

A person in a dark pinstriped suit is shown from the chest up, holding a silver pen in their right hand and a tablet in their left. The tablet displays a document with text and a landscape image. The background is a vast, hazy landscape under a clear blue sky. The overall image has a light blue tint.

**Rising CO₂-prices:
Risk or opportunity?**

Highlights

- Prices of EU carbon emissions have risen strongly recently and are expected to remain high
- This poses a risk for some industries, whereas others are set to benefit
- Detailed ESG data, complemented with fundamental analysis, required to identify potential winners and losers

Over the past few months the price of the carbon emission allowance in the European Emission Trading Scheme (ETS) has risen sharply, from € 5 to € 25, after having been at depressed levels since the 2008 Financial Crisis. What is the reason for this rise? The biggest reason for the price increase is the fact that the EU Market Stability Reserve began operating in January 2019. Together with the faster reduction of the annual emission cap, this reserve is a solution from the European Commission to address what has been the systemic oversupply in emission allowances in the European market since the financial crisis.

Benchmark EUA-price on ICE-futures



Source: Bloomberg LP, BloombergNEF.

Note: the benchmark refers to futures on ICE with an expiry date the upcoming December (Front-December)

There is a widespread consensus that attaching a cost to carbon is indispensable for stimulating the transition to a low carbon economy and limiting global warming to max 1.5-2°C. The added value is reflected in the different pricing initiatives that have been initiated worldwide. Currently there are 51 of these initiatives. Closer to home the Dutch government is considering implementing a national carbon tax, complementary to the EU ETS. A criticism regarding these carbon pricing systems is that they move production away to regions where carbon emission is not priced. In order to avoid this, there is more and more international support for implementing a “green border” adjustment which would tax the carbon emissions of goods imported from such regions.

The expectation is that in the long run the emergence of different pricing initiatives will keep carbon prices at current high levels or may even push them higher. The recent rise in European carbon prices is a good reason to take a look at what the impact will be on companies and how to react as investor.

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EMISSION TRADING SCHEME

The EU Emissions Trading System (EU ETS), established in 2005, is a cornerstone of the EU's policy to combat climate change and it is a key tool for reducing greenhouse gas emissions cost-effectively. The EU ETS caps the total amount of certain greenhouse gases that can be emitted by installations covered by the system in the EU. The system covers around 45% of greenhouse emissions in the EU. Participation in the EU ETS is mandatory for companies and sectors covered by the system. The cap is reduced over time so that total emissions fall. Within the cap, companies receive or buy emission allowances which they can trade with one another. Companies face a fine if they emit more CO₂ than they are allowed. The fine is € 100 per excess tonne. Companies have an incentive to reduce emissions by investing in energy efficiency because they can then sell their excess allowances.

EU ETS AND BREXIT

A no-deal Brexit would constitute a risk for the EU ETS. As UK registrants would not be part of the system after Brexit, they could sell their allowances within a short space of time which might lead to a sudden top in the carbon price. Or international companies could transfer their allowances to EU installations leading to an oversupply. An orderly exit of the UK is expected to have a limited impact on the carbon price.

IS THE EU ETS DELIVERING ITS PROMISE?

The EU ETS has proved that putting a price on carbon and trading in it can work. Emissions from installations covered by the system are falling as intended driven by innovation, the shift to renewables and increasing energy efficiency. **EU emissions were reduced by 22%** between 1990 and 2017, while the economy grew by 58% over the same period.

TRIGGERING CHANGE, LET'S HAVE A CLOSER LOOK AT THE SECTORS

Companies have reacted in different ways over the last decade to the introduction of the carbon scheme and the associated expectation of a rise in carbon prices. Some companies reacted by diversifying away from high carbon to low carbon emitting products and activities. Others innovated and implemented changes to their production processes. The higher carbon price is expected to accelerate more initiatives focused on energy efficiency and the transition to renewables. From an investment perspective the impact on companies has varied significantly. For some companies it is having a negative impact on long-term projected returns or shorter-term profitability. For other companies the high carbon price is an opportunity. Let's take a closer look at some of these effects.

Oil companies make for example an Internal Rate of Return (IRR) of approximately 15% on new oil projects. The IRR of wind projects, the main renewable source oil companies are currently expanding in, is only averaging 5 to 10%. The shift to low carbon activities will thus put pressure on the high returns these companies currently are making.

