Independent Project Report on Tensas River Reforestation project in Louisiana.

By John O Niles, under contract to The CarbonNeutral Company

(Photo: Don Seally, 2008)

An area of hardwood restoration similar to the 24.5 acres visited. The trees pictured above were planted at the same time as the forests where The CarbonNeutral Company purchased 7,500 t/CO_2e in 2002.

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Summary

In 2002, Future Forests (now The CarbonNeutral Company) signed a contract to purchase 7,500 metric tons of CO_2e from the Tensas River reforestation project in Louisiana. I visited the project in October 2008, seven years after planting. The visit was part of The CarbonNeutral Company's commitment to independent reviews of internal projects and credits.

I believe the Tensas River project has been a clear success to date and is on track to successfully return the 24.5 acres of the contract to hardwood forests over its lifetime (99 years). The credits purchased are part of a much larger effort to return some marginal farmlands in the Mississippi Valley to natural bottomland hardwoods. The project has been carried out by Environmental Synergy Inc., which works in close cooperation with the U S Fish and Wildlife Service. The ground operations were handled by ESI's Harry Cook, who is extremely competent at reforesting the Lower Mississippi Valley. The project itself is doing fine, the right trees are growing and being measured, and I think there is every chance that in 99 years the area will be a hardwood forest.

My concerns are about the company's procedures. First, this is a forestry project contracted in 2002, so the norms of today do not apply. But even with that caveat, The CarbonNeutral Company did not adequately manage the contract, or the relationship. The clearest example is that The CarbonNeutral Company did not have the technical information which supported the key additionality arguments. Other relevant facts about the project were not know, such as it has recently applied for validation against the Climate, Community & Biodiversity Standards. My perception is a contract was put together and 7,500 tons of credits were forward-purchased based on the average amount of carbon stored by the project over 99 years. After that, it appears The CarbonNeutral Company did not have any follow up. In today's world, that business model won't work. Forestry is a fast-growing (no pun intended) sphere of carbon finance. As a likely component of the successor to the UNFCCC and a key plank of the Obama-Biden's environmental strategy, forestry credits are likely to be important supply sources in coming years. The company should become more sophisticated in how it establishes and manages forestry offset projects.

Scope and Project Review

The purpose of the review was to understand and visit the project, assess its contribution to climate change mitigation, assess co-benefits and corporate and project risks, and to provide suggestions, advice and ideas.

The visit was conducted by John O Niles, Tropical Forest Group's Director and member of the The CarbonNeutral Company's Independent Advisory Group (IAG). My visit occurred October 9 and 10, 2008 with additional information exchanged in the weeks preceding and following the visit. The methods used were background research, preliminary questions and answers, project visitation and interview of Harry Cook (ESI Project Manager). I also visited the National Wildlife Refuge project leaders, Kelly Purkey. I believe there was sufficient information and exchange to make an informed review and conclusions about the overall quality of the Tensas River project. However see my disclaimer at the end of this report about the limitations of my audit.

The project was selected for review by the IAG and company staff. This year the AIG decided to focus on forestry projects, one in a developed country and one in a developing country. The exact locations were suggested and approved by the IAG and the review was coordinated jointly by Dominic Stichbury, Jonathon Shopley, Carol Jordan (President of ESI), Don Seay (ESI Reforestation Manager) and myself.

Project Particulars

The Tensas River project reforests lowland hardwood forests using primarily native species on 24.5 acres in Louisianan. The main species being planted are nuttall oak, water oak, willow oak, cherrybark oak, green ash and sweet gum. The majority of the trees planted are native and some of the seeds were collected locally and regionally. The project is operated by Environmental Synergy Inc. ESI (the seller). The project was planted in 2001 and estimates to have sequestered 7,500 tons of CO2 e over its 99 year lifecycle. The trees were planted in 2001, initially funded by a utility of the US to generate carbon credits. Future Forest, now The CarbonNeutral Company, purchased the rights to carbon credits associated with certain lands.

There was no actual PDD for this project. The contract referred to a model that estimated the 7,500 tons of CO2 e. However, this web link was not active and there was no other evidence of a PDD. Furthermore, the model referred to in the contract is not project-specific, but refers to carbon sequestration in the region.

