



VAN LANSCHOT  
KEMPEN

INVESTMENT MANAGEMENT

# A Data Led Approach to Valuing Decarbonisation

Driving Change in the US Utilities Sector

FOR PROFESSIONAL INVESTORS ONLY

Global CO<sup>2</sup> pricing is on its way: a decade ago 8% of the planet's emissions were priced<sup>1</sup>. Today this is closer to 25%. For sectors with material CO<sup>2</sup> emissions, material CO<sup>2</sup> pricing is coming.

In the US utilities sector (responsible for 25% of US GHG emissions) CO<sup>2</sup> pricing will create winners and losers. To identify the winning and losing companies for our investors, we have developed a proprietary forward looking framework, built upon our 2022 [Carbon Shock Analysis](#).

This framework is an example of the important role of data in our efforts to drive sustainable change in infrastructure and identify the companies that we expect to capitalise on the energy transition and be more profitable in the future.

## Carbon pathway framework in practice: winners vs losers

Our investment strategy combines data and ESG factors for alpha (generating returns). Here, we will outline how we use our framework to distinguish the “winners” from the “losers” in the energy transition. We focus on the largest CO<sup>2</sup> emitting sector, utilities, and on the direct impact on each company’s valuation.

The winners will be those companies which decarbonise the fastest and hence minimize the impact of carbon emissions pricing schemes. The losers will be those that decarbonise the slowest and hence will be most exposed to these costs. To distinguish between the latter and the former, we forecast carbon emissions and carbon costs, and use the results to attribute an ESG score to these companies, which is used in our valuation process alongside our discounted cash flow models.

How does this work? Using the US Energy Information Administration (EIA) overview of all US power generation facilities (via S&P Capital IQ) we compiled a schedule of announced coal and gas plant decommissions, coal to gas conversions, and gas plants being built in the US over the coming three decades. This data set covers **479 facilities across the US**.

We updated the collected dataset with any new announcements by the companies to obtain the most recent records available. We also estimate the future GHG (greenhouse gas) emissions of planned power plants by applying tCO<sup>2</sup>/MW factors (by fuel type) on existing power plants. Next, using the closure/conversion/opening schedules, we **forecast the change in GHG emissions** from each facility, and aggregate this to company level.

*“The future is already here, it’s just not very evenly distributed”*

**William Gibson**

## A conservative approach to decarbonisation

With so much carbon data available it is essential to apply strict goal setting and plan execution criteria. Without doing this, we would be susceptible to greenwashing by giving companies more credit than they are due. We take a more conservative approach when there is ambiguity on plant closures, which provides us with a more reliable estimate of decarbonisation pathways.

### Conservative view

#### – what we do not give credit for:

- When a company sets targets to decarbonise (e.g. “20% reduction by 2030”) but does not provide information on how this will be achieved (date and facility), we assume **NO** reduction in carbon emissions. We believe that committing to a more specific decarbonisation pathway increases the transparency of the announcement in terms of which plants will close and by when, enhancing the credibility of the decarbonisation goal.
- When a company announces that a power plant will move from baseload to backup capacity, implying a material drop in utilisation rate (e.g. reducing the utilisation of a coal power plant from 65% to 20%), we give **NO** credit for decarbonisation from this, as this plant could ramp up as easily as it ramps down in future – we witnessed this in 2022, when the geopolitical situation restricted the gas supply and countries opted for increasing coal and gas electric production from plants that saw its production recover.

### Consequences

#### – how this affects valuation:

- *On the positive side:* the more credible and material a company’s decarbonisation plans are, the better rewarded this is in our investment process. All else equal, this will increase **valuation upside and hence more capital will be allocated**.
- *On the negative side:* when the decarbonisation pathways do not fulfill our conservative criteria, the company is **penalised in our investment process**. This reduces the valuation upside and the likelihood of investment. This shortfall in commitment becomes a trigger for engagement, where we actively raise the issue with management, setting out our expectations of them. We endeavour to frame all of our engagements as a win-win for investors, the company and society – we do this by asking for a change that is in shareholders’ interest as well as society’s interest.

*We create a schedule for the decommissioning of power plants to estimate the future amounts of GHG emissions per company.*

