initial offsets market is unclear. RGGI currently only allows afforestation/reforestation for forestry projects. Both RGGI and CAR have protocols for capturing methane from landfills or manure management, and RGGI also has protocols for reductions in SF6 emissions from the electric power sector and reductions in CO2 emissions from increased building efficiency (Table 1).

CAR currently has 80 projects listed or registered, mostly under its landfill, manure management, and forest management protocols. It has one avoided conversion project registered, but it has not been issued credits. In total, CAR has issued more than 1.6 million credits, referred to as Climate Reserve Tons (CRTs).<sup>2</sup> RGGI has not issued similar public data on the number of projects or tons registered under its protocols.

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<sup>2</sup> Climate Action Reserve. <http://www.climateactionreserve.org> (accessed September 9, 2009).

**Table 1. Existing offsets project protocols available under RGGI and CAR.**

Project Type	RGGI	CAR
Afforestation/reforestation	✓	✓
Forest management		✓
Avoided conversion		✓
Landfill methane capture	✓	✓
Manure methane capture	✓	✓
Reductions in SF <sub>6</sub> emissions	✓	
End-use efficiency	✓	

However, many activities are not yet covered by either RGGI or CAR. In particular only CCX has a protocol for domestic agricultural soil sequestration and it does not appear to guarantee eligibility given the current legislation. Thus, an alternative approach for engaging farmers and generating early reductions was proposed by the work group. During the transition to federal standards USDA could pay farmers and landowners directly for sequestration practices in a temporary pilot program. Farmers and landowners could receive offset credits from sequestration practices with USDA approval, instead of receiving direct cash payments. However, without an agreed-upon protocol for crediting practices, it would be unclear, at least initially, how many offsets the farmers would receive for their practices. Therefore, this approach may still present uncertainty for participation and offsets until the agency or the Congress acts.

**Effects of performance standards on offsets supply**

H.R. 2454 requires the development of performance standards for uncapped stationary sources in section 811. These same sources have been considered a potential source of offset credits, but may now be regulated and thus no longer available to generate credits. However, reductions from these sources beyond the requirements of the standards could potentially be eligible for offsets.

Based on data from the EPA GHG Inventory the standards may limit the use of methane sources, such as landfills and coal mines, in offset projects. The performance standards would affect categories of sources responsible for 10% of uncapped methane emissions, which make up more than 20% of uncapped greenhouse gas emissions. The impact on offsets supply will depend on how the standards are set. This is of significant concern because projects in these

sectors not only represent a significant pool of potential credits, but they are also among the highest-quality offsets, in that additionality, leakage, and permanence are more readily addressed than they are in many other potential offset activities (e.g., agriculture and forestry).

While it is possible that these sectors might still be able to generate offsets credits if they exceed the requirements of the performance standards, there might be little investment in these types of projects before the standards are promulgated because of the uncertainty over what the standards would look like and when they would be enforced. The legislation requires that standards be promulgated for 80% of identified uncapped sources within 3 years of enactment. Standards for an additional 25% of sources would have to be issued within 5 years of enactment, and standards for another 25% of remaining sources would have to be issued within 7 years of enactment. Standards for all affected sources would have to be issued within 10 years of enactment. EPA is also required to publish a schedule for promulgation of standards within 2 years of enactment.

Given past experience, however, it could take EPA 5–7 years to promulgate initial standards, and investors feel the details specified in the legislation do not give much certainty for investment in offsets projects in these sectors. We suggest two potential solutions:

1. The start date of the enforcement of the performance standards could be clarified to give more investment certainty. If it will take 5 years to issue the standards, language could be added to the legislation giving explicit eligibility for offsets projects in those sectors during that time period.

2. For even more investment certainty, the eligibility for offsets projects during a specified time period (3–5 years?) could be coupled with a guaranteed crediting period (5 years?) for projects that started within that period.