In the utility sector there are winners and losers. The winners are the first movers having already have a significant proportion of low carbon generation such as Fortum, Orsted and Verbund. They benefit from the higher carbon price through higher electricity prices. For Fortum every rise of € 5 in the carbon price means a 5 to 10% positive impact on EPS. The losers are the companies that still have high exposure to coal-fired generation. They will be hurt in the short to medium term by the higher carbon prices. This makes the carbon price highly relevant in evaluating the medium term investment case of utility companies. In the long run, however, the higher carbon price will push these utilities to adapt their production mix, which will mitigate the carbon price impact.

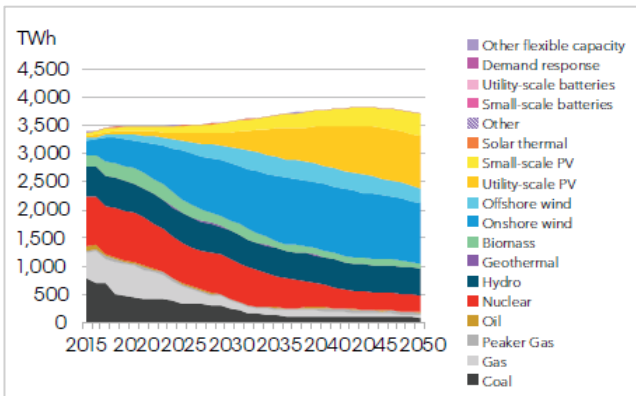
In the material, industrial and food sectors, companies are being triggered by the carbon price to invest in changes to their existing production processes. In industrial processes for example, heating is the main source of energy consumption and, as a consequence, the area where the higher carbon price is most relevant. Globally, industrial heating represents 25% of the energy consumption that is still fuelled by more than 50% via coal and oil. Within this group, the steel sector, followed by the cement and paper sector, are the most energy intensive. In order to reduce carbon intensity, they are shifting to electrification, implementing efficiency measures or shifting to renewables. Steel companies, for example, are replacing the traditional dirty "blast furnace" in part with electric arc furnaces that can melt scrap metal. A case in point is the recently announced partnership between Boliden and Vattenfall for technical developments related to smelters. As the production of aluminium is an electricity-intensive process, energy and transportation costs represent 18% of Boliden's operating costs. Switching to renewable energy would reduce emissions by 31% and save Boliden € 5.6 million a year based on the average 2018 carbon prices.

The food and beverage sector only requires limited heating during their processes, making it easy to electrify. However, from an investment perspective changes to production processes could lead to increased R&D costs and capex which in the short term would put pressure on margins.

IMPACT CARBON PRICES ON ELECTRICITY PRICES

Even whilst production processes are being electrified, in the short to medium term they are still vulnerable to higher carbon prices due to a higher electricity price. Why is this? In the short term, in particular, there is a strong relationship between the carbon price and the electricity price. In the long run this relationship will weaken because utilities will phase out coal and oil & gas and switch to renewables.

Utilities are switching to renewable energy



Source: Bloomberg NEF

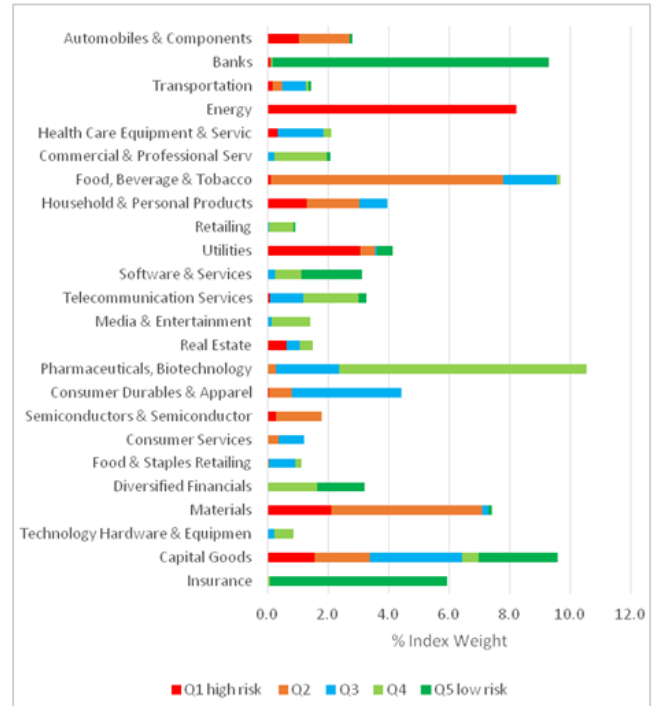
INVESTOR PERSPECTIVE

As explained above, the impact on sectors and within sectors can be very different. It also varies depending on the investment horizon. Identifying and analysing ESG-related risks such as a rising carbon price through fundamental research can be time-consuming.

