

## Clever Carbon: An Asset Class Unique To Its Time

Unlike the better known classes of air emissions, greenhouse gas (GHG) emissions display unique characteristics. GHG emissions are unique as an asset class because they are not underpinned by any formal regulatory framework. It is the increasing expectation that these emissions will be regulated that makes their management important. Despite their current informality, GHG emissions should be considered intangible assets because they possess real economic value. This combination of informality and value makes for exciting financing.

Should the Kyoto Protocol be ratified, a diverse range of carbon assets will emerge. Countries will be assigned units consistent with their respective emission reduction targets. Other forms of carbon assets will also emerge as a result of project-based emission reductions generated through Joint Implementation and the Clean Development Mechanism Articles of the Protocol.

While it is expected that all classes of GHG assets within the meaning of the Protocol will be fungible, the same cannot be said for the relative financial risks that naturally accrue to these classes of emissions. It is these heterogeneous risk profiles that will, to a large extent, dictate the direction of capital flows that occur under the aegis of the Protocol. Capital is naturally risk averse and will not unwittingly accrue risk without a concomitant and offsetting dividend. Providers of project finance will doubtless discount the extent of these diverse financial risks into their pre-financing considerations. Indeed, the emerging market for GHG emission reductions is beginning to reveal a tendency toward this behavior.

These risk assessment considerations are doubly confusing within the current pre-ratification commercial environ-

ment. Conventional wisdom suggests that without some certainty as to the final “definition” of these asset classes, actors within the broad carbon market are constrained in their ability to realize the value of any notional income stream of emission reductions while minimizing their com-

mercial exposure to a volatile international policy environment. In short, the value cannot be discounted into the pre-financing of projects, and, therefore, cannot reduce the effective weighted average cost of capital of any project.

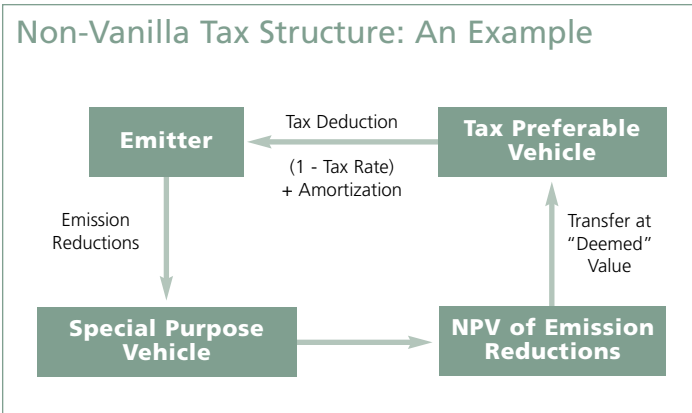
ICF Consulting believes that commercial opportunities to extract value from emission reduction income streams are greatest where there remains some significant lack of recognition of carbon as a discrete asset class. While this may initially appear

counter-intuitive, this lack of formal recognition provides for an environment where project proponents and/or financiers are able to ascribe a “structural definition” to the emission reduction asset that best suits their unique commercial purposes. The current absence of generally accepted accounting principles (GAAPs) over precompliance assets implies absolute “definitional latitude,” where the structural malleability of the asset can be optimized to comply with the specific corporate and capital structures employed by an investor. Differing asset “definitions” can, for example, be applied to produce a variety of differing tax events that, in turn, can be matched against specific tax positions held by these investors. Many of these opportunities will only remain in the absence of GAAPs for GHG assets.

The chart on page two demonstrates how a non-vanilla tax structure can be applied to a notional income stream of emission reductions, such that the capitalized value of that income stream (net present value or NPV) can be extracted ex ante.

The absence of GAAPs creates an environment where the structure of the asset can be optimized to comply with the corporate and capital structure of the investor. Many of these opportunities will only remain in the absence of GAAPs for GHG assets.

### Non-Vanilla Tax Structure: An Example



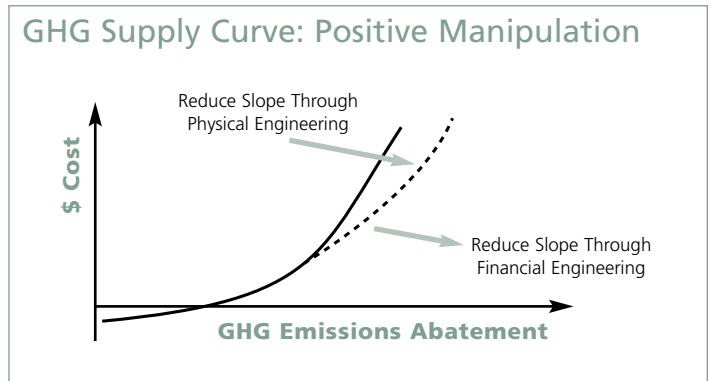
Clearly, as a prerequisite, any emitter applying such a structure must have a balance sheet with an assessable tax position against which a deduction can be made. Moreover, it should be realized that such a structure only provides for the emission reductions NPV at “1-tax rate” and, as such, not all the capitalized value can be unlocked. The extent of latent value is a function of the applicable tax rate. In balance, however, many Annex B jurisdictions (OECD plus economies in transition) provide for amortization of deductions across more than one tax year, thus providing the beneficiary with some latitude as to temporal tax positioning within the special purchase vehicle.

While such structures may initially appear esoteric, this particular example demonstrates that the application of structured financing techniques to emission reduction events can enhance the balance-sheet. Indeed, a diversity of structures can be applied to achieve similar results in terms of providing mechanisms through which the cost of emission reductions can be reduced (or, conversely, the benefit of emission reduction events can be enhanced).

The application of structured and/or project financing techniques to emission reduction events is also important in the more general policy context. Policy analysis of emission reduction cost-structures is now evolving to the point where it is increasingly important to articulate the differences between marginal abatement cost curves and GHG supply curves. While theorists have traditionally contend-

ed that the two are interchangeable, the accuracy of this argument relies on the assumption that all actors wishing to access emission reductions along the supply curve have uniform costs of capital. This assumption is being tested. ICF Consulting holds the view that the difference between a supply curve (in pure “engineering solution” terms) and an abatement cost curve is the degree to which the supply cost event can be re-engineered to materially reduce those costs. It is in this context that the application of structured and project financing techniques becomes critical. The following chart demonstrates how a marginal abatement cost curve (dotted line) might be manipulated such that it departs from the carbon supply curve.

### GHG Supply Curve: Positive Manipulation



Companies are increasingly seeking to manage their emission positions more competently through the application of often esoteric financing techniques to execute transactions that minimize or negate residual risk classes such as those arising from the uncertainty over the structure of the Kyoto Protocol. Indeed, tax-based structures (i.e., structured financing) are increasingly being applied to project financing to reduce the effective cost of capital and reduce the effective nominal investment hurdle-rate. When matched with some of the emergent credit enhancement products that are capable of negating classes of risk within structured financing transactions, the potential enhanced value of unilateral early action by corporations to reduce GHG emissions can be fully realized. ■