<sup>1</sup> The Economist, October 2023



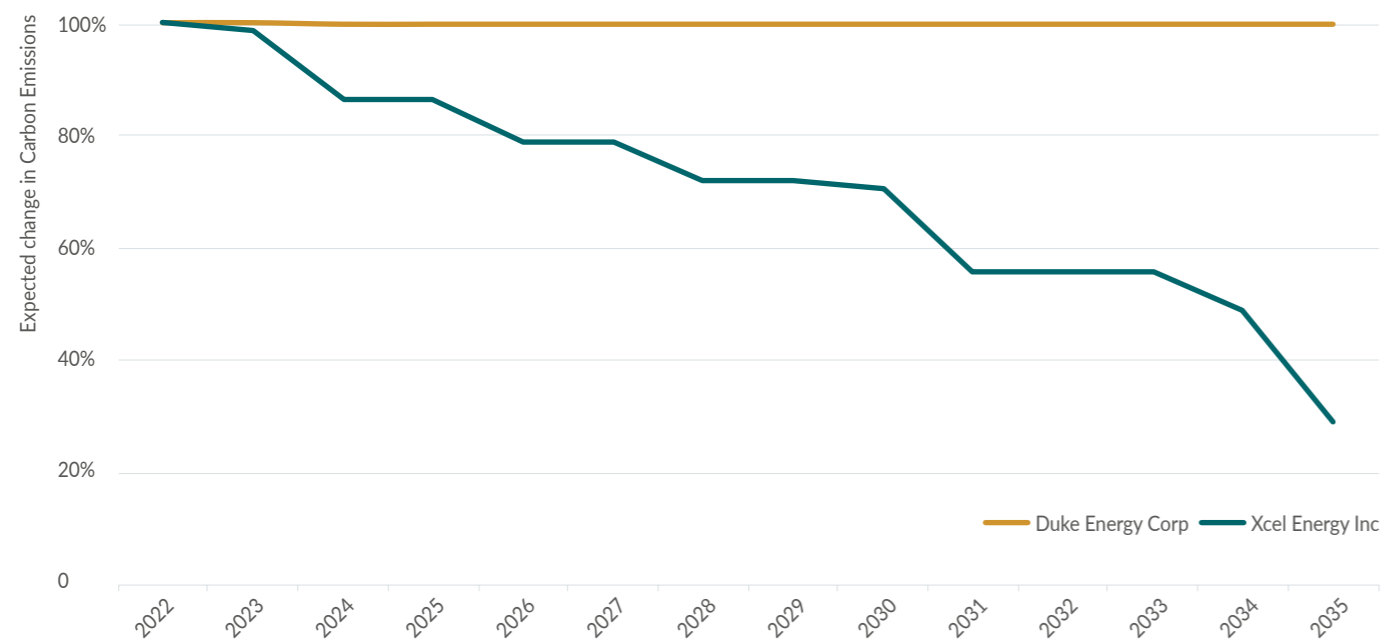
## Comparative analysis: why incorporating the future matters

To show the value of our approach, in figure 1, we share two real examples of companies that are on very different decarbonisation pathways. In this case, Xcel Energy has disclosed to the EIA the decommission date of a significant number of coal power plants. On the other hand, although Duke Energy has communicated the ambition to phase out coal, it has yet to announce when and how this will be done with the level of detail we require.

In the example below, the emissions of each company are indexed at 100%. Because of the detailed data Xcel has provided to EIA on its decarbonisation plans, we consider Xcel energy as having a much more ambitious carbon emissions trajectory. This would, all else equal, improve our valuation assessment of the company, as we believe in the importance of considering not only the present, but also the future of the energy industry.

If we only examine a screenshot of the present, we are missing out on relevant information regarding the environmental trajectories of companies. In this example, we would engage with Duke Energy and help drive corporate action by explaining how having a well-defined sustainability plan is important to us as Van Lanschot Kempen Investment Management and the clients we represent.

Figure 1: Carbon Emissions Pathway



Source: S&P Capital IQ Pro, Van Lanschot Kempen Investment Management, October 2023

## The cost of carbon emissions: the polluter pays

We believe that pricing externalities will adhere to the “the polluter pays” principle, as it is an efficient way to reallocate capital towards sustainable economic activities. Therefore, carbon pricing schemes will play a key role in the decarbonisation of companies. This has already happened in Europe, where companies are allowed to emit up to a certain threshold of carbon, above which they have to buy carbon credits to offset extra emissions. Furthermore, the price of European carbon credits has been rising – from around 20€ per tonne of CO<sub>2</sub> in 2020 to around 90€ per tCO<sub>2</sub> in 2023. In the US, there is an active debate to initiate a similar policy and other countries, such as China, are following suit. This represents a foreseeable expense in the near/medium-term for utility companies.

**To estimate the financial impact of a carbon pricing scheme in the US, we consider two main factors:**

### 1) Allowed emissions

Using data from the European Environment Agency (EEA), we recreate the system currently in place in Europe as a proxy, where the carbon allowances represent about 50% of the total carbon emissions, above which the companies will be priced. Simply put, we estimate that half of the total emissions each company produces will be subject to a cost.

### 2) Emissions cost

We use data from the Network for Greening the Financial System (NGFS) and utilize their <2C climate scenario and correspondent carbon price estimation.

We compute the net present value of these costs, and multiply it by the total emissions we previously forecasted. Then, we measure the relative impact these would have on each company’s market cap.

This also allows us to preserve the valuation of companies which have already decarbonised and hence do not show a declining carbon emissions pathway – the carbon cost will have a smaller impact on their market capitalization, as their CO<sub>2</sub> emissions per production capacity are already relatively lower.

