

## How are economic sectors impacted by climate change and how do they adapt?

### Part 1: How are economic sectors impacted by climate change?

Climate change affects all economic sectors, with an impact on the risk of capital loss for investors. Our experts here at Ostrum AM have analyzed the effects of climate change, and concluded that physical risk is the most pressing and visible risk. Meanwhile, transition risks are also fast evolving and may become more critical than physical risk for certain sectors.

In this first part of our report, teams at Ostrum AM present the various types of risks that can affect each business sector, as well as the strategies we have rolled out to address these challenges.

#### 1.1 Physical risks

Physical risks on companies are integrated into all immediate material impacts related to climate change i.e. production difficulties, premature wear and tear of infrastructure, and lesser anticipation of increasingly extreme and volatile movements in supply. These risks result in organizational and financial effects, and all sectors are ultimately impacted, although some experience more extensive impressions than others.

The **Utilities sector** is one of the most affected, and telecoms or power grid infrastructures can be directly hit by extreme climate events. The older the infrastructure, the greater the potential impacts, with the effect rippling out across the rest of the economy as the power supply is jeopardized.

The **Agri-Food** industry is similarly affected, with the entire chain particularly sensitive to climatic hazards, facing the following physical climate risks: thermal stress with periods of extremely high temperatures and high energy needs for cooling due to soaring temperatures during harvest; water stress; ecosystem disturbances likely to affect productions as a result of the development of pathogens, bush fires, proliferation of invasive species and pests, intense rainfall, frost damage, etc. These climate events all affect volumes produced and the prices of agricultural commodities, while increasing the risk of lost harvests.

This situation has a virtually instantaneous impact on the **insurance and reinsurance** industry. According to Swiss Re, the industry saw the largest amount of insured catastrophe losses in 2020 (after 2017). **Banks and asset managers** are also directly hit by physical risk associated with climate change due to lending to real estate. Events such as wildfires and hurricanes may generate losses for banks in their lending books.

Ostrum AM works on two levels to address this physical risk, assigning financial resources to external data to better ascertain the mapping of these risks. Meanwhile, our experts anticipate as much as possible which sectors – and within sectors which companies – are most negatively impacted. This work involves analyzing in detail causal relationships, and strategies by all economic stakeholders to limit the physical effects of climate change, and as such this process enables us to accurately assess the risks associated with these impacts.

## 1.2 Transition risks

Transition risk refers to the material effects for economic players resulting from the energy transition. Transition risks cover the effects of the implementation of a low-carbon economic model, as a result of changes in policies and regulations that burden companies. They are inextricably linked to the concept of 'stranded asset.'

Some sectors are undergoing increasingly stringent regulation, specific taxes and production limitations as a result of their greenhouse gas emissions. The energy transition can possibly result in a complete discontinuation of industrial activity, with a wide range of consequences, such as loss of activity, profitability and a depreciation of companies' assets.

The **Oil and Gas** sector is one of the industries that faces the greatest challenges, with 80% of the sector's energy generated by fossil fuel i.e. coal, oil and gas. Oil & Gas sector companies have taken different approaches as they pursue the energy transition, although their progress is hardly compatible with the goal of carbon neutrality for 2050.

In the **Utilities** sector, the green transition began more than a decade ago with some European countries agreeing to review their energy mix. However, other countries lag behind in this arena, such as China, which represents 29% of world CO<sub>2</sub> emissions, with coal accounting for 60% of the energy mix.

The Green Deal is a game changer for the **airline and aerospace** sector, as airlines are being incentivized to take an active part in the energy transition path by buying less polluting planes.

Meanwhile **financial institutions** are also exposed to transition risks in their loans and investment portfolios, and are set to be exposed to increasing regulation over the years ahead. The main risk for these companies is that they end up with stranded assets on their balance sheets.

Here at Ostrum AM, our organization allows to understand the challenges and assess the positioning of the different firms and sectors with a view to making the best investment decisions in the interests of our clients. Our teams take on board non-financial aspects as a natural part of our thinking to assess companies' impact on the climate as well as the way in which climate change can be financially material for them. With this in mind, and as early as 2018, we implemented our proprietary ESG materiality score aimed at assessing the financial implications of non-financial dimensions for firms, as well as their ability to adapt.

The ability to pre-empt climate risks enables us to assess which companies have the ability to survive within these threatened industries. Our sector organization here at Ostrum AM is crucial to apply the best sector allocation and selection for our portfolios.

### **Part 2: How do economic sectors adapt to climate change?**

To prevent or adapt to the effects of climate change, companies must combine complementary, costly and sometimes disruptive strategies. Mitigation strategies, which primarily focus on reducing greenhouse gas emissions, are the most visible. Adaptation strategies cover initiatives to mitigate and transform the impacts of climate change into opportunities, where possible. They

require a thorough review of organizational methods, the location of activities and the technologies used.

