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### "Of Turnips and Tulips and Carbon,"

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Everyone has heard of tulip-mania, when flower price speculation ran rampant—until the financial bubble burst: an historic dot.com experience that, of course, we are immune to. . . The unspoken fear today (sometimes dismissed as carping criticism) is that our scientifically plotted market-based approach to reduction of greenhouse gases could fall prey to this too-human tendency to push markets toward pure speculation—whenever they are not tethered to the ground by ineluctable or exceptionally rigorous market design—in short, unless they are more like markets for turnips than tulips.

That's the basis for this plainspun wisdom in considering whether the US is ready to project-finance itself into carbon-neutral nirvana. In the United States, in the current state of the law, you can project-finance turnips only if you don't make believe they are tulips. Policymakers can change the market rules to make it otherwise; they can stimulate great gobs of voluntary carbon credit offsets; but then the energy economy (and perhaps the nation's future) will be in Dutch. If you recognize voluntary carbon credits as the modest garnish for renewables and efficiency that they are today, it will at least help some additional flowers bloom.

There are three elements to this hypothesis: (1) the limits of project finance, (2) the somewhat exotic form of the US voluntary carbon emission reduction market (as distinguished from the Kyoto market), and (3) the potential of the integrated multi-revenue-stream project finance model to take advantage of the US carbon market.

#### 1. The Limits of Project Finance

As every energy lawyer knows, there is nothing magic about project finance. It is a limited-recourse type of financing which becomes available to those project sponsors who have expended enough early stage risk capital to get a proposed energy production asset to the point where one or more lenders and speculative equity investors will finance its construction and then look to its operation to produce firm revenues to pay them back. The sponsors and equity investors in these situations receive a premium for the hard work of sponsoring the project when it generates a larger revenue stream than the cost of this borrowed money and ultimately commands a substantial sales price, based on a market assessment of the future value of the market of the revenue stream for the product produced (megawatts, mcf, environmental emissions credits).

In our convoluted world, nominally averse to government interference with markets, energy regulation has been pressed into service repeatedly, in different ways, to assure that the turnips of megawatts have a sufficiently firm and likely future robust market price, notably through establishing quotas for output purchases, either at a price (old PURPA) or of quantities (new RPS). In related developments, production tax credits, grants, and low interest loans have been governmentally superimposed on projects' economics to offset technological economic non-competitiveness. When prospects then look good for "PURPA-machines" or REC percolators, we have seen crazes over the years—"tulipmania" if you will—for cogeneration plants, merchant combined cycle plants, mega wind farms. The policy theory is that initially infant industries will grow to a sustaining level in this way, so that the incentives will not be required. Sometimes the theory is right.

Hence the impetus to apply the sparkle, which regulation can bring to project finance, to the pressing concern with reduction of greenhouse gases, or—as it has been short-handed—"carbon reduction." Weren't efficient markets created for SO<sub>2</sub> and NO<sub>x</sub>? Is not the carbon cap and trade model, however nascently regional in America, the proven precursor of an efficient system? Hasn't Kyoto proved that this model can be applied in the more environmentally civilized world outside of the USA? Hasn't project finance been applied to facilitate these markets through offset creation? Perhaps so. But can't we push further to the impatient belief that the same approach can be followed in America with voluntary credits? Well, maybe.

#### 2. Challenges to US Voluntary Carbon Reduction Project Finance

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There is, however, reason to be skeptical, reason related to the limitations of project finance absent major supportive regulatory infrastructure just discussed and because of certain characteristics of the US Voluntary Emission Reduction Credits (VERs) which distinguishes Certified Emissions Reductions (“CERS”) in the legally structured “compliance” markets created by Kyoto. VERs in the US can only be sturdy, project-financeable turnips when they represent a commodity which, for example, utilities or other emitters must buy if they are to comply with the applicable legal regime (like “compliance” RECs based on purchase of specified renewable outputs, whose value to utilities is defined in their own state jurisdictions). Otherwise, VERs in effect, represent nothing more than a willingness to buy documentary evidence of someone else’s prior good behavior as an “offset”—moral or psychological in the eyes of purchasers—whose acquisition and retirement strikes a modest blow against atmospheric pollution. At most, acquisition of the VERs represents a hedge by carbon polluters against the coming of some future compliance regime.

