

Quarterly valuation update for the energy and infrastructure sector  
**Q2 2024 update and spotlight on the use of NPV calculations in valuations**

July 2024



# Quarterly valuation update

## Introduction



Welcome to the Q2 2024 edition of our quarterly valuation update, which provides a snapshot of some of the main publicly available valuation trends across the energy and infrastructure sector, covering both debt and equity metrics.

This quarter we continue to look at trends in debt and equity metrics relying primarily on publicly available information. In relation to the equity trends, we use the Forvis Mazars indices of listed infrastructure funds and listed renewable energy funds, compiled on the basis set out in Appendix 1 to this update.

In addition, this quarter we have included a spotlight on the role of NPV calculations in valuations, options around these and common errors we have seen.

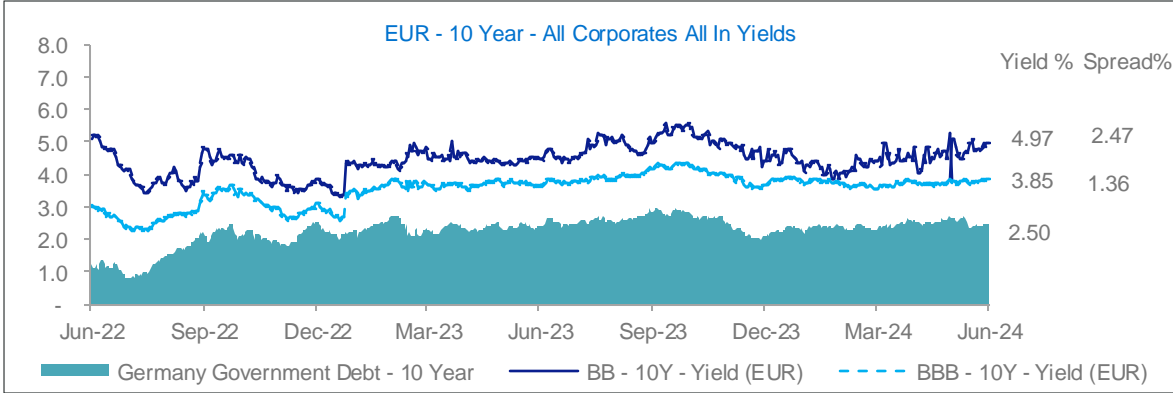
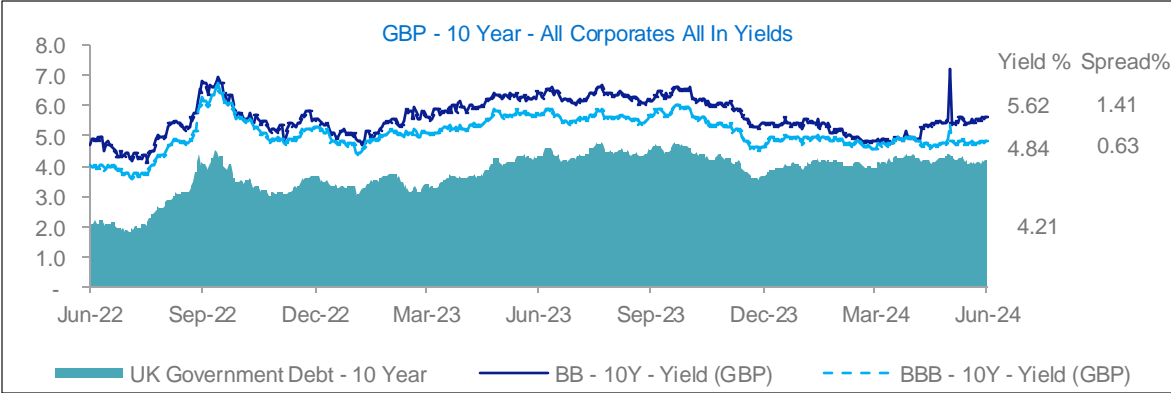
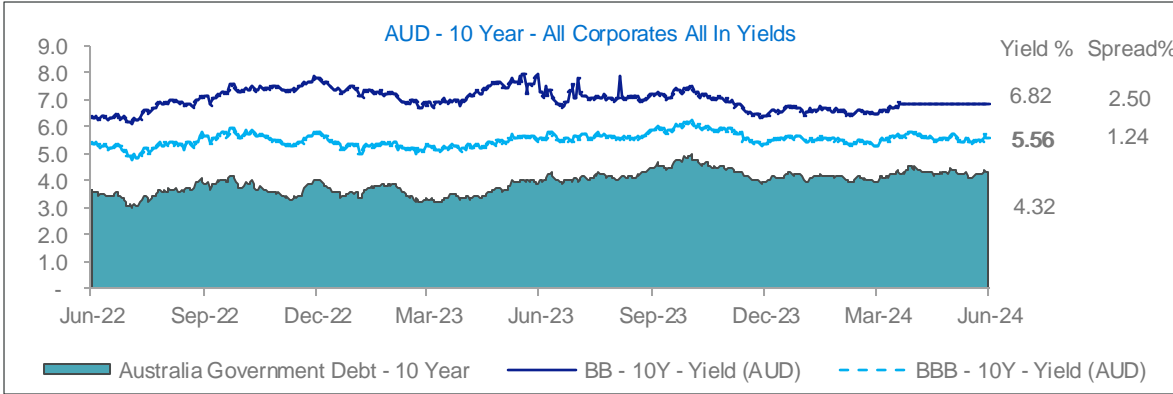
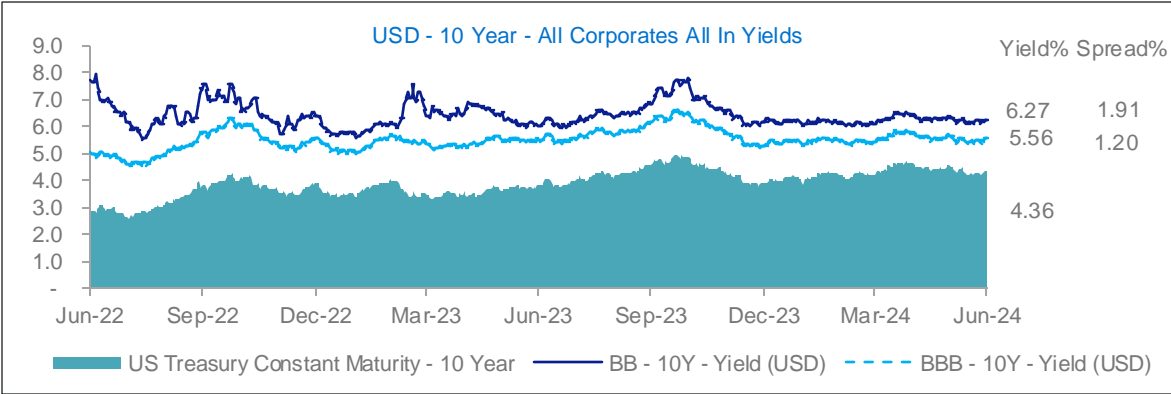
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# Quarterly valuation update