Given that there was no PDD, and given that the project carbon model could not be viewed, it is impossible to say whether the actual tons are additional. I believe that the project finance fundamentally helped restore native forests in the region. The degree to which every claimed ton is additional is a matter or debate. I personally do no not believe additionality is a binary function (either YES additional, or NO, not additional). Rather, I think most carbon projects have varying probabilities or degrees of additionality. This viewpoint doesn't work well for carbon markets, so if I had to say whether the credits are additional, I would conclude, "probably". As a first order, the project purchased credits from another company that made the investment and then went out of business. Secondarily, the project is occurring on federal lands that are legally designated for the reforestation and restoration. But critically, the federal government has been able to achieve some of its results due directly as a result of private carbon investments. If the original investor did not invest, it is likely that the lands would eventually have been reforested, either naturally or manually. This would not have happened as rapidly or probably as ecologically as it was done (with almost all native species).

The project is occurring in the United States, which has not ratified the Kyoto Protocol. The project is on lands owned by the Department of the Interior (federal government) and managed by the US Fish and Wildlife Service.

Status of the Project

As noted in the summary, the project itself is doing fine. It is having a positive and measurable impact. Native trees (primarily oak) have been planted and are emerging from an understory, which was dominated by the goldenrod (*Solidago virgaurea*) weed. It is very likely that these trees will continue to grow and eventually resemble a native hardwood forest. I believe the project is likely to realize the tons of CO_2 claimed on the lands identified over the course of the project lifetime.

Carbon
The aboveground biomass in the plot has been measured and incorporated into a peer-reviewed publication. This publication updates carbon sequestration model for the area, essentially moving from an IPCC Tier 1 approach to an IPCC Tier 2 approach. This information is more specific than generic ones used earlier by project proponents. Initial results suggest slower growth rates than originally estimated and substantial variety for early age stands. I did not see (nor did I request) any of the original data. The paper has been accepted but not yet published, so specific results can not be given in this report. The project is slightly behind in some of its biomass measurements and reporting. Still, there are very robust methods being used, results are being submitted for peer-review, and the company has retained a widely respected third party to help with monitoring in the region around the project area. Also, the basis for carbon credits appears to be an average stock approach, which underestimates (by approximately 50%) the potential amount of carbon that is stored by the project in year 99. In conclusion, despite a lack of transparency in the paperwork supporting the amount of credits, I believe the project will meet its goal of sequestering 7,500 tons of CO_2e as long as the area reforested continues to mature and persists.

The overall additionality argument for the project would probably be a tougher sell at this point. It is highly likely that the original carbon finance helped stimulate and expand native forest restoration in an area. However, the project is part of a broader government intervention to rehabilitate the area. So is it plausible that reforestation would have happened anyway? Yes. Was the project still valuable from a climate perspective? Yes. The carbon finance from the sale of voluntary credits probably helped put more acreage on a faster trajectory of restoration than if there was not this finance. It is my opinion, the project either accelerated the pace of restoration, allowed more acres to be restored, or both. But is the additionality argument bullet-proof? Probably not.

Biodiversity
From a biodiversity perspective, there are clear benefits to the project. It is restoring a native habitat and ecosystem that has been severely degraded. Deforestation in the Lower Mississippi Valley has reduced the forest cover to 20% of its original size. The agriculture that replaced the forest is marginally productive and the area is a patchwork of forests and fields. Restoration by the project helps defragment forest blocks with obvious benefit for wildlife such as the threatened Louisiana Black Bear and a host of migratory songbirds and waterfowl. Other ancillary benefits include improved water quality (from reduced soil, nutrient and chemical inputs from farming), improved soil protection (less erosion), and natural flood storage and absorption.

Community/Stakeholders
From a social perspective, the project is part of a larger government effort to reforest tens of thousands of acres of degraded farmlands in a rural area. There are undoubtedly farmers that do not support federal purchase and management of lands and there must be some local economic pluses and minuses. The project employs some people and brings in tourists to the area. Anecdotal evidence provided by Harry Cook suggests that some of the farmlands are being converted to private game and hunting grounds. This suggests that reforesting lands (which helps wildlife) is probably a net benefit to the region, especially once flood control and water quality ecosystem services are adequately valued.

