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# CONNING THE CLIMATE

Inside the carbon-trading shell game

By Mark Schapiro

“No, it’s not abstract, up there in the clouds!” exclaimed Talita Beck. “I can see it. I can measure it.” We were talking about carbon emissions; Beck is an emissions assessor, a profession that did not exist a decade ago. Several times a month, she leaves her office in São Paulo, Brazil, in search of greenhouse gases—or, more precisely, to visit sites that have promised to emit less of them. Such commitments, whether made by malodorous pig farms, squalid city dumps, or rural sugarcane-processing mills, can be transformed into money by companies thousands of miles away, in Britain or Germany or Japan or any other country that has ratified the Kyoto Protocols.

Carbon trading is now the fastest-growing commodities market on earth. Since 2005, when major greenhouse-gas polluters among the Kyoto signatories were issued caps on their emissions and permitted to buy credits to meet those caps, there have been more than \$300 billion worth



of carbon transactions. Major financial institutions such as Goldman Sachs, Barclays, and Citibank now host carbon-trading desks in London; traders who once speculated on oil and gas are betting on the most insidious side effects of our fossil fuel-based economy. Over the next decade, if President Obama and other advocates can institute a cap-and-trade system in the United States, the demand for carbon credits could explode into a \$2 to \$3 trillion market, according to the market-analysis firm Point Carbon.

Under the cap-and-trade system, industries regulated by it—the largest being power generation, chemicals, steel, and cement—are given limits on their total emissions, and companies can purchase emission reductions from others in lieu of reducing emissions themselves. Already, European companies buy and trade their credits frequently under parameters established by the European Union, which assigns a baseline emissions level to major industries as well as

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future limits they have to meet. The measurement of reductions is relatively straightforward, based on readings from meters installed at regulated power stations and manufacturing facilities.

But Kyoto also allows companies to purchase “offsets,” credits from emissions-reducing projects in developing countries. Such projects, which currently account for as much as a third of total tradable credits, are overseen not by the E.U. but by the United Nations. In this way, more than 300 million credits—each representing the equivalent of one metric ton of carbon dioxide—have been generated. (If cap-and-trade in the United States were to become reality along the lines of proposals now before Congress, up to 2 billion of the new credits would be drawn from carbon offsets, potentially increasing the worldwide supply of such credits by a factor of seven.) Whole new careers are blossoming: “carbon developers,” many of them employed by large

multinational firms, travel the world in search of carbon-reduction projects to sell, while carbon accountants, such as SGS’s Talita Beck, are paid to affirm that those reductions are real.

I met Beck last May at the Brazilian offices of her employer, the SGS Group. Founded in France more than a century ago to verify the weight of grains traded across Europe, SGS (now headquartered in Switzerland) has now moved far beyond assessing the moisture levels in barley. Its core business, broadly construed, is product inspection; in the United States, for example, its sensors detect the presence of genetically engineered ingredients in food and toxic chemicals in children’s toys. But after Kyoto, the company diversified into the new field of carbon verification. SGS now employs more than one hundred validators in a dozen offices around the world. One of these is Beck, who obtained an environmental-science degree in England before returning to her native Brazil in 2008, with the dream of helping to solve the greatest global challenge of our time. “We’re like environmental police officers,” she told me. “You have the law—that’s the United Nations. And you have the police—that’s us.”

Never before has the United Nations presided over the issuing of securities, and carbon offsets—authorized through the body’s Clean Development Mechanism (CDM)—are unlike any securities ever created: because such gases emerge not just from factories and automobiles but from felled trees, animal and agricultural

waste, and innumerable other sources from every corner of the earth, the supply of promises to reduce greenhouse-gas emissions is potentially infinite. And unlike traditional commodities, which sometimes during the course of their market exchange must be delivered to someone in physical form, the carbon market is based on the lack of delivery of an invisible substance to no one. In an attempt to compensate for this intangibility, the United Nations has certified twenty-six firms worldwide—in U.N. lingo, Designated Operational Entities (DOEs)—to “validate” the promises of emissions reducers and then to “verify,” often years later, that those reductions actually occurred.

