1067-90-1389   **Steven A Bleiler*** (`bleilers@pdx.edu`), Fariborz Maseeh Dept. of Math and Stat, P.O. Box 751, Portland, OR 97207-0751, **Yoko Nagase** (`ynagase@brookes.ac.uk`), Dept. of Economics and International Business, Business School, Oxford, England, and **Thomas Fielden** (`tfielden@pdx.edu`), Fariborz Maseeh Dept. of Math and Stat, P.O. Box 751, Portland, OR 97207-0751. *Modeling a Carbon Market Using an Engineering Approach: Blue Chips Turning Green.*

We give an introduction to a programming environment that computes the minimum compliance cost of GHG emissions control for states, regulated industries, and technology types. Unlike general equilibrium models requiring simplifications and behavioral assumptions, our compliance cost calculator follows an engineering approach. Developed for the real world regulatory environment, assumptions on data processing and procedures for optimization are "visible" to the users and are real time configurable. An implementation demonstrated herein takes publicly available information about prices and GHG abatement alternatives and combines it with a parameterized set of policy options. Users can then interactively apply or non-apply a variety of constraints and see an estimate of the expected minimum abatement cost along with a detailed "portfolio" of abatement activities expected over the policy period. While AB32 is used as an example to demonstrate how such implementations can assist policy makers and regulators by facilitating the exchange of information and increasing the understanding of the effect of a proposed regulation, the model and implementation are not bound to it. With appropriate data sets, both the model and implementation may be applied to any GHG abatement market. (Received September 20, 2010)