A good first step in an investment process is to use ESG data to screen your investable universe on ESG risks. Most big ESG data providers offer ESG risk-related data on top of the more traditional ESG data. There are specialised data providers such as Carbon Delta and 427 that provide granular data on one specific ESG risk, e.g., climate risk.

In the figure below you can see per MSCI industry group the transition risk to a low carbon economy in Europe solely based on one data point. This outcome gives you a first idea about where to dig deeper. As you can see, transition risk is centralised in the energy, utilities, materials and automobile sectors. Surprisingly, the food & beverage sector also has an increased risk, allowing to identify the impact of a higher carbon price on the process heat cost.

Alignment transition to low carbon MSCI Europe



Just using one data point in this first step is not enough, though. The reality is far too complex to gain from just one number. The more varied the data one uses, the higher the quality of the outcome. Combine the transition risk data above, for example, with the MSCI ESG data score which reflects how well a company is at managing the transition risk looking forward. You will find that the energy sector and the utility sector are positioned well and that the capital goods sector scores less well and has a significant risk. After gaining the first impression based on ESG data, a thorough fundamental analysis remains as important as ever before you do the final assessment.

Example: automobile sector

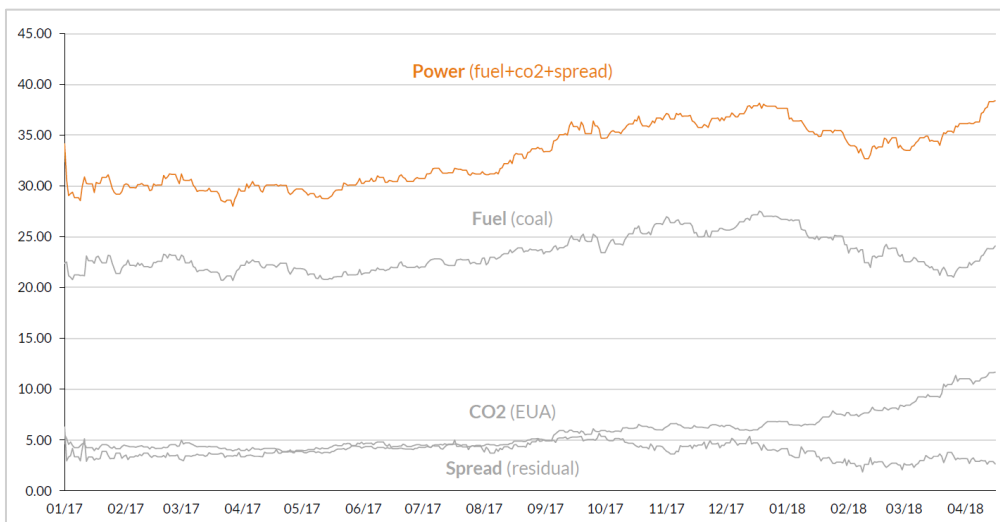
An example where many dilemmas come together is stock selection in the automobile sector. Road transport is 17% of global carbon emissions. No surprise that the sector is in the middle of changing business models, new technologies, automation and regulation leading to extra costs, strategic decisions, fines, stranded assets and potential labor disputes. How to choose between Renault having now the highest expected fines related to sales due to missing fleet emission targets, Daimler lagging in electrical vehicles roll out and even having rising fleet emissions however taking the lead in clean energy PPA's? And then BMW who is spending the most in R&D and having the highest share of electrical vehicles.

But are electrical vehicles so sustainable? They are certainly a remedy for automobile companies against regulatory emission risk. But if you take in account the emissions generated by the production of batteries in Asia or the bad working conditions in the cobalt mines in Congo the conclusions are mixed.

CONCLUSION

Identifying exposure to high carbon activities and analysing impact of rising carbon prices is quickly becoming more relevant for investors. Once the higher risk companies have been identified using data, a fundamental analysis is indispensable. An investor doing this qualitative assessment may well run into multiple challenges and dilemmas. How do you value, for example, short-term capex and costs versus long-term still uncertain strategic benefits? How do you value the cost of carbon emissions in the production process versus the positive impact of certain end products? For example, the cost of carbon emission of producing copper versus the need of copper as a raw material in the required expansion of the electricity distribution grid. Sometimes a red line is crossed and then judgement is easy. Examples are controversies, breaches of the UN Global Compact criteria or a severe negative impact related to the crossing of the Planetary Boundaries. But often the assessment is not black and white. The outcome is highly dependent on value and norms of you as investor, as there is no precise, catch-all formula.

Central Europe: Forward power price and price layers (EUR/MWh(e)), 2017-18



Source: Kepler Cheuvreux, Bloomberg data

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