SGS is one of two companies that dominate the carbon-validation business. The other is Det Norske Veritas (DNV), a Norwegian firm whose primary business is shipping inspection. Other major players include the accounting firm Deloitte Touche Tohmatsu, the transportation-safety firm Lloyd’s Register, and TÜV SÜD, a German industrial-testing company. Much as large accountancies affirm the balance sheets of corporations, the DOEs are supposed to assess the credibility of emissions reducers by verifying the truth of their statements, in which they are required to predict their own future reductions of emissions.

Not long before Beck and I met, for example, she and two colleagues had visited the site of a prospective composting project in Duque de Caxias, which sits along the western shore of Guanabara Bay just north of Rio de Janeiro. The project planned to collect fruit and vegetable waste from grocery stores and street markets and compost that waste into organic fertilizer, which could then be sold to farms. By using aerobic composting and microorganisms to break down the waste, the project would avoid creating methane, which is twenty times more effective at trapping heat than carbon. The project’s developers—which include Dublin-based EcoSecurities, the world’s largest carbon investor—had brought in SGS as validator. After their visit, Beck and her colleagues affirmed that the project would result in the equivalent of 67,000 tons of carbon dioxide that will not be produced. At the current carbon price of roughly \$22 a ton, this would entitle the project’s developers, upon U.N. approval (which as of December was still pending), to credits worth nearly \$1.5 million.

Multiply that decision by the nearly 2,000 CDM projects worldwide, which represent claimed emissions reductions in fifty-eight countries—hydropower dams in India, wind farms in Morocco, methane-capture projects in Brazil—and the scope of the responsibility placed upon SGS and its competitors becomes

ONCE A PROJECT IS APPROVED, THE CARBON CREDITS ARE “VALIDATED” AND CAN BE SOLD ON THE MARKET AS A SORT OF FUTURES CONTRACT

clear. Market forces created the worldwide industrial growth that has led to global warming, but the United Nations has concluded that those same forces can be used to avert climate change. By policing this huge new effort in re-channeling capital, it has deputized the validators and verifiers to measure carbon and thereby transform it into a novel commodity:

one whose value resides entirely in the promise of its absence.

**T**he approval of carbon credits is a multi-stage process. After investors identify a prospective project, they hire a DOE to assess the

yet. Delivery happens months or even years later, after a DOE is brought in again to “verify” that the promised emissions reductions have occurred. At that stage, the credits are called Certified Emission Reductions (CERs) and can be used by purchasers against their caps. During both validation and verification, the DOE is the only entity apart from the investors to visit the project site and assess it in the real world. Occasionally the verification process will lead to a re-estimation of the credits delivered or even to an outright rejection: in 2007, after a series of projects had their credit levels re-estimated, EcoSecurities was forced to write down



reduction of emissions. The DOE then puts together a report that includes estimates of both existing greenhouse-gas release rates and the potential for reduction given different technological approaches. That report is then submitted to the U.N. Executive Board, which audits it before passing judgment. Once approved, the project is considered “validated” and the prospective credits can be placed on the market as a sort of futures contract: the credits can be bought and sold, but buyers who need credits to meet their caps do not actually receive them

its total portfolio by some 40 million credits, causing the company’s stock to plunge. But all in all, only 4 percent of requests for verification since 2005 have been rejected.

This whole process has two goals. One is to operate successfully as a market, with a steady supply of carbon offsets and varying prices to ensure that profits can be made. The other goal, of course, is the system’s ultimate *raison d’être*: to reduce greenhouse-gas emissions by channeling funds into cleaner technologies. To achieve both goals, validations are the cru-

cial step, the threshold at which messy real-world promises are transformed into tradable abstractions. Validation is also the Achilles' heel of the system, and this vulnerability stems in large part from the central requirement for offsets: *additionality*—that is, proof that one's renewable-energy project would not happen without the capital generated by selling carbon credits. Thus the process is fraught with obstacles of definition, involving as it does a conceptual leap into the future.

