

# Over the hedge

*Uncertainties surrounding government commitments to decarbonising the economy create three key risks – missed carbon emission targets, low fossil fuel prices and low carbon prices. Such risks reduce the attractiveness of clean technology projects. But can governments themselves help hedge these risks? Professor Michael Mainelli FCCA FSI MEI, Z/Yen Group (a leading London-based commercial think tank) and Jan-Peter Onstwedder, Head of Risk & Portfolio, 3i,\* look at the role index-linked carbon bonds can play in addressing this issue.*

All energy projects share similar risks. Universal risks include energy prices, construction costs, operating costs, efficiency, waste and decommissioning. However, there is one qualitative difference between traditional fossil fuel energy projects and clean technology (clean tech) energy projects – the risk of failed government policy. Government policy is core to most clean tech profitability. If governments stick to declared targets for reduced greenhouse gas emissions, implementing renewable energy or utilising carbon prices, many clean tech projects make investment sense. But, if governments are blowing so much 'hot air', clean tech projects are highly risky. Call this the 'risk of government inaction'.

Government inaction risk is perceived to be high. At some £10mn to date, the London Accord ([www.london-accord.co.uk](http://www.london-accord.co.uk)) is the world's largest cooperative investment research programme into climate change and other environmental, social and governance issues. Encompassing over 30 concerned investment firms and banks, the City of London Corporation, Gresham College and BP, as well as nearly 2,000 individual members, the community constitutes a good sample of investment sentiment. The London Accord community's confidence in government commitment to renewable energy, carbon prices and carbon emission targets is low, rendering clean tech energy investments less attractive.

Yet, what can governments do other than exhort people to invest in clean tech? One intriguing proposal emerged from the London Accord itself earlier this year – that government should put its own money where its mouth is. London Accord members proposed that governments issue index-linked carbon bonds which investors could use to hedge government inaction risk. This proposal debuted in Ecosystem Marketplace, a US-based non-profit organisation that specifically focuses on increasing transparency and providing reliable infor-

mation for ecosystem services and payment schemes. A longer paper was presented at the World Bank Government Borrowers' Forum in Ljubljana in May 2009 to an audience of senior debt issuers from around the world.

One major pension fund has praised the simplicity and directness of using index-linked carbon bonds, while several activist groups have picked up the idea and governments in Europe, North America and the Caribbean have discussed feasibility with The London Accord team.

## Index-linked carbon bonds

Index-linked carbon bonds are a simple, and somewhat subversive, idea that yet might form the foundation for long-term carbon and clean tech financial markets. An index-linked carbon bond is a government issued bond where, in its simplest form, interest payments are linked to the actual greenhouse gas emissions of the issuing country against published targets. An investor in this bond receives an excess return if the issuing country's emissions are above the government's published target.

An index-linked carbon bond thus provides a hedge against the issuing country's government not delivering on its commitments or targets. The ability to hedge enables the same investor to invest more confidently in projects or technologies that pay off in a low-carbon future because, if the low-carbon future fails to arrive, the government too bears direct costs of having to pay higher interest rates on government debt. Index-linked carbon bonds eliminate the one risk that differentiates clean tech projects from other energy projects – the uncertainty of government policy actually being directed at a low carbon future. Examples of potential indices that address this unique risk are:

- levels of greenhouse gas emissions,
- levels of feed-in tariffs for renewable energy or percentage of renewable energy in overall energy supply,

- prices of emission (reduction) certificates in a trading system, and
- levels of taxes on fossil fuels or fossil fuel end-user prices.

Eventually, if the bonds are actively traded, simple derivatives would allow potential investors in low carbon projects or technologies to obtain a hedge against government risk without having to physically purchase the government bond itself. Derivatives would broaden the appeal to investors prohibited from buying government debt – for example, those whose investment mandate stipulates they must invest in low carbon projects only. More complex versions are possible. A developed country could issue the bond but use an index of a group of developing countries' weighted average feed-in tariffs for clean energy, for example, so transferring the risk of those governments' policies from a private sector investor to the developed country's government.

The choice of index allows the public sector to eliminate quite specific risks and so, akin to a 'surgical strike', take out a policy confidence blockage and enable private sector investment to flow. The ability to choose any of a range of indices provides flexibility to target one or more specific risks in a single structure. Index-linked carbon bonds could easily be issued by any government (supra-national, national, state, province) or multi-lateral agency without any need for a global initiative. Documentation would be simple. Most existing government treasury mandates already allow for these types of instrument.

Governments claim they are serious about meeting carbon emission targets and moving to a low carbon economy. If they do, they get cheaper debt. Moreover, due to the credit crunch, the International Monetary Fund (IMF) estimates that G10 governments are likely to issue about \$9tn in bonds over the next three years. So the scale of issues is limited only by government deficits – not a big limitation these days. Governments will need ways to distinguish themselves in a crowded bond market. By issuing carbon bonds linked to independent, auditable index metrics such as emission targets, renewable energy levels, future carbon prices or the price of fossil fuels, governments would remove private investors' objections that their biggest uncertainty is government commitment.

Likewise, given that failure to perform will cost, governments would have a real incentive to meet their emission targets. Index-linked carbon bonds provide genuine government commitment, a form of 'bond cuffs' that directly address the primary concern of private sector investors – lack of confidence in government commitment to preventing climate change. ●

*\*Onstwedder was Project Director for The London Accord from 2006 to 2008.*