Both RGGI and CAR have existing protocols for landfill methane capture, and CAR is expected to issue protocols for coal mine methane capture in October 2009. If investors can take advantage of increased investment certainty, initial offset projects could generate reductions in these sectors in the interim and help seed the offsets market and provide early cost containment. While the EPA will get much of the data it needs to write the standards from the new GHG reporting rule, it might also be able to take advantage of different kinds of data generated by an interim offsets program.

### ***International offsets pools***

H.R. 2454 allows the purchase of credits issued by an international body, which would include those from the Clean Development Mechanism (CDM), which are currently issued under the Kyoto Protocol in the United Nations Framework Convention on Climate Change (UNFCCC).<sup>3</sup> Before credits can be purchased, however, the United States must have a bilateral or multilateral agreement with the country in which the project is located. Maintaining some level of government control over the use of CDM can allow the U.S. to exert its own quality control and may also provide negotiators needed leverage in upcoming international negotiations as the CDM may be substantially revised. It was suggested by the work group that a memorandum of understanding (MOU) with the UNFCCC could satisfy the requirements and expedite the process, while still allowing the U.S. to have some control over the quality of credits allowed to be used in the U.S. This may be important given uncertainty about what CDM will look like post-2012. Despite this the investor and emitter communities are concerned that it could take time to develop these agreements and slow the availability of CDM (and REDD) credits in the U.S. market. This adds a layer of uncertainty for investors. Given that CDM is an internationally established and managed program, they would like CDM be allowed directly in the legislation,

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<sup>3</sup> H.R. 2454 would not allow Joint Implementation (JI) credits, which are issued by the country in which the project is located rather than an international body. However, JI is currently a much smaller market than CDM.

without the requirement for a bilateral or multilateral agreement.

### ***Reduced emissions from deforestation and degradation***

REDD will likely be one of the most important sources of international offsets. However, H.R.2454, which was designed with concerns about integrity of atmospheric reductions rightfully at the forefront, has a number of barriers to initiating REDD quickly. Initiating REDD quickly is a priority not just for the initial offset credit supply, but also because waiting means the continued loss of 13 million hectares (ha) of forest per year and all the associated GHG emissions and loss of ecosystem services that go with it. Thus, in order to assess options for promoting initial REDD activity, it is worth revisiting the hurdles for initial REDD credits, which include:

1. Multi-or bilateral agreements with countries where the projects are located (discussed above);
2. National or subnational baselines (emission reference levels), with 20-year targets for net deforestation;
3. 5-year limits on subnational and project-based REDD crediting;
4. Country limits (which exclude major emitters, including Brazil, Indonesia, Malaysia, DRC, Myanmar [Burma], and Zambia<sup>4</sup>) from project-based REDD; and
5. No eligible project-based REDD protocols specified.

Brazil is the only country well positioned for developing a national REDD baseline at this time, and its official position is against selling these reductions for offsets against developed country compliance obligations, as the U.S international offsets market would represent. National accounting may take several years to be viable in other countries. Therefore, project-based and subnational REDD are seen as extremely important for initiating REDD activities quickly and producing initial offsets. A number of different institutions suggest lengthening the crediting