In order to prove that an emissions reduction would not have happened otherwise, project developers try to demonstrate that a



comparable, less emissions-intensive technology is not commonly used in the industry for which it is being considered, and also that the switch is not legally required—if everyone's doing it, why should a company get extra money as a reward? Moreover, developers must show that the project would make no econom-

ic sense without CDM funds and that documentation exists to demonstrate that these factors were considered by the company's board of directors in their decision to pursue CDM financing. It is left to the validators to determine that all these requirements have been met. "They are expected to determine something that is counterfactual, not an easy thing to do," says Clare Breidenich, who worked on greenhouse-gas policy both at the U.S. State Department and, later, at the United Nations, where she led the division that monitored emissions by developed countries.

Lambert Schneider, a German environmental engineer who serves on a U.N. panel on methodologies, reviewed nearly a hundred offset projects for the peer-reviewed journal *Climate Policy*. He found that just 60 percent of projects actually provided evidence that the CDM funding made a difference, and that 40 percent of companies would likely have reduced emissions anyway. "You're a project developer, and you're telling a story about how your project is 'additional,'" Schneider told me. "The DOEs check the story. They are relied on for their judgment, and it's often a very selective judgment."

It turns out that overestimating reductions is the trapdoor in the offset system. Study after study has demonstrated that CDMs have not delivered the promised amount of emissions reductions. According to a report by the U.N.'s Intergovernmental Panel on Climate Change, the margin of error in measuring emissions from the cement and fertilizer industries can be as high as 10 percent. For the oil, gas, and coal industries, the margin of error is 60 percent; and for some agricultural processes, the margin of error can actually reach 100 percent. A Berlin think tank, the Öko-Institut, conducted a review of the validation process on behalf of the World Wildlife Fund International and concluded, last May, that none of the top five validators scored higher than a D in an A-to-F grading schedule based on challenges and questions about their projects.

Axel Michaelowa, who serves on the U.N.'s CDM Registration and Issuance Team and also runs a carbon-policy consulting firm in Geneva, has come to a similar conclusion. He told me that 15 to 20 percent of offset credits should never have been issued, because the underlying projects failed to prove additionality. In the United States, the Government Accountability Office, the

investigative arm of Congress, concluded that as a result of such discrepancies, the use of offsets “may not be a cost-effective model for achieving emission reductions.” The GAO issued that critique of cap-and-trade last March after being asked by Congress to study its benefits and drawbacks.

“Validations are an open flame in the system,” Michaelowa said. “The initial idea was that they would be the guarantee of legitimacy for a project. But they began rubber-stamping what developers were putting into the projects.

Then once the projects are up and running—well, it’s too late.”

**I** witnessed such an “up and running” project firsthand when I drove north along a two-lane highway through the Brazilian state of Minas Gerais. To the west, the peaks of the Da Canastra range are scarred from the excavation of their iron ore and gold; along the savannah hugging the highway, cattle graze the pasturelands that were once forests. Passing me in the other direction, heading south, were trucks bearing timber. Minas Gerais means “General Mines,” a testament to how deeply the idea of probing the earth for its treasure is tied to the identity of this Brazilian state.

Turning off the highway down a long dirt road, I passed through a corridor of trees—to the left, remnants of the native forest, tangled and wild; to the right, rows and rows of eucalyptus, their thin pale trunks running into the distance. Finally, we arrived at a jarring scene: piles of black charcoal heaped in the middle of a broad, dusty plain. On either side the charcoal was flanked by what appeared to be mottled, rust-colored igloos but were in fact kilns.

“These are our mines!” exclaimed Rodrigo Coelho Ferreira, my traveling companion and guide, gesturing toward the heaps of charcoal. Ferreira was a carbon-projects analyst for Plantar, one of Brazil’s biggest forest-resource companies. By “mines,” he wasn’t referring to the trees, or what was left of them in the charcoal, but rather to the carbon they contained, which the company planned to sell as emissions credits. Ferreira explained that Plantar’s kilns used a new technique for controlling the 400-degree fire inside them that reduced the emission of methane from the burning eucalyptus logs. The charcoal from the kilns is then used in a nearby pig-iron factory, a shop of rolling treads where molten iron is molded into twenty-five-pound plugs for use in automobiles and appliances.

