

INTEGRATING CLIMATE CHANGE IN INVESTMENTS

ILDIKO IOAN, MIRCEA NĂSTASE, CRINA DACINIA PETRESCU

ABSTRACT. - Integrating climate change in investments. Climate change, by its possible implications on the businesses viability, it is possible to influence the management of investments. In this paper we explored the investment needs at global level, investment opportunities and the obstacles that prevent investors to focus more on climate change. Companies those are aware of both climate change and climate policy impact on their activities could gain a valuable competitive advantage. Although there is a good knowledge about the investment needs and priorities, short-term target in financial management is found to be the most important obstacle for integrating climate change in investments.

Key words: climate change, investment, economic opportunities, short-term targets, transparency

1. Introduction

Predictions regarding the dangerous increase of global temperature, accompanied often by accounts on unusual meteorological events determined governments to initiate probably one of the most complicated negotiation rounds. The key problems approached envisage the high path of changes, environmental effects that could impact on society and possible adaptation and mitigation solutions.

The elaboration of an effective policy for meeting mitigation and adaptation need encounter numerous difficulties. These are related, among others, to economic and political implications. Therefore, policy makers, industry actors, and the public has to face conflicting short and long term economic interests, radical political changes, international competitiveness, national sovereignty, and international institutions (Brag, 2007).

The Kyoto Protocol set ambitious targets for climate change mitigation in terms of emission reduction. Assuming them brought for Annex I signatory parties important obligations to be implemented at national level. The pressure created in this way proved to be strong enough to push governments further in policy design and performance.

Climate change was addressed traditionally by governmental interventions aimed to correct market failure situations by regulatory, financial and information

tools. Now this issue is approached from a different perspective. Such change in focus is due to the progress in the application of climate policy, deployment of several assessments, more comprehensive understanding of physical processes and socio-economic implications. The new perspective on addressing climate change is featured mainly by a more wide involvement of stakeholders. Thus climate change is an issue to be addressed not only by government but also by business representatives (Ioan and Petrescu, 2008).

In this framework, our paper aims to reveal the investment implications of climate change by referring to the resources needed, opportunities and obstacles that prevent investors to address this crucial issue on their agenda.

2. Climate change investment needs

The United Nations Framework Convention on Climate Change (2007) reported on the investment and financial flows needed for climate change mitigation and adaptation. The financial picture of climate change in 2030 is featured by several characteristics, as follows:

- Investment and financial flows to mitigate climate change need to be increased. The additional amount in 2030 will represent 1.1-1.7% of global investments and 0.3-0.5% of global gross domestic product;
- A significant shift in investment trends that will favor climate change necessitates the adoption of new policies and changes in the use of funds.
- By 2030 investment flows in developing countries will represent 46% of the global needs, and the resulting emission reductions by these countries would amount to 68% of the global emission reductions.
- Needs for future investments and financial flows will be different across sectors and countries. Additional financial flows needed in 2030 for adapting to climate change impacts are estimated at several tens of billions of dollars.
- Carbon markets, such as the one created by the Kyoto Protocol and policies for the implementation of renewables are already helping to shift investment flows

The effort to mitigate, or even to adapt to climate change is expected to be important. Nevertheless, Raskin (2007) argues that if this is regarded from the total investments to be made at that moment it appears to be manageable, because it will represent less than 5 percent of the total capital spending.

3. Climate change investment opportunities

Involving industry actors in climate change mitigation raised the question of practicality, in sense that managers need to develop measures to be applied in their organization in order to improve carbon efficiency. A first step in this

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direction is to shade light the possible solutions in climate change mitigation in terms of investments. Harris (2008) proposes to distinguish between those categories of goods and services that can expand over time, and those that must be limited to reduce carbon emission. In the light of this proposal we present further some areas that are in an advantageous position, but also need significant investments, such as:

- Conservation is the simplest method for reducing carbon dioxide emissions. According to United States Environmental Agency each gallon of gasoline releases 8.64 kg and each kilowatt releases 1.40 kg. It is possible to be incentivized by regulation and financial tools. The contribution toward reduction of this area is of one digit percents.
- Nuclear energy is the most efficient energy source in terms of carbon dioxide emissions. The generation of one unit of electricity releases 0.025 kg of carbon dioxide compared to 0.58 kg or 1.04 kg for the same unit produced in gas or coal fired plants.
- Renewable energy prevents far more greenhouse gas emissions than it causes. There are a wide range of policy measures that aim to attract investments and increase the competitiveness of this sector (Zamfir et al., 2008).
- Carbon sequestration is a technological solution for capturing carbon dioxide resulted from coal burning in power plants. Germany is among the leading countries that are trying to develop these technologies (Sprott, 2007).
- Technological advances in transportation are expected to bring an important contribution since greenhouse gas emissions raise faster in this sector than in any other sectors.

