What Does Copenhagen Mean for Investments in Low-Carbon Technologies?

Jürgen Weiss, PhD
Principal and leader of the climate change practice of The Brattle Group

It is difficult not to call the outcome of the Copenhagen conference a failure from a political perspective. But it is unclear how much this has shifted the appetite for investments in low-carbon technologies. It was reported that clean-tech stocks suffered following the conference, indicating there was likely some downward adjustment of the investment community's expectations for the profitability of companies in the clean-tech space.

However, since Copenhagen is far from being the first example of wavering and fragile legislative and regulatory commitments to climate change, it is also unrealistic to think that a successful conclusion to the negotiations would have meant private capital fully trusted that any agreement reached there would mean reliable long-term price signals to support low-carbon technologies.

Theoretical arguments clearly support government intervention in the climate change space through measures on both the supply and demand sides. Market failures exist, after all, on the research and development, deployment (otherwise known as "the Valley of Death"), and the demand sides, due to the externalities of greenhouse gases. However, it is questionable how effective government intervention is (or is expected to be) from the perspective of a potential investor. After all, government intervention is rarely, if ever, the result of rational economic analysis, and is more likely driven by a messy political process with often very poor and uncertain outcomes.

The consequence is too-little investment in low-carbon technologies relative to some contemplated optimal policy framework. Of course, we should continue to look for policy mechanisms that result in more rational and predictably stable regulatory frameworks, which, in turn, would lower the riskiness of investments that at least partially depend on price signals tied to government regulation. But, for now, investing in low-carbon technologies needs to take place in an environment with continued uncertainty regarding the ability of the political process to create stable price signals and related regulatory frameworks. I believe this suggests that the most-promising areas for investments are those that don't primarily (or exclusively) depend on fragile regulatory support, but rather are (also) driven by non-climate-related opportunities.

Among the low-carbon technologies on the way, some will ultimately be successful whether or not we ever come up with meaningful climate treaties or even meaningful domestic climate legislation. For instance, the changing supply and demand balance for oil suggests that renewable substitutes for oil will be able to count on a huge market even without a carbon price, and the supply and demand dynamics may provide enough signs that oil prices will increase over time. Furthermore, some power-generation technologies, such as solar, are on a path towards

Weiss, Jürgen. "What does Copenhagen Mean for Investments in Low-Carbon Technologies?" *Journal of Environmental Investing* 1, no. 1 (2010).

grid parity and will ultimately prove disruptive to the existing mix of power generation, again without carbon pricing or renewable portfolio standards. Additionally, battery innovation will make electric cars more practical, and electric cars have the potential to be much cheaper to drive than cars powered by internal combustion engines, even without any price on carbon. I am hopeful that progress can be made in those areas that have the potential to solve our climate problem almost as a byproduct of solving other problems.

However, one further caveat is merited. Unfortunately, the regulatory incentive structures for new and environmental technologies resulting from the political process may not only be too weak to provide meaningful support for those technologies, they may provide subsidies for the *wrong* technologies. The US backing for corn-based ethanol is a recent example of this problem and it is one that points to an important consideration for potential investors in low-carbon technologies. Successful investments in this field may not only have to be viable in the absence of meaningful carbon prices (or related support), they may also need to be able to survive in an environment in which inferior solutions receive subsidies to push some powerful political group's pet technology. Therefore, successful investment in low-carbon technologies in the absence of a relatively stable and well-defined regulatory framework post-Copenhagen will not only require an understanding of which technologies are least dependent on stable carbon prices and related incentive structures, but also of the political pressures to favor, at least in the near term, technologies that may not be optimal from a purely technical or economic perspective.

Biography

Jürgen Weiss is a Principal with The Brattle Group, an international economic consulting firm, where he heads the firm's climate practice. He specializes in climate change and carbon market analyses, renewable energy, and electric utility economics. He advises clients on climate change policy, strategy and risk, changes in the value of existing assets, integration of renewables, market design and performance analysis, and efficient retail incentives and rate design. Dr. Weiss has consulted and written substantially on issues related to carbon pricing and the demand side of electricity markets, including topics such as efficiency, conservation, storage, retail rates, renewable power, and Renewable Portfolio Standards.

Prior to joining The Brattle Group, Dr. Weiss was a co-founder and managing director of Watermark Economics. In addition, he was previously the managing director of Point Carbon's global advisory practice, a director at LECG and a consultant with Booz. He holds a Ph.D. in business economics from Harvard University and an MBA from Columbia University.