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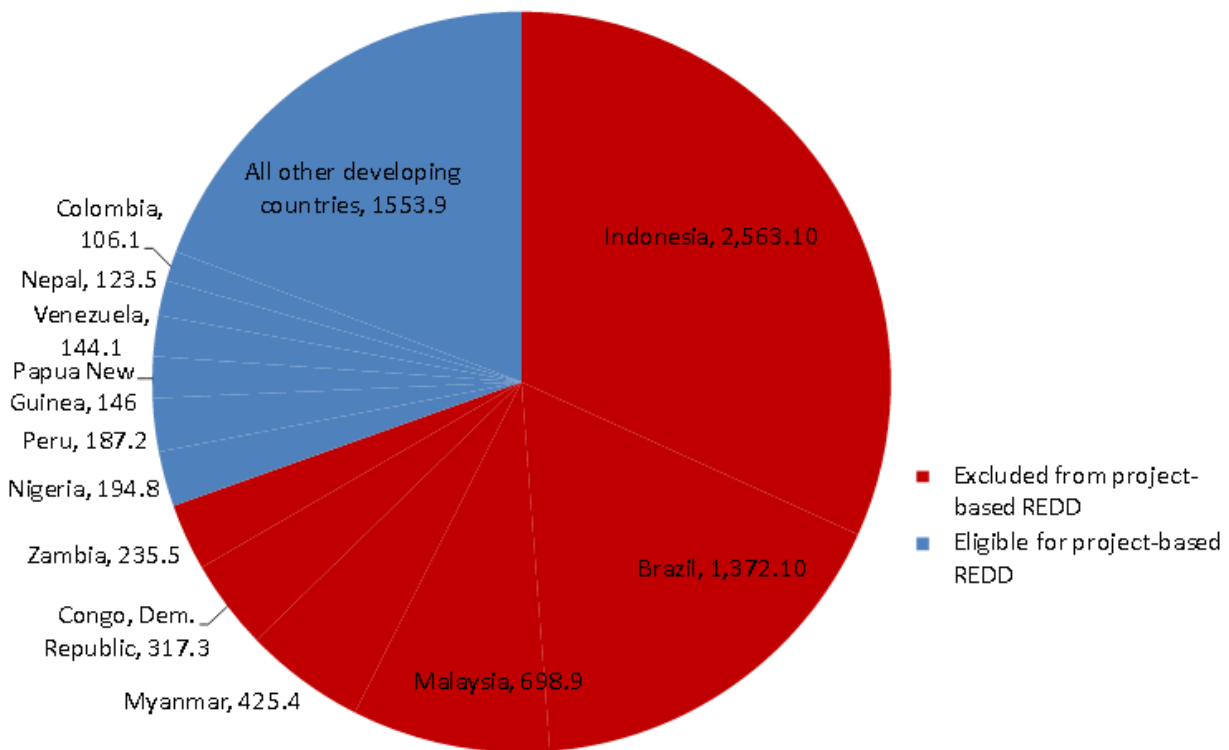
<sup>4</sup> H.R. 2454 precludes project-based REDD in countries that account for more than 1% of global greenhouse gas emissions and more than 3% of global forest-sector and land-use-change greenhouse gas emissions. Emissions for countries listed here were estimated using the WRI Climate Analysis Indicators Tool. Analysis using different emissions data could result in a slightly different list of excluded countries.

period from 5 to 8–10 years for project-based REDD to help with investment certainty (addressing hurdle#3 above). Another question is whether the exclusion of major emitters from project-based REDD (hurdle#4 above) could be temporarily relaxed to help boost investor confidence and lead to some demonstrated success on the ground in these countries. However, it is recognized that certain high-emission countries may be excluded to increase the incentive for them to take on more meaningful national-level targets, which they may be more readily capable of than many other developing countries. While this approach would prevent REDD projects and subnational activities in countries with high emissions, reducing credits generated, it can still result in generation of credits from a number of other countries and increase learning on the ground, demonstrate successes, and help build capacity for an expanding market. Some investors have suggested that the excluded countries are actually the ones that are most attractive for developing REDD projects because they have a better environment for investment. However, a majority of the REDD projects currently being verified by the Climate, Community, and Biodiversity Alliance (CCBA) are located in countries that would not be excluded under H.R. 2454.<sup>5</sup>

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<sup>5</sup> Climate, Community, and Biodiversity Alliance.  
<http://www.climate-standards.org/projects/index.html>.