Raskin (2007) estimated investments needed for climate change mitigation by focusing on carbon dioxide emission and power generation and found three feasible options:

- Generate electricity from sources that don't create carbon dioxide. Nuclear power and renewable resources, such as wind and solar, are costly, but not prohibitively so, and the technologies are proven. There are political obstacles to nuclear energy, but opposition is waning in many regions.
- Capture and sequester the CO₂ emissions produced by burning fossil fuels. This, too, would have relatively little negative impact on users and would not be prohibitively expensive. The technology exists or is in development.
- Use more energy-efficient technologies. Requiring use of such technologies or encouraging their use by raising electricity prices (or both) allows people to do as much with less energy. It wouldn't cost much and there are few implementation obstacles, but the potential reduction in total carbon emissions is limited.

Climate change will likely be the single most important event of the century with significant impact on all economic sectors. Therefore, investment opportunities could be regarded from a much wider perspective and made apparent by sector analysis. Several sector insights of climate change impact are described by Llewellyn (2007), although these descriptions are not comparable because some of them account for the impact of the physical change, while the other look closer to climate change policies.

In the UNFCCC (2007) report a special focus was given to priority investment areas in developing countries. It was found that for mitigation purposes the investment priorities are energy industry; land use, land use change, and forestry; and building, while for adaptation more important are investment in agriculture, forestry and fisheries, water supplies and extreme weather.

4. Climate change investment obstacles

The brief description of climate change investment implication in terms of amounts needed and sector priorities reveal that important resources will need to be channeled to address climate change. From another point of view, it reveals that there is a good knowledge of the problem from several perspectives. Bearing this in mind it is unavoidable to ask what prevent investors to give more room for these objectives in their strategic planning.

A survey conducted by Llewellyn (2007) with investment management professionals reveals that there are several obstacles encountered in financial decision making that hinder climate change addressability.

Investment is prevented to being incorporated in climate change outcomes because investors, including institutional investors, operate under a relatively short twelve-month period; most companies fail to set multi-year performance targets for executive compensation; and difficulties encountered in evaluating in the companies' responsiveness to climate change, referred as lack of transparency.

Possibilities to overcome such obstacles depend on the understanding of the need to utilize a three-branched analytical framework, consisting in:

- what strategy, if any, a company has in place as regards climate change;
- what data they manage and disclose; and
- what types of systems are in place to support their strategy.

At global level, there is a more and more intense trend to elaborate voluntary reports that account for companies environmental performances, including its interest in climate change. One of the most important data base on voluntary reporting, Global Reporting Initiatives, and also studies conducted by KPMG find evidence of on upward evolution of reporting. Environmentally sensitive industries are in prominent enough in their effort to improve communication on this with their stakeholders, including investors. This could be a

good reason to believe that at least in mid-term there will be important changes in financial flows that address climate change.

5. Conclusions

Climate change is an already evolving process that yet showed only its tips. What lies below is approximated in numerous studies and reports and depicts a future that will have significantly different patterns than the present.

In terms of investment implications of climate change the analyses of different research and reporting outcomes allow us to remark that although there will be necessary important resources for both mitigating and adapting to climate change these are manageable considering the evolution of global economy.

The investment opportunities are present in all sectors, since all will suffer changes either because of the physical process or because of climate policy implementation. Nevertheless, most room will be given to investments in the energy sector, especially for mitigation purposes. Transportation, buildings and carbon sequestration are other important interest areas for climate change mitigation.

The main obstacles in addressing climate change by investors are represented by the short-term perspectives adopted in financial management and by the difficulties in the evaluation of companies' climate change responsiveness. Progresses made in voluntary environmental reporting could give hope for a more intense integration of climate change in investment decision at least on mid-term.

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