The project's main stakeholder is the federal government, in particular the US Fish and Wildlife Service's Tensas River National Wildlife Refuge. I met briefly with Kelly Purkey, the Tensas River National Wildlife Refuge project leader. Kelly seemed very pleased with ESI's work. The biggest tension between ESI and the Refuge Operator at the time seemed to be about the length and timing of the bow season (deer hunting with a bow and arrow), as deer predation on some tree seedlings is a problem. In other words, the project clearly works closely and cooperates with the key constituent in the project area.

Risks
From a risk perspective, there are a few. The project is managed by a capable partner. It works in close cooperation with the landowner (the US government). The few risks that I could identify are:

1) The trees plated are still susceptible to browsing, insect and disease. While I saw nothing to suggest these events are likely, the trees are still immature.
2) The project area could experience a catastrophic event (fire, floods, hurricane). These catastrophic events are part of nature and the project would likely replant.
3) There is a chance for regulatory changes. Operating on federal lands, the legal integrity of the carbon credits could change at any point, although I don't view this threat is imminent or even likely. If the US passes some form of climate change legislation, the status of carbon-related public-private partnerships on public lands could change.Some grandfathering in of credits or other provisions would help alleviate this concerns.

All these risks were known at the time of the purchase. Only the 1st risk is within the sphere of influence of the project operator and these are simply part of any forestry project's scope of work. All of these risks can generally be thought of as permanence risks.

Issues Raised

The main concerns I encountered pertain to The CarbonNeutral Company's operations. What struck me was how informal the credits seemed to be, both in generation and maintenance. There was never an initial PDD. The contract appears to be the basis for the creation and transfer of the credits. The seller did not quantify carbon in a project-specific quantitative way. It provided models and information about likely rates, from which The Company inferred its credits. At the time of the contract, this process was clearly seen by the company as sufficient. In today's environment, I do not believe that is appropriate.

At the time of the contract, there were baseline and additionality calculations in terms of carbon sequestration referred to in the contract, but these calculations can not be confirmed or checked. The contract referred to credits "above the non-project baseline" of Schedule 5, but this schedule provided no baseline estimations or explanations. The one web site in the Schedule (to a UtiliTree report) was not active. The Schedule did not explicitly discuss carbon stock estimates in a "without-project" baseline scenario.

There does not appear to a contractual requirement for risk buffering, and it is unclear what would happen in the event the project does not carbon storage goals or experiences a hurricane, fire, etc., that destroys the forest in some future year.

I did not see the project information on the CarbonNeutral Company's registry (although none of the forestry projects are viewable). So I was not able to ascertain if the credits were all forward sold (presumed) or if there was an appropriate buffer system. For instance, the carbon sequestration rates are coming in slower than originally planned, and if the project credits were being sold ex-post, this would be pertinent. If they were all sold ex-ante, the year-by-year sequestration rates are not important. All that matters in this case is if at the end of the project the estimated carbon was stored.

In my opinion, more detailed baseline guidance, validation, monitoring plan review, verification and accounting systems are needed. Environmental Synergy Inc. has noted that while it is not a verifier, it does provide varying degree of validation and verification services for its clients. The project is carrying out very good monitoring work, they have permanent plots in the region at large and five in the project area (I saw evidence of one of these plots, but was invited to visit others). Information that was provided to me included soil measurements shortly after planting. I have not seen any actual biomass measurements (although a peer-reviewed paper was provided with model outputs). It should be noted that the project is in various stages of making applications to the US Department of Energy's1605 B process (Technical Guidelines for the Voluntary Reporting of Greenhouse Gases Program) as well as the Climate, Community & Biodiversity Project Design Standards.

Conclusions and Recommendations

Suggestions for the Project
I have no specific suggestions for the project. The local manager is perfectly competent and I don't want to pretend to have suggestions for someone who has been doing something well for a long time.

Generally, I would encourage Environmental Synergy Inc and the US Fish and Wildlife to continue work toward meeting various independent validation, verification, and registration systems. Notably, the project should continue to investigate US 1605b rules, developments in the California Climate Action Registry, the Chicago Climate Exchange, and other programs. It is noted that the project has recently applied for validation against the Climate, Community & Biodiversity Standards. Furthermore, the project has indicated it is slightly behind its monitoring program, and given that the initial sequestration numbers are lower than estimated, additional haste toward publishing the biomass numbers should continue.

Suggestions for The CarbonNeutral Company
If The CarbonNeutral Company pursues forestry credits in years ahead, several recommendations deserve consideration.