Each stage of this complicated plan had already been reviewed by a leading DOE, and each was plausible on its face. For every ton of

pig iron produced using charcoal instead of coal, two tons of carbon emissions are averted, a figure affirmed by SGS. DNV validated that the kilns’ new air-flow system reduces methane emissions. And TÜV SÜD had been called in to confirm that the eucalyptus trees soak up carbon through photosynthesis at a more substantial rate than does the denuded pastureland that was there previously. From its 57,000 acres of eucalyptus, its eighty kilns, and its charcoal-fired pig-iron facility, Plantar expected to earn 12.8 million carbon credits over the next twenty-eight years, the scheduled life of the project. It had already allotted 1.5 million credits to the World Bank in return for initial financing of the project. So the company would have more than 11 million carbon credits to sell.

But the fundamental uncertainties of the CDM system were already in evidence by the time I visited. At the time the three DOEs inspected each of the elements of Plantar’s scheme, the company was fully engaged in the production process. Trees were being burned, and the charcoal being produced was fueling the pig-iron factory. By last May, however, the entire enterprise lay dormant. Stacks of eucalyptus logs ten feet high lay alongside rows of still-standing trees; the charcoal was piled alongside kilns that had not been fired up; and the pig-iron factory’s rolling machinery had been frozen in place for at least a month. The global financial crisis, Ferreira explained, had dried up the market for automobile and refrigerator doors, at least those utilizing Plantar’s pig iron. While the entire process was dormant, awaiting an economic upturn, some of the future credits were already for sale.

“Our strategy is to sell these credits to industries that need them,” Fábio Marques, the manager of carbon projects for Plantar, told me back at company headquarters in the state capital of Belo Horizonte. The company, he said, was in “active negotiations with European industries and banks” interested in buying them; he wouldn’t provide their names. Plantar’s take could amount to more than \$100 million.

**I**n this highly specialized new industry, perhaps a thousand people really understand how onsite measurement of CDM projects works, and there is a serious potential for conflicts of interest. It is not uncommon for validators and verifiers to cross over to the far more lucrative

STUDY AFTER STUDY HAS FOUND THAT APPROVED CDM PROJECTS OFTEN FAIL TO REDUCE THE AMOUNT OF EMISSIONS PROMISED

business of developing carbon projects themselves—and then requesting audits from their former colleagues. Schneider points out that young university graduates entering the field commonly spend several years learning the ropes at DOEs and then “go to work for a carbon project developer, where they make three times the salary doing more interesting work.”

These developers—which partner with local businesses and governments to set up offset projects—are by and large funded or owned outright by multinational firms, particularly financial houses such as JP Morgan Chase, which owns the biggest developer in the world, EcoSecurities; Goldman Sachs, which has a significant interest in the largest U.S.-based developer, Blue Source; and Cantor Fitzgerald, which owns CantorCO2e, another major player. Other large investors in the field are the agricultural-commodities firm Cargill, which is now one of

the top developers of carbon projects, as well as BHP Billiton, the world’s largest mining firm. Sometimes, as is the case with Goldman Sachs and JP Morgan, developers’ owners also speculate in the secondary

markets for credits through dedicated carbon-trading offices in London. Far from being independent third-party auditors, the DOEs get paid by these very developers and have to compete vigorously to win business. Plantar’s Fábio Marques told me the company routinely takes “various bids” of differing price from validators.

In recent years, the U.N. Executive Board has attempted to increase its oversight of the system, enlarging the CDM support staff from just twenty people in 2005 to nearly a hundred today, two thirds of them dedicated to technical reviews and assessments. They now read the DOE proposals with more scrutiny: today, more than 65 percent are sent back for more supporting documentation, compared with about 10 percent of such “requests for review” in 2005. The U.N. also has been trying to tighten the reins on validators: in the span of just nine months in 2008 and 2009, it issued temporary suspensions of both DNV and SGS, due to irregularities found in their project assessments.

