Seeing Through a Glass, Darkly, Banks Approach Coal-Fired Power Financing

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Investment banks, it would seem, have finally seen the light.

Working for months with the Sierra Club and the Natural Resources Defense Council, Citigroup, Morgan Stanley, and JPMorgan in February announced a set of "Carbon Principles" (**Exhibit 1**) and committed to support legislative and regulatory actions to reach the motherhood-and-apple-pie goals embedded therein. Moreover, they also announced an "Enhanced Diligence" process that they will apply to all new fossil-fuel-generating projects, so as to reduce the carbon footprint of any new generating resource development. This makes perfect sense. After all, banks need to closely scrutinize potential investments in needed new base-load generation so as to have more money available for lower-risk subprime mortgages.

In the Carbon Principles, the banks make lofty—and empty—promises that they may or may not be able to keep.

The Carbon Principles and the Enhanced Diligence process have been presented as a first step in a process of (1) standardizing the carbon risk evaluation process associated with power plant projects and (2) mitigating any associated compliance risk. With great fanfare, these three principles were rolled out as the ideal way to increase the perceived costs of financing and operating coal plants and, at least from the standpoint of the environmental groups, drive a stake through any utility's plans to build coal-fired plants. That is surely good news for China, which will face less upward pressure on the price of coal, steel, turbines, and all the other components needed to construct the many shiny new coal plants it will continue to build for the foreseeable future. However, for U.S. consumers, the banks' newfound environmental concerns will translate directly into higher electric prices.

Not to be outdone by Citicorp and friends, Bank of America (BoA) announced that when deciding on financing deals it will start factoring a price for CO_2 emissions into the cost of any new conventional coal-fired power plant. BoA expects the price of a ton of CO_2 to be between $20 and $40. (For the sake of comparison, a European Union Allowance [EUA] today trades around $29, depending on how far the dollar has dropped against the euro.) Although less lofty, BoA's approach has the advantage of being far more practical.

MORE RENEWABLES, LESS COAL, AND HIGHER ELECTRICITY PRICES

In principle, there is nothing wrong with accounting for environmental risks. In fact, as part of any financial due diligence, addressing the risks posed by future environmental regulations is just as critical as factoring in the risks posed by volatile fuel and electricity prices. However, the problems with enshrining the Carbon Principles and Enhanced Diligence into the financing approach are threefold: (1) the underlying economics are muddled, (2) the principles fail to address the very real costs of higher electricity prices that will inevitably result from effectively prohibiting new coal-fired generation development, and (3) with the recent cancellation of the FutureGen project, which was to showcase carbon capture, the final principle of carbon capture will effectively be unattainable for new coal plants, given current technology.

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Exhibit 1. The Carbon Principles

1. Promote energy efficiency by considering cost-effective demand reductions during the "Enhanced Diligence" review of projects.
2. Encourage investment in renewable and low carbon distributed energy technologies taking into consideration the amount of avoided CO_2 emissions.
3. Encourage carbon capture and storage for conventional and advanced generating facilities when assessing any conventional power plan.

In essence, through the Enhanced Diligence process, coal plants will be viewed as a "last resort" to guarantee sufficient electric supplies. This approach adds one more hurdle or still-regulated electric utilities to establish that coal plant investments are prudent. Instead, the utilities will have to show that they have tapped all available energy-efficiency and renewable-energy options and still cannot meet customer demand. In addition, utilities and wholesale generators that do not fully subscribe to the Carbon Principles will have to prove the economic viability of their proposed power plants, even under a scenario in which they must buy all of the necessary carbon allowances. As a result, the discredited "economic used-and-usefulness" school of regulation could once again return, further reducing the likelihood that utilities will commit to major fossil-fuel investments.[1]

Ironically, one guaranteed outcome of the enhanced scrutiny of carbon risks is that utilities' cost of capital will *increase.* This will occur not only for utilities having the temerity to consider new coal plants but also for those having existing coal plants. Not only will the cost of debt increase as banks lower utilities' credit ratings and raise the financial hurdles for building new generation, but equity investors will also demand higher returns for their increased risks. This will translate directly into higher electric rates for consumers. As for unregulated generation companies, their cost of capital will increase as well. This increase will reduce the incentive to build new base-load generation and increase wholesale market prices not only in bilateral and spot energy markets, but also for installed capacity, which local utilities must purchase to provide sufficient reliability for their customers.

As utilities and generation developers are forced to invest in more renewable resources, the demand for renewables will increase, further raising electricity costs. While that will be a welcome outcome for wind turbine and solar photovoltaic manufacturers, as well as renewables developers (who does not want the demand for their product to be increased by fiat?), those resources are still more expensive than coal. Moreover, they simply cannot provide base-load power and therefore must be "firmed" up to account for the inherent (and often rapid) variation in their output.

As for "cost-effective" energy conservation, there are many uncertainties that affect cost-effectiveness—everything from how long that compact fluorescent bulb really lasts and how much it costs to install more efficient motors to what future energy prices will be. For many utilities, the new policy will mean that they will once again be in the energy conservation business, which is a role many regulators relieved utilities of years ago. The new policy will also mean more business for inefficient, government-funded conservation and power authorities that will decide how much consumers will be taxed and to whom the energy conservation "spoils" will be provided.