**Figure 1. Global CO<sub>2</sub> emissions (Mt) from land use change in developing nations. H.R. 2454 only allows REDD projects in developing nations. See footnote 6 for an explanation of countries excluded from and eligible for project-based REDD. Source: WRI Climate Analysis Indicators Tool.**



In order to address the above hurdles, a program focused on early REDD may need:

- expedited process for (possibly even exemption from) the requirement for multi- or bilateral agreements;
- an initial focus on subnational or project-based REDD, as national baselines seem difficult;
- an extended and guaranteed crediting period for subnational and project-based REDD;
- perhaps a temporary or partial relaxation of country limits; and
- some clarity on an acceptable crediting protocol(s).

Our work group discussed the idea of a temporary pilot program that would provide some short-term investment certainty before the federal program was fully developed. One approach would be to allow existing protocols to be used for a specified crediting period while the federal protocols are being developed. In the case of REDD, the only protocols we know of that are close to completion are those from the Voluntary Carbon Standard (VCS), so either an already designated registry (like CAR) would have to develop a REDD protocol or VCS-REDD protocols would need to be made eligible for this pilot project, either by

explicit language in the legislation or after a required review by EPA, pushing back certainty a few years. Under this approach, investors could develop projects with a guaranteed crediting period (8–10 years) and they could sell the credits on the open offsets market. REDD credits generated through this program could have added discounts above and beyond those required by qualified protocols if risks to integrity are viewed as too great. If worries remain about the environmental impacts of the offsets developed during a pilot program, there could be an overall limit on the amount of offsets generated by the pilot program, which would allow the generation of enough credits to encourage capacity building, but not so many as to damage the integrity of the cap. At the end of the pilot program, projects initiated under the program would be guaranteed credits for their crediting period, but no new projects could start using these rules. Existing projects could potentially renew under the developed federal rules, and new projects would have to follow all federal rules as well.

An alternative approach would use a set-aside allowance pool to fund early reductions, creating additional mitigation rather than creating offsets against compliance. This would not directly produce offsets for the early years

of the cap-and-trade program, but would help reduce deforestation quickly and may help lay the groundwork for faster development of a full REDD offsets program. This could also provide a backstop if the absence of initial offsets fails to contain program costs. A federal agency, possibly EPA or USAID, could borrow from the currently specified 5% allowance pool for REDD (the supplemental program in H.R.2454) to purchase credits from REDD projects. These credits could then be used to stock the strategic reserve that provides additional allowances at higher prices. If the reserve is not needed, then the set-aside, as it was originally intended, is supplemental to the capped reductions rather than a substitute for them. However, if the reserve is needed, perhaps because of a lack of initial offsets, then the credits are available for cost containment.

There is also the possibility of a hybrid approach, in which the VCS is allowed for initial REDD projects, and the federal agency borrows from the set-aside to get funding moving on early projects.

## **Summary of options, processes, and next steps**

This primer is part of a broader effort by the Nicholas Institute to convene researchers, Congressional staff, and various stakeholders to explore ways of containing the overall cost of climate legislation. As part of this effort the Nicholas Institute convened a working group of offsets experts and investors in August 2009. The working group found that accelerating offsets supply requires fewer and more straightforward changes for the domestic program than for the international. The group suggested a few changes to H.R. 2454 coupled with the introduction of a few different pilot programs to generate early offsets before federal standards are fully implemented so that the program can generate more of the early offsets supply and early investment that many hope to see materialize. As we work with working group members and other stakeholders to refine and finalize this draft memo, the Nicholas Institute will also endeavor to use these findings to provide guidance to members of Congress and constituents on the practical consequences of increasing early offsets supply in federal climate legislation.



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### **Nicholas Institute for Environmental Policy Solutions**

The Nicholas Institute for Environmental Policy Solutions at Duke University is a nonpartisan institute founded in 2005 to help decision makers in government, the private sector, and the nonprofit community address critical environmental challenges. The Nichols Institute responds to the demand for high-quality and timely data and acts as an “honest broker” in policy debates by convening and fostering open, ongoing dialogue between stakeholders on all sides of the issues and providing policy-relevant analysis based on academic research. The Nicholas Institute’s leadership and staff leverage

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