At the time of DNV’s suspension, in December 2008, it was the dominant carbon accounting firm, having validated 48 percent of all offsets—almost a thousand projects, representing more than four hundred million tons of emission-reduction credits. It was one of the first two firms to be accredited under the Kyoto

Protocol, and had helped establish the methodologies for measuring emissions and for predicting future emission reductions that lay at the heart of the market’s rapid expansion. The investigation began after the Executive Board rejected several of DNV’s projects. The Board then initiated a “spot check” at DNV’s offices in Oslo, where a CDM team found five “non-conformities,” including a flawed review process within the company’s auditing staff, inadequate preparation and training of field auditors, and an overall failure to assign assessors with the proper technical skills. After revising its procedures to U.N. specifications, DNV was reinstated as a Designated Operational Entity in February 2009.

The suspension of SGS was handed down last September, four months after I met Talita Beck in São Paulo. By this point, SGS had become the dominant validator, responsible for more than a third of all Certified Emission Reductions being utilized and traded. In its case, the Executive Board compared several of the company’s verification reports for a single project and found inconsistencies among them; the Board then subjected SGS to a spot check. During the investigation, the company was unable to satisfy the Board’s assessment team’s concerns about the quality of its internal reviews and the qualifications of its staff. SGS was cited for six non-conformities with DOE standards. After revising its own auditing procedures, the company was reinstated by the U.N. last December.

Together, SGS and DNV have been responsible for nearly two thirds of the emissions reductions now being utilized by industries in the developed world. Although the two firms’ temporary suspensions were a strong gesture of oversight on the part of the United Nations, they also illustrate the limits of the U.N.’s capacity to monitor those firms it has deputized. The only mechanism the U.N. has for evaluating its DOEs is the evidence they themselves create and present: the validation reports they write and the data they gather onsite. When the U.N. does spot checks, as it did with DNV and SGS, it performs them in the offices of the validators, not in the field. The increasingly complex and far-flung projects, with developers dredging up thousands of claimed reductions in remote areas all around the world, already far outstrip the U.N.’s ability to police them adequately.

**A**n even larger quandary posed by the suspensions is the lack of retroactive removal—an issue that goes to the heart of cap-and-trade, which relies on a direct correlation between dollars spent and emissions reductions ob-

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tained. Every ton of offsets verified by a DOE can thereafter be used to compensate for excessive emissions by companies in Europe, Japan, Australia, and New Zealand. The Executive Board has no power to order the removal of credits from the market, even in the event of misconduct by a validator or verifier.

More than a decade ago, negotiators of the Kyoto treaty foresaw the potential problems with tainted credits. According to Clare Breidenich, the former State Department official who participated in the negotiations, the subject was hotly debated as early as 1997, before Kyoto was signed and long before the launch of

into the market, and channeling money toward renewable energy technologies that would reduce emissions.

“If credits were revocable,” Breidenich explained, recalling the dispute, “then industries operating under caps would suddenly discover that they did not have the credits they thought they had. And they were afraid that if that were the case, there would be no market.”

The debate was resolved with a decision not to decide. The U.N. would *not* be given the power to revoke credits. Holding companies accountable to the degrees of uncertainty in the market—roughly comparable to the levels of



the global carbon markets. The questions then were the same as those today: Who would be liable if credits were found to be spurious? Could emissions credits based on faulty assumptions or inadequate review be revoked? The debate highlighted the challenges of turning carbon into a commodity, with the undertaking’s simultaneous goals of imposing financial penalties on polluters, luring more investors

risk that publicly traded companies are obligated to report to potential investors—was dropped in the interest of luring capital into the market more quickly.

Eva Halvorsen, manager of corporate communications at DNV’s Oslo office, reassured me that if there were problems with the company’s validations, they would be identified during the verification process, which on large



projects is conducted by a different company. But still, even in the uncommon case where CERs are never issued, the validated credits derived from those projects are already being traded on the market.