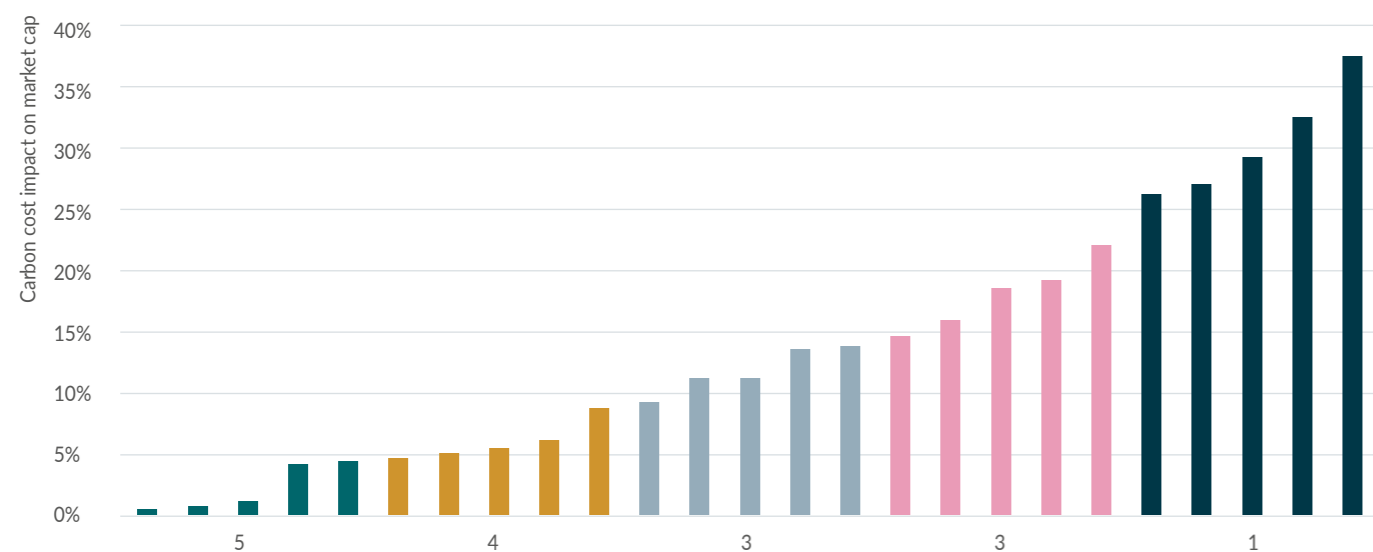
*We calculate the costs of carbon pricing schemes. Decarbonised companies are unharmed by our model.*



## Scoring the Companies – our holistic valuation approach to investing

When estimating a companies' worth, our strategy analyses quantitative and qualitative factors; the latter include the ESG profile of the company, alongside management and asset quality. This results in qualitative scores range from 1-5, with 1 being the worst and 5 being the best. Incorporating the carbon score gives a fuller picture of the future value of the company. For the ESG profile-score of US utilities we use the inputs from this new model. To do so, we have arranged the 25 companies in our US Utilities benchmark to show the relative impact of future GHG emissions cost. Below we show the quintiles for the companies:

Figure 2: Forward-looking Carbon Score



Source: S&P Capital IQ Pro, Van Lanschot Kempen Investment Management, October 2023

## Alpha

In the past decade, CO<sub>2</sub> pricing has not been material in level or breadth. Across the US, EU, China, (three of the biggest CO<sub>2</sub> emitting areas) we now see a broader adoption of CO<sub>2</sub> pricing, and increasing CO<sub>2</sub> price levels. We expect this to be the new regime for the coming decades.

Going forwards, this change will make a company's decarbonisation trajectory more financially material for Alpha, since the costs of CO<sub>2</sub> will weigh on the valuation of companies that have not decarbonised (yet and/or fully). Decarbonisation will thus be an example of where ESG issues become more relevant for investors and society, in line with Van Lanschot Kempen's values.

### Authors



**Jags Walia**  
Head of Infrastructure  
j.walia@vanlanschotkempen.com



**Daniel Costa**  
Analyst  
d.costa@vanlanschotkempen.com



VAN LANSCHOT  
KEMPEN

**Disclaimer:** Van Lanschot Kempenn Investment Management NV (VLK Investment Management) is licensed as a manager of various UCITS and AIFs and authorised to provide investment services and as such is subject to supervision by the Netherlands Authority for the Financial Markets. This document is for information purposes only and provides insufficient information for an investment decision. This document does not contain investment advice, no investment recommendation, no research, or an invitation to buy or sell any financial instruments, and should not be interpreted as such. The opinions expressed in this document are our opinions and views as of such date only. These may be subject to change at any given time, without prior notice.

Van Lanschot Kempenn Investment Management NV, Beethovenstraat 300,  
1088 WZ Amsterdam, The Netherlands. November, 2023