



# Due Diligence in a World of Global Climate, Policy and Resource Changes

## Background

It is increasingly evident that the world faces significant, and difficult, challenges to an array of problems that all relate to sustainability of the built environment, lifestyles and the global economy. Finding the right future in which to invest for sustainability is made all the harder by constantly changing science, a shifting and confusing landscape of policies, rapid changes in the environment and resource base, and a growing sense of obligation by public and private sector organisations alike to take on new obligations for sustainable development.



Commercial firms such as Groupe BPCE are leading the way in implementing sustainable change, often outpacing governments in providing solutions. This briefing paper explores five cases—in four nations and globally—where development and investment by such firms make sense both financially and in regard to sustainability, pointing the way towards a new portfolio of assets such investors and managers might create in working towards a more sustainable world.

## Case 1: Getting the science right

Cherokee is one of the largest and most effective brownfield re-development firms in the US. They not only reduce the risks from environmental contaminants on a site, they then move towards re-development with green, sustainable buildings. How do they manage such re-development given that the “green premium” is often too small to justify the extra expense of greatly improved energy efficiency and low carbon solutions?

They accomplish their ambitious aims for sustainable re-development by getting the science right on contaminant risks. Armed with this sound base of science, they have a significantly better understanding of the risks involved and the engineering solutions to clean a site down to safe levels. Hence they are able to find sites that are undervalued because asset owners or managers have over-stated the risks, potential liabilities and cost of restoration. Saving money on the front end of land acquisition means they can put more into the re-development. The result: a better environment and more sustainable development, all with improved financial return.

**The challenge:** Build investments upon a sound understanding of the science of the environment and sustainability.

**The opportunity:** Lower up-front investment costs and hence greater room for expenditures on a more sustainable asset.

The Briefing Papers series by 4 CMR provides policy makers, organisations, communities and citizens with advanced research on the roles of economic, energy and environmental strategies for reducing the risk of climate change.

The series is made possible through a generous award from the Three Guineas Trust supporting both the research described and public outreach and engagement.

### Case 2: O&M savings are only half the story

4CMR are the facilitators and research support for the Cambridge Retrofit programme, with the aim of making Cambridge the first UK city to reach the national target of an 80% reduction in carbon emissions by 2050. This has required coordinating the actions of policy makers; building owners, managers and occupants; retrofit delivery firms; suppliers of material and labour; innovators; financiers; and educators.

The first lesson learned is that one must locate *quid pro quo* arrangements, in which the goals of the asset owners to bring about a more sustainable Cambridge are helped by others bringing support to the table, such as planners allowing for expedited review of applications. The second lesson is that only the first half of a retrofit can be financed through savings in operations and maintenance. Deeper retrofits require an increase in asset value such as improved quality of the property, perhaps accompanied by a regulatory requirement for retrofits to be performed before a property can be sold or let.

**The challenge:** Building a network of collaborators from all sectors of a community, and identifying strategies to increase asset value through retrofits.

**The opportunity:** Establishing a stronger and more reliable business case for retrofits, with mutually supportive roles by the members of that network.

### Case 3: Climate Programmes can have unintended consequences

4CMR are also conducting studies of the effectiveness of climate programmes such as REDD+ and the Clean Development mechanism in Africa and Southeast Asia. These programmes have the intention of increasing sequestration of carbon (REDD+) and bringing in low carbon energy (CDM) in poor nations, underpinned by sustainable economic development.

Recipient nations, however, often see such finance as primarily a stimulus for economic growth. As money flows in and incomes rise in local communities, lifestyles “improve” and energy use increases. Unfortunately, the increase in energy use often outstrips the improvements in energy efficiency or green credentials of funded projects.

**The challenge:** Delivering on green projects in ways that allow improvements in sustainability to keep pace with growth in material and energy demand.

**The opportunity:** Global financial flow for low carbon development will increasingly focus on firms that can deliver on this balance.