“We’re conning the climate,” says Sanjeev Kumar, a policy officer at the WWF’s European office in Brussels. “If you’re a power company using questionable credits to meet emission targets, that’s a problem. They’re good for seven years. Then they can be renewed for another seven years. And renewed again. And suddenly you’ve got twenty-one years when nothing in effect is being done to reduce emissions—either in the developed countries or in the developing countries.”

**I**f anyone is most responsible for the U.N.’s newly aggressive stance toward verifiers, it is José Miguez, who serves on the Executive Board and, as a top official in Brazil’s Ministry of Science and Technology, is one of the country’s key climate-policy negotiators. In cooperation with the United States during the Kyoto negotiations, he helped create the CDM system that, in climate circles, is still known as the Brazil Proposal. Miguez is fervently committed to the offset-based cap-and-trade system, he told me one afternoon in Rio de Janeiro, because it has led to a historic transfer of technology and know-how from industrialized countries to industrializing ones, channeling capital to parts of the world that otherwise would have been forgotten by major global corporations now hunting for emission credits.

But Miguez also has an abiding interest in maintaining the credibility of the system. When he took over as president of the Executive Board (a rotating position among the members) in 2006, he ordered a spot check of DNV. Until then, he said, the validators assumed that their findings would slip right by the U.N.—and, with few staff to review the validation reports, they usually did. Miguez was instrumental in the expansion of that staff, which now scrutinizes proposals far more carefully. He recognizes that the central flaw in the system is its reliance on private companies to validate emission reductions. “Think of the people who audit Microsoft’s balance sheet. You have shareholders who will complain if the audit is bad. But with the CDM, there is no figure like the shareholder to complain if the audit is bad. There is no outside, independent force to moderate them and hold them accountable.”

Miguez said there have been proposals circulating inside and around the U.N. to reform that system—notably by granting the Executive Board the authority and the funds to hire

the verifiers itself. Project developers would pay a fee to the U.N., which would assign validators to a project in a random selection process—providing some level of protection from evident conflicts of interest. The proposals, though, have been rebuffed repeatedly by his colleagues on the Executive Board, which requires a three-quarters majority of eight votes to implement new rules. Just three votes can block any new major initiative. The main opposition, he said, has come from the validators themselves, who have strenuously lobbied members of the board to oppose any changes: “They want to be able to negotiate fees with the project developers. With a flat rate established by the U.N. they would not be able to do that.”

But this reform, while eliminating the conflicts of interest, would do little to address the larger pitfalls of the validation system. To maintain even the current level of monitoring would represent an undertaking of enormous scope, necessitating the coordination and management of hundreds (if not thousands) of field personnel, stationed in remote offices literally everywhere in the world. Moreover, the number of offset projects continues to climb and will skyrocket if the United States institutes cap-and-trade along the lines of the Waxman–Markey bill, passed by the House in June. Although the U.S. caps (which would cut total emissions by 3 percent in 2012, 17 percent by 2020, and 42 percent by 2030) would likely not be linked to the European system, the offsets permitted would be far broader—and more complex—than those now traded in Europe: reductions in greenhouse-gas-intensive farming practices, for example, and the preservation of living forests, and other new classes of counterfactual carbon promises, each of them with a particular set of measurement and accountability challenges.

In fact, the problems with turning carbon into a commodity begin at the very moment of conception. A one-ton carbon credit is not precisely reproducible like an ounce of gold or twenty tons of pork bellies; each credit emerges from entirely different conditions and components, whether the planting of eucalyptus trees, the capture of methane from pigs, the substitution of wind power for coal. Each represents a promise of potentially varying longevity and effectiveness, to say nothing of trustworthiness. Each involves rewarding a promise that may not be kept and whose keeping cannot even be measured reliably. On paper, cap-and-trade is seductively elegant; but in practice, making good on its promises would require an enforcement structure that is hardly less onerous than the obvious (if pain-

ful) solution to climate change that cap-and-trade was designed to avoid: that is, a carbon tax.