At a minimum, and as currently required by The CarbonNeutral Protocol, there must be a project specific PDD. This is required to show how the project was initially validated and what additionality criteria/model were used. Furthermore, there must be a commitment to independent verification of credits, preferably using accepted international guidelines. What these guidelines are is still an open question. Finally, there must be a system for continuously "checking" and maintaining the integrity of forestry credits, such as some registry and insurance/buffering.

For any future forestry project that The CarbonNeutral Company looks to purchase from, there must be clear rules of engagement for permanence and or changes to the original plan. The concept of ex-ante selling avoids the complications of permanence (and buffers, insurance, etc), by ignoring the problem. It does not fundamentally solve the problem; it just assumes permanence will be achieved. Today's marketplace demands more credible permanence solutions for forestry projects, although the market has not yet settled on what those arrangements are to be. The solution is usually part of the overall verification system (e.g., of CCX, CCAR, VCS, etc). These systems also by-and-large will solve the registry problem. The key suggestion, even if The CarbonNeutral Company continues to be from projects that are not aligned with a particular standard, they will have to have a system of "docking" between credits generated, credits sold, and credits held in some type of permanence escrow system.

More broadly, my main suggestion is that The CarbonNeutral Company, if it decides to pursue forestry, must have a closer relationship to any forestry project. I believe the power of forestry projects is the story it tells. In the case of the Tensas River project, the story is that carbon finance helped restore an area of exceptional wildlife importance in an ecosystem that had been severely degraded and fragmented. Plus, there is a commitment to long term sound management and conservation. A closer relationship between the CarbonNeutral Company and the seller/project will help better promote some of the major co-benefits of the Tensas River project.

A closer relationship is warranted not only for telling the story better (and possibly increasing sales and interest in the project), but also for the purposes of maintaining corporate integrity. By having more rigid verification and permanence measures in place, The CarbonNeutral Company will be building support forestry projects. As it is now, there are several key issues lingering, which could become sources of disrepute. It is very likely that the Tensas River project and other US projects will come under increasing scrutiny in years ahead. My conclusion also suggests that the TCNC doesn't really follow its forestry projects. Without this interaction, there is every possibility of error in judgment or perception along the way. It has been almost eight years since contract signing yet there is no evidence that The CarbonNeutral Company and the project are in touch more than casually.

The project leader of the Tensas River refuge wanted me to inform The CarbonNeutral Company that they are still looking for private partners to help lease and reforest more farmlands in the area. I took this to understand that the government, perhaps again with ESI as an intermediary, would be interested in potentially selling new credits.

I conclude by noting that many of these concerns are not unique to this forestry project. There is considerable on-going work on methodologies and standards for REDD and LULUCF. In 2002 at the time of purchase, the technical universe for forest projects was far cruder than it is today. With today's market sophistication and demands, the current arrangements would probably not be adequate, even if the project itself is having clear climate and other benefits.

Suggestions for Future Reviews

From a logistical perspective about the independent review, the process worked reasonably well. Staff sent through information and assisted with introductions. I would suggest in the future that staff simply prepare a complete binder (email and hard copy) and send it to the reviewer. As it was, given the paucity of materials and their rather haphazard provision, the logical framework and paper trail were difficult to understand initially. There was a fair amount of preparatory time, emailing back and forth, printing and arranging documents, and getting clarity into what was bought, and what information was available. This is clearly pretty minor, but would have saved me some time. It probably would have allowed me to ask better questions as well. I also believe that if a docket is prepared, the CarbonNeutral Company staff should try not to pre-judge the process of review, but should simply provide a better introduction to the credits. All that said, the CarbonNeutral Company and project staff all went out of their way to assist me and were very prompt answering my questions.

Limits of Endorsement

This should not be seen as a full audit. I simply visited the project, had a look around and talked to the manager and the refuge manager. I did look into registries or carbon accounting from the project or from the seller. I did not insure that the credits are where they were supposed to be on the ground (I did not geolocate but used the map and the local manager to show me the plots). I did not make sure that this area was not part of another transaction. I did not look into, request, or have access to data other than at a cursory level. I did not run models or check carbon storage and sequestration models. Nor did I look into the US DOE 1605b program in great detail, and I am not very familiar with that system for voluntary reporting.