With the Carbon Principles, banks are holding themselves up as energy experts. Ironically, many utilities will benefit from this, as it will allow them to point to their banks as the drivers of their generation investment and long-term contracting decisions. That shift will reduce the potential for adverse prudence decisions by regulators. Thus, as utility customers' rates—and ire—increase, utilities will be able to say "don't blame us, blame the banks."

Higher electric rates, of course, will ripple through the economy, reducing economic growth. Moreover, to the extent that competitors, such as China and India, continue to build cheap coal plants apace, the nationwide economic hole we have placed ourselves into will deepen.

This danger was noted by Edison Electric Institute President Thomas Kuhn in a speech to the Wall Street community on February 13, 2008. Kuhn warned that "[t]he consequence of not harmonizing emissions reduction goals with technology will be tremendous price pressures on natural gas, higher consumer prices, and heavy burdens on the competitiveness of U.S. industries."[2] The Carbon Principles agreed to by the banks contain no such nod to harmonization.

An additional unintended consequence will be increased pressure for utilities to enter into long-term

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power purchase agreements with renewables developers. State utility regulators have already begun to increase the pressure for such contracts by reinventing integrated resource planning requirements (now called *integrated portfolio management*).[3] These requirements are intended to stave off the perceived "unfairness" of market auctions that provide "standard-offer" service for several years only. By increasing the financial risks of building new fossil-fuel generation, utilities will need to sign long-term contracts with renewables developers that would otherwise be unable to finance their own investments.

What do banks think about the risks of entering into long-term contracts? Because such contracts are considered the equivalent of long-term debt, they increase the financial risk to utilities. This creates some nice opportunities for banks—come to think of it, perhaps the Carbon Principles should be renamed the "Principles for Raising the Interest Rates We Charge."

A BETTER APPROACH—FOR BETTER OR WORSE

As regular readers of this column know, I am a skeptic when it comes to climate change from human activity. While the earth's climate has always changed, including global *cooling* last year,[4] I remain unconvinced that the miniscule carbon additions human activity contributes to the atmosphere (compared to natural additions) are causing recent changes.[5] Nevertheless, politicians and regulators, spurred on by a coalition of environmentalists and industries that can capitalize on environmental mandates, seem determined to impose new regulations to control greenhouse gases. Those regulations, in turn, without any doubt will affect the economics of new generating plants—whether coal, gas, nuclear, or renewable.

Rather than relying on an amorphous set of Carbon Principles, a far better and more direct approach would be for politicians simply to levy a carbon tax and let the market sort things out. In essence, that is the approach taken by BoA, which in its new policy on coal-plant financing assumes some level of implied carbon tax, whether in the form of an actual tax on carbon emissions or in the form of carbon allowances that must be purchased.

This tax would be far more straightforward than invoking a complex and time-consuming Enhanced Diligence process that considers carbon offsets, carbon capture, energy efficiency, and renewables. Regulated utilities and unregulated wholesale generators could then determine, with a known carbon cost, what the most economically efficient portfolio of generation (of all types) and energy efficiency resources will be. Banks would not have to become energy planners and would instead have clear financial signals upon which to assess financial risk. Renewables developers would be able to compete fairly, without the need for specific portfolio mandates and government subsidies that artificially increase demand and raise electric prices. The revenues collected could then be recycled, with the effect that taxes that inhibit competition could be reduced and the overall economy improved.

While they are at it, perhaps banks should consider methodologies that can actually measure risks empirically and not confine those measurements to greenhouse gases. For example, one might assume banks would want to consider the financial risks posed by the availability and cost of water for proposed solar thermal plants in the desert Southwest. What about the risks of multibillion-dollar investments in energy-efficiency technologies and projects that end up providing fewer "negawatts" than advertised? How about the financial risks posed by wind turbines whose blades julienne endangered species of birds and bats? Controversies, uncertainties, and discord abound, and until things shake out (no time soon), these risks will be just as significant—if not more so—than the risks of carbon regulations.

Who knows, perhaps if we did the right thing and implemented a carbon tax, environmental groups would finally be satisfied that environmental risks were being addressed to their satisfaction. Well, that last one is probably a pipe dream.

NOTES

1. For an admittedly long-winded discussion of economic used-and-usefulness, see my article: (2002, November). The economic used-and-useful test: Its origins and implications for a restructured electric industry. *Energy Law Journal, 23,* 349–82.
2. For the complete text of the speech, see: http://www.eei.org/industry_issues/finance_and_accounting/Wall_Street_Briefing_2008.pdf.
3. For a discussion, see my article: (2007, December). Déjà vu all over again: The grass was not greener under utility regulation. *The Electricity Journal, 20,* 35–39.
4. For a summary of four indicators used to measure global temperature, see: http://wattsupwiththat.wordpress.com/2008/02/19/january-2008-4-sources-say-globally-cooler-in-the-past-12-months/.
5. Two of my previous columns on the subject are: (2007, July). Goldilocks chills out. *Natural Gas & Electricity,* 23(12), 26–28, and (2007, April). Goldilocks and the three climates. *Natural Gas & Electricity,* 23(9), 22–24.

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