I ran into José Miguez again in December, on a Friday evening in Copenhagen, as I wandered a hallway inside the vast, climate-controlled complex of low-slung metal hangars where the climate-change negotiations were taking place. It was the end of the summit's first week, and the faces I passed all had a weary aspect to them. Everything, it seemed, was in play: emissions limits, the offset structure, the roles of the United States and of the developing world in a potential post-Kyoto scheme. The previous week, the Executive Board had lifted SGS's suspension and had also—according to observers present at the proceedings—encountered resistance from the company and from other DOEs to measures that would tighten the standards governing auditors' qualifications. The board also declared, in a move that once again sent ripples through the market, that the credits of ten windmill projects in China, despite already having been validated, would be suspended due to suspicions about additionality.

Roadblocks aside, the offset system was charging forward into new terrain. The Executive Board was considering a proposal—pushed by the Gulf states, Norway, and Russia—to qualify carbon capture-and-sequestration technology, which involves diverting atmospheric carbon-dioxide emissions from the air deep into the earth or under the sea, as an offset available for polluting industries. Long advocated by coal and oil interests, the move was opposed by the Brazilians; the millions of new cheap credits generated by allowing the carbon-capture offset projects would “destroy the market,” Miguez had told me in Rio. (Of course, these credits would also undermine the value of Brazil's offset projects. The battle over offsets is as much about where you come from as it is about what actually reduces emissions.) I asked him about the proposal again in Copenhagen. “Everyone has their interests,” he diplomatically replied, as he hustled off to another meeting.

That Sunday, the negotiators took the day off, and I made my way downtown to a “green business” exhibition, in order to see what a post-carbon economy might look like. There were wind producers, electric-car makers, and ethanol-based plastics manufacturers; even the U.S. Department of Commerce had a booth to promote an array of green American industries. In a booth sponsored by the government of Abu Dhabi—promoting what it claimed was the world's first “carbon-neutral city,” which the

emirate was building in the remote desert and for which it hoped to obtain CDM funds—I met Mark Trexler, the director of Climate Strategies and Markets for DNV. Trexler has been in the climate-change business in the United States for some twenty years, most recently as an executive with EcoSecurities.

We sat down over coffee, and I raised my concerns about the validation system. Trexler claimed that any problem was not with the validators—“We only enforce the rules of the U.N.,” he averred—but instead with the “interests” that devised the priorities of the system and prized volume over accuracy. He offered home-pregnancy tests as an analogy. Such tests deliver news that can be good or bad, he said, but there will always be a percentage of false readings in either direction; and if one tries to design the test to reduce false positives, “you will increase the number of false negatives, and the reverse.” A similar equation held, he believed, for measuring offsets. “If the United Nations only permits projects with airtight additionality, you'll have a huge increase in the pool of false negatives. Some legitimate projects will be kept out.” But, he went on, the reality is that everyone—emitting businesses, carbon-project developers, entrepreneurs in the developing world, and governments—has a vested interest in validating as many projects as possible. “Striking the balance between the number of false negatives and false positives is a political decision, not a technical decision,” Trexler said.

Indeed, carbon exists as a commodity only through the decisions of politicians and bureaucrats, who determine both the demand, by setting emissions limits, and the supply, by establishing criteria for offsets. It was the United States that sculpted the cap-and-trade system during the Kyoto negotiations, before pulling out of the accord and leaving the rest of the world to implement the scheme. Since then, most of the world's major political, financial, and environmental interests have aligned themselves with the idea, because of its potential to generate profits out of adversity and to avoid the difficult economic decisions posed by climate change. Now the Obama Administration and the Democratic Congress—along with most American companies, which see cap-and-trade as the friendliest regulation they could hope for—want to rejoin the world and multiply the market. That market is, in essence, an elaborate shell game, a disappearing act that nicely serves the immediate interests of the world's governments but fails to meet the challenges of our looming environmental crisis. ■