This is very different under Kyoto, where such offsets, generated under strictly defined and priced CDM/JI programs do produce such a legal right, which may be applied to offset a legal obligation under applicable trading schemes. The existence of a market for these legal rights is understandable and the ability to monetize the credits through project finance is presented. The intrinsic value of offset credits may be impaired by flaws in the administration of the core trading program where purchasers make use of the offsets, but at least the ground rules are clear. From a project financing standpoint, the resulting Certified Emission Reduction Credits are a stable turnip crop; their value may be speculated-on to a modest extent like tulips, but if they are sold pursuant to a workable Emissions Reduction Agreement with a solid counterparty, project finance deals can and have been done. However, unlike electric power today, the forward price carbon curve has not been predictable enough that future contract sales can be a meaningful part of such transactions.

As crafted in the international setting, all projects must be real, verifiable, permanent, “additional,” and unique. The specific carbon reduction attributes of each project must be identified—including notably the monitoring protocols. In the US, however, there are several protocols and verifiers in the field, and diversity reigns. While buyers, of course, may want to minimize reputational, delivery, and financial risk, they may be attracted to VERs because of their unique special marketing fits as offsets for their product lines.

In short, in the US, there remains a need for both VER fungibility and assurance of credit standing of the counterparties. There is currently a joint ABA-ACORE Emissions Marketing Association effort, with which I am involved, to develop a standardized contract in this area: a so-called VERPA that might, in principle, be project financed. But given the diversity of factors at play in the marketplace, it can’t get far beyond directing the parties in an orderly way to identify the underlying factors which define the contract. Instead of a “supermarket” with VER commodities, we still have boutiques with idiosyncrasies.

Consequently, the best project finance counsel in the VERPA market can do is remind clients to:

1. Demonstrate clear title over reductions they purport to offer.
2. Include the carbon finance component in the project financial projections, not as an afterthought.
3. Use an established, reputable verifier and ideally follow one of the most commercially desirable quality standards. With the lack of availability of certain types of verifiers, planning ahead for their services is crucial. Furthermore, with standards proliferating, clients will need to get competent advice on which to select.
4. Focus on established project types, the ones accepted by any compliance regime such as RGGI or CA AB 32, plus those most desirable to buyers in the VER market.
5. Plan for quality monitoring and assurance.
6. Focus on new or relatively new projects.

Of course the US is now seeing the development of a series of regional programs emerging, like RGGI for example, where types of offset mechanics are being defined (with greater categorical flexibility than CDM). The finance of projects certainly will be enhanced much further as liquidity in the markets based on a functional and predictable market grows; that can be the byproduct of initiatives like RGGI.

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### 3. The Potential of Multi-revenue Stream Projects

But something can be done to foster GHG reduction finance in the near term—if project developers do not confine their vision to the finance of carbon reduction credit machines. Many integrated biomass and biofuel projects—which gather feedstock, gasify it, make power, and possibly make biofuels—have the potential for multiple non-energy revenue streams which can be monetized. These include not only SO<sub>2</sub> offsets, RECs, tipping fees, and energy sales, but also Voluntary Carbon Credits. One of the great strengths of project finance is that it can blend such multiple sources of revenue into a single creditworthy revenue-supported deal. It can do so even better where carbon credits can be taken advantage of as an upside “kicker.” That is the near term future of US carbon finance. Regulatory developments might contribute to this possibility in ways such as the unbundling of the environmental from the green energy characteristics of RECs, thereby creating more potential revenue streams to support overall project finance.

Turnips finance; tulip bubbles burst. Regulatory lawyers and policy makers should recognize this. Real progress in using project finance to facilitate GHG reduction in the current US market will be made by adhering to this perspective.