In this second part, our experts take a closer look at climate change management strategies and explain why they need to be more inclusive to take on board the Just Transition aspects, as well as the matter of biodiversity, which is inextricably connected.

## 1.1 Mitigation and adaptation

To prevent or adapt to the effects of climate change, companies must combine complementary strategies: mitigation to reduce CO<sub>2</sub> emissions along with adaptation, involving a thorough review of organizational methods and prioritizing the sectors most exposed to the hazards of climate change (physical risk).

The **Utilities sector** has developed a mitigation strategy, with a system to manage peaks in demand, electricity storage and carbon capture, etc. However, these companies need clear visibility on future regulation as well as public support if they are to be in a position to make massive investment.

All the major **oil and gas** companies have presented their transition plans, which cover various avenues to curb their carbon footprints. However, it is worth remembering that the International Energy Agency indicated that all new (unapproved) fossil fuel projects must be halted to achieve the goals set out in the Paris Agreement – a plea that has fallen on deaf ears so far.

The **Agri-Food** sector is coming under vast pressure from regulation, governments, society and end customers to adapt. Various initiatives are moving in the right direction, including the development of agroecology, aimed at eliminating pesticide use and educating customers. Large consumer companies are drawing on consumers' increased environmental awareness and their own commitments to differentiate their businesses in the eyes of their customers.

**Banks and insurers** also have a role in financing the new low-carbon economy, but in the process, they equally need to protect their own businesses and seize new business opportunities for the best performers. Insurers are adapting for example by taking into account the expectation of higher insured losses in their risk premiums to tackle transition risks, while reinsurers are seeking to reduce their exposure to the physical risks associated with global warming.

Steep investment will be required to finance climate strategies: according to the International Energy Agency, reaching net zero emissions by 2050 requires very substantial investments in clean energy transition, i.e. tripling the current level to \$4,344 billion annually by 2030. Rising coal prices should act as a major driver for the development of green power.

The success of these adaptation strategies will depend on movements on the markets, technological improvements, speed of changes, etc. The Ostrum AM research teams will closely monitor developments in these sectors and firms' adaptation capabilities.

## 1.2 Towards inclusive consideration

A key challenge in the transition to low-carbon business models is to build a comprehensive and robust trajectory, while avoiding the risk of greenwashing. Companies' efforts on the path to carbon neutrality can bring new concerns as there is potential for mismanagement if they fail to take a stringent approach or combine with complementary strategies, or if they neglect to consider the rest of the economy. The concept of carbon neutrality is a global one that makes sense at a global level: sectors that have clear decarbonization scope should aspire to go net negative rather than pursuing a neutral target.

Ultimately, to mitigate risk, the best approaches to reducing emissions are the most holistic and combine a range of complementary strategies.

### **Impact on biodiversity**

The loss of biodiversity has sped up exponentially over the past century, and according to the WWF, doing nothing to stop the loss of ecosystems will cost at least \$479 billion a year globally, or nearly \$10,000 billion by 2050.

Data providers have developed biodiversity measurement indicators for all stakeholders with a view to taking more precisely targeted mitigation measures. Finance also has a crucial role to play in protecting biodiversity by engaging with companies and encouraging them to integrate this challenge into their strategies.

### **Just transition**

In the short term, the deployment of the energy transition will have social consequences that must be managed. According to an International Labour Organization report from 2019, 24 million new jobs could be created by 2030 as a result of the energy transition. However, it also predicts that 6 million jobs will be lost due to the obsolescence of some business models or companies including fossil fuel activities.

The issue of the just transition is beginning to be tackled at the level of States and incorporated into broader initiatives: the European Union has created a Just Transition fund of €17.5 billion that will support the most affected coal and carbon-intensive regions. The goal is to help the local workforce to acquire new qualifications and support investments in clean energy, technologies and infrastructures.

Investors can also support the just transition. This implies dialogue and engagement with companies to encourage them to take into account essential issues related to working conditions, the management of their suppliers, and the relationships they undertake with local communities, etc.

With this in mind, Ostrum AM became a signatory to the PRI in 2008, as well as the "Investors for a Just Transition" coalition launched by Finance for Tomorrow in 2021. We integrate criteria related to the just transition, such as jobs and training in our process to evaluate companies, and also apply specific exclusion policies. We are committed to assessing the quality of social dialogue in companies, and ensuring that staff health and safety are secured, among other aspects.

Here at Ostrum AM, we believe that corporations must take an increasingly sophisticated climate approach to successfully manage their businesses in an increasingly demanding regulatory environment.