#### **Case 4: Consumption and production-based accounting**

China –like most of the rest of the world—is a land with significant disparities of wealth and carbon emissions between regions. They are developing an internal emissions trading scheme that will allow capital to flow from the richer areas (such as Beijing) to the poorer areas (such as the northwest). To assist them in this, 4CMR have created a carbon accounting scheme for energy flow between the regions.

The scheme is consumption-based, meaning it assigns carbon emissions to the region consuming goods or energy, rather than to the region producing the goods or energy (production-based accounting). This causes a flow of capital from the consuming to producing regions, allowing for low carbon, sustainable energy and material systems to be brought to regions that could not afford them otherwise as they struggle to grow their economies.

*The challenge:* Identifying where environmental impacts begin through consumption patterns, and ensuring the “consumer pays”.

*The opportunity:* Working with the poorer regions of China (and the world) to direct the flow of finance towards sustainable, low carbon intensity projects.

#### **Case 5: Supply chains are global**

Finally, consider the case of the combined efforts of 4CMR and CSPL to bring about reduced carbon emissions in the supply chains of the leading global corporations. Our research indicates that 50-60% of the world’s carbon emissions come from some point in these supply chains. Even if nations are ineffective in slowing the growth of emissions (and one must hope they become effective!), a focus on supply chains for corporations is a viable option.

How will this be accomplished? First, one must understand how these sectors of economic activity and production are linked, and how changes in one part of a supply chain affect the emissions up and down that chain. Then, we must find ways to bring a cradle-to-cradle approach to material management, so the wastes of one part of the chain become the nutrients of another.



*The challenge:* Identifying the most significant points of intervention in the supply chains, closing the material and energy cycles at those points.

*The opportunity:* Building a business around investments in technologies that bring these closed cycle innovations to supply chains.

## Conclusion

At 4CMR, working with and often through the Cambridge Programme for Sustainability Leadership, we are using our advanced energy-economy-environment models and databases to find a path forward to a low carbon, sustainable built environment and global economy. Firms such as Groupe BPCE are crucial in reaching our ambitious aims. While governments can frame sustainability issues and provide incentives (or, unfortunately, disincentives in some cases), in the end it is the private sector that must deliver through its investments.

There are many lessons to be learned from these five case studies. We have found that it is essential to have absolute clarity as to the goals of a project. Is the aim to produce a low carbon project? Improve energy efficiency? Improve energy security? Reduce energy costs? Reduce fuel poverty? Have warmer homes? Increase the local economy? These are all noble aims, but they are not the same and are often confused.



And we have learned that the best of intentions can soon become unanticipated, and undesired, consequences. An example? The REDD+ programme mentioned earlier, which may unintentionally drive up energy consumption through improvements in local incomes. The solution? Ensuring this better lifestyle is accompanied by low carbon energy supplies in the developing nation.

Another example? Improved energy efficiency in the developed nations driving down energy use in those nations, freeing additional fuel for consumption in poorer nations where low efficiency industrial processes cause the world's carbon emissions to increase. The solution? Creating projects in those nations that reduce energy and carbon intensity so the newly available fuel is used wisely

We welcome any chance to involve firms such as Groupe BPCE in our global activities to place the world onto the right, sustainable, path of development.

The Cambridge Centre for Climate Change Mitigation Research (4CMR) studies the interconnected economic, energy and environmental policies at the heart of climate change policy.

This Briefing Paper was developed by Prof Douglas Crawford-Brown of 4CMR summarising a talk to Groupe BPCE in Paris on 21 November, 2012, in support of the launch of their ambitious programme of sustainable investments and projects. That talk was organised through the Cambridge Programme for Sustainability Leadership.



Cambridge Centre for Climate Change Mitigation Research  
Department of Land Economy, University of Cambridge  
19 Silver Street  
Cambridge CB3 9EP  
(0)1223 764878