

Abstract

In its attempt to provide quantitative limits on greenhouse gas emissions, the Kyoto Protocol accepts the principle that sequestration of carbon in the terrestrial biosphere can be used to offset emissions of carbon from fossil-fuel combustion. Whether or not the Kyoto Protocol ever comes into force, it is worthwhile to understand how carbon sequestration might be treated in any mitigation plan that provides a tax or ration on carbon emissions. Emission credits, as proposed for the energy sector, are based on the idea that a prevented emission is prevented forever, and emission credits might be traded among parties. In the event that sequestered carbon is subsequently released to the atmosphere, it would be advantageous to agree what the liability is and who assumes that liability. We describe a system whereby emissions credits could be rented, rather than sold, when carbon is sequestered but permanence of sequestration is either not certain or not desired. Our proposal is similar to that offered by the government of Colombia except that it casts these temporary emissions credits into the traditional concepts of rental agreements and it clarifies the opportunities for secondary transactions. A rental contract for emissions credits would establish continuous responsibility for sequestered carbon; credit would be assigned when carbon is sequestered and debits would accrue when carbon is emitted.

RENTING CREDITS

A traditional system for limited-term use of a capital asset involves a rental contract, and rental contracts seem ideally suited to transfer of emissions credits for carbon sequestration where permanence is either not guaranteed and/or not desired. A rental contract can allow the “buyer/renter” to enjoy the limited term benefits of the asset while the “seller/host” retains long-term discretion. We consider how an accounting system might work if credits for carbon sequestration in non-Annex B countries were rented, rather than sold, to Annex B countries to meet the Annex B countries’ emissions commitments. We envision a regulatory environment, similar to that described by the Kyoto Protocol, where emissions are rationed or taxed, creating what is essentially a termination penalty on sequestered carbon.

A principal feature of a rental system is that it behaves like a direct credit/debit system for the renter of credits, i.e. the Annex B participant. Credit is assigned when carbon is sequestered and debits accrue when carbon is emitted. The credits and debits are symmetric and instantaneous. The difference is that credit is leased for a finite term, during which someone else accepts responsibility for emissions, and at the end of that term the renter will incur a debit unless the carbon remains sequestered AND the lease is renewed.

At the end of the rental period the renter will have received some of the benefits listed above (in the section on “Approaches that have been proposed for addressing permanence”) and can either renew the lease or incur the emissions debit and replace the credit with one from another activity. We would argue as an analogy that a party renting a garage to park his car can, at the end of the lease contract, either renew the release or

find another place to park his car. The car driver might have used the rental term to either find a better lease agreement elsewhere, build his own garage, or make the decision to park his car on the street and suffer the damages. The car driver might have found another mode of transport and no longer need a garage.

At the end of the rental agreement the renter would incur an emissions debit and the host would be released from further liability. If the carbon remained sequestered the host could: a.) renew the lease, at newly re-negotiated terms, b.) lease the credit to another Annex B Party, c.) retain the credit for its own use, or d.) set free the sequestered carbon if it had a higher use for the committed land. The emissions credit would in fact be used only one time, but it could be transferred among Parties at any later time (so long as the carbon remained sequestered) if the first party incurred a current year debit and the new renter received a current year credit. To continue the metaphor, our car driver above would be looking for a new place to park his car but the garage would be available for another driver. And if the garage owner had become wealthy enough to purchase a new car, he could decline to renew the lease and use the garage for his own car.

A rental contract for emissions credits would establish continuous responsibility for sequestered carbon. The host country would have to accept short-term liability, over the duration of the rental contract (although the liability could be transferred to an insurance or bonding agent). The renter would need to have legal and financial recourse for provision of the contracted service, i.e. carbon sequestered. In fact, it is likely that the renter would ultimately absorb the cost associated with the risk of premature carbon loss. Presumably the value of rented credits would vary with the credibility and responsibility of the host.

A system that has been described with different words but is essentially identical to our concept of renting carbon credits has been introduced to the Kyoto negotiations by the government of Colombia (2000) and elaborated by Blanco and Forner (2000). The Colombia proposal introduces “expiring CERs”, i.e. emissions reduction credits that expire after some negotiated period. Colombia envisions their proposal as a “simple liability scheme” that addresses the concerns of countries “preoccupied about the sovereignty issue”. Colombia proposes placing an expiration date on emissions credits from sequestration activities so that emissions credits would eventually have to be replaced by permanent credits or additional expiring credits. Lands on which carbon is sequestered would be released from any further obligation when the credits expired. Colombia recognizes that the owner of a project might choose to extend the lifetime of a project and thus the lifetime of expiring credits.

Our proposal is similar to that of Colombia except that we establish no expiration date. Expiration occurs when it occurs, and the implication is that the rent payments cease. The duration of rental contracts could be left to the discretion of the contracting parties. Thinking in terms of rental contracts also tends to make clear the opportunities for secondary transactions, a concept not addressed by the Colombia proposal. Describing the approach in terms of rentals helps bring the proposal into familiar financial terms and

concepts. In the words of traditional property transactions it might also be appropriate to think in terms of easements.

One question posed with regard to rental credits involves the long term commitments of corporations or other non-governmental organizations that engage in rental agreements for carbon emissions credits. These entities would essentially accept long-term, unsecured obligations for carbon releases potentially many years after the use of the credits, and there is no assurance of their existence and responsibility by the time that the rental contracts expire. In fact it is governments that will likely be bound by international obligations, whether they be taxes or rations on emissions, and that must ultimately determine the extent to which they will choose to include rented credits as part of their reporting and long-term obligations. We cite student loans as an example where the US government backs long-term, unsecured obligations by students seeking to finance their educations. The US government ultimately backs these loans but imposes limits on the magnitude of individual obligations. Similarly, individual countries may chose to provide limits on the extent to which individual investors can use rented credits to contribute to meeting the national commitment.

Finally, we point out another interesting dilemma that could arise under a ton-year accounting system but is avoided under a rental system. Consider carbon that is sequestered in growing biomass and later harvested for use as a fuel. Under a ton-year accounting system this circumstance could produce multiple credits. The sequestered carbon would accumulate ton-year credits (convertible to permanent tons) during the period of sequestration and then permit an additional credit as it was burned to avoid an equivalent amount of fossil-fuel use. Under a rental system there would be one unit of credit at the time of sequestration. At the time of harvest and burning there would be one unit of debit for the lost sequestration plus one unit of credit for the fossil fuel avoidance, essentially the transfer of one temporary credit to a permanent credit.

Rental of carbon emissions credits should ideally bring benefits to both the renter and host. The attraction of rented credits for the renter would presumably be financial. Those in need of credits could either buy permanent credits, rent temporary credits, or borrow money to purchase permanent credits as in taking a mortgage on the garage. Rented credits would provide revenue to the host. They would also, presumably, bring a flow of development and environmental values to the host. They would not, however, obligate the host beyond the negotiated rental contract, a matter that has been of considerable concern to potential host countries.