## Debt valuation trends

### Cost of debt has stabilised in many markets as inflation pressures eased

- Cost of debt below Sept 2023 peaks, with relatively flat trend in the past 3-6 months
- Yield curves are partly inverted with the cost of debt highest for short-term durations, and then rising again for longer durations
- Changing inflation expectations still impact short-duration yields in particular, with central bank rates coming down more slowly than anticipated in some markets

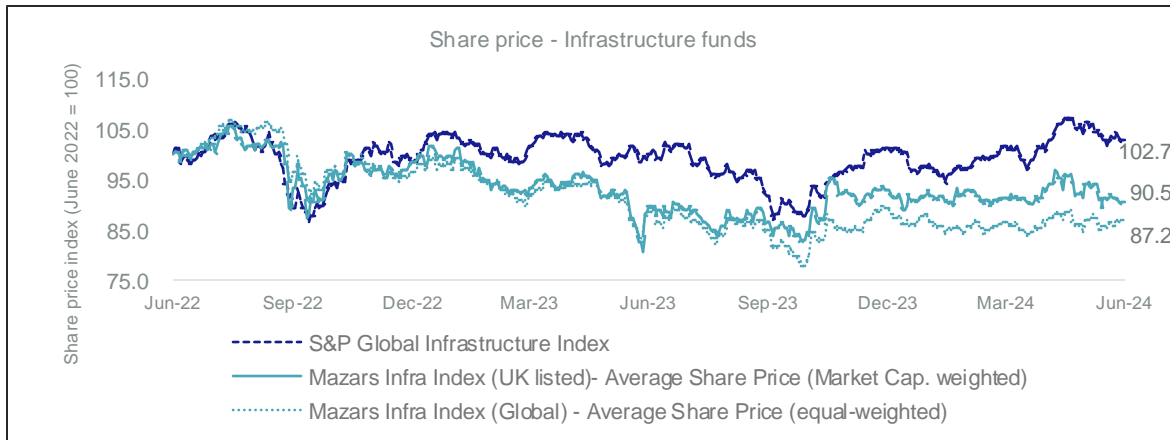


Source: Capital IQ, Forvis Mazars analysis

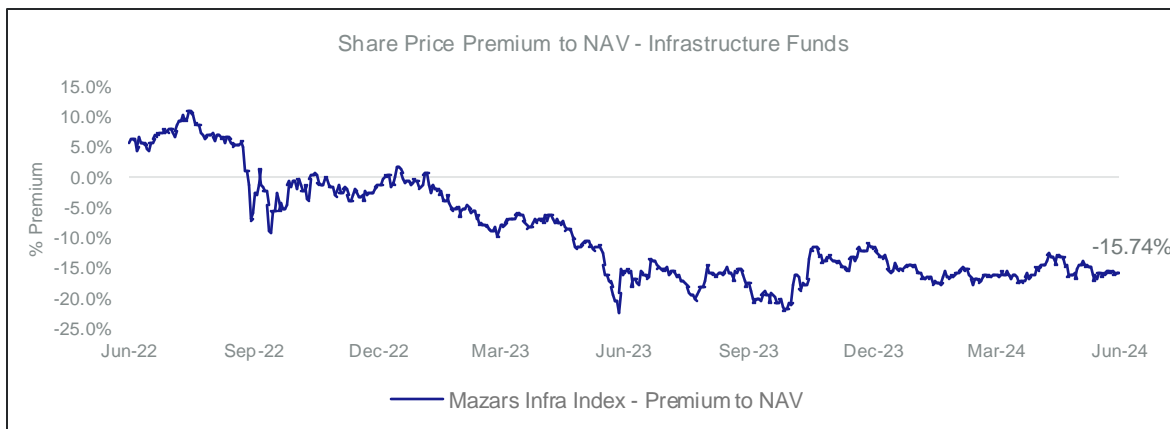
# Quarterly valuation update

## Equity valuation trends – infrastructure funds

No material change in NAVs in Q2 albeit some volatility in infrastructure share prices



- Share prices have been relatively flat in the past 6 months, having recovered in Q4 from lows in Q3 2023
- NAVs have been similarly stable in this period, with little material changes to valuation approach across the infrastructure funds



*“Throughout FY2024, the Group has sold and purchased assets worth over £700m. The assets sold, which total 13.5% of the 31 March 2023 portfolio value, were all realised at or above carrying value. This level of investment activity shows that the market for high quality core infrastructure assets remains in good health and that a range of investor types have capital to invest. Going forward, demand for high-quality assets is expected to remain strong and should present both acquisition and divestment opportunities for HICL.”*

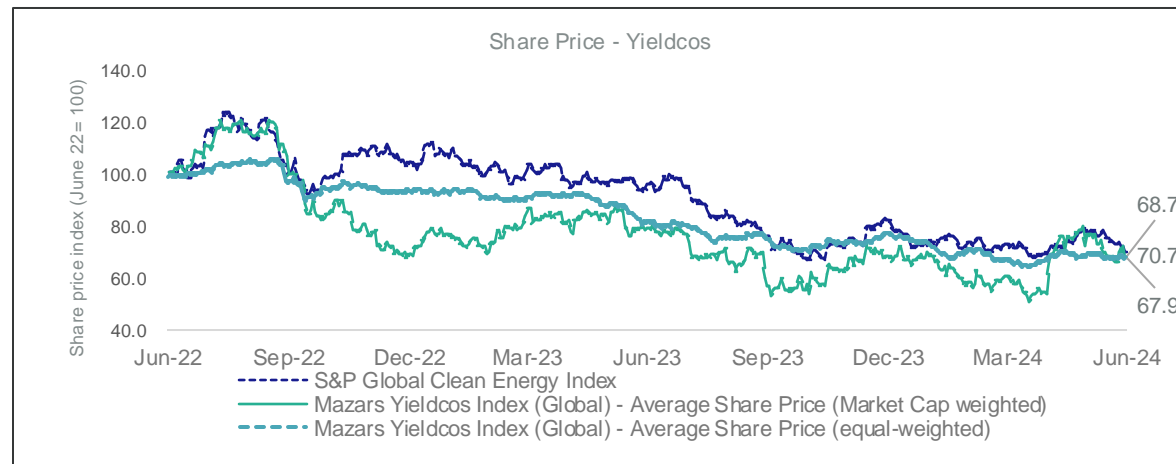
**– HICL, 2024 Annual Report**

Source: Capital IQ, Reports from Funds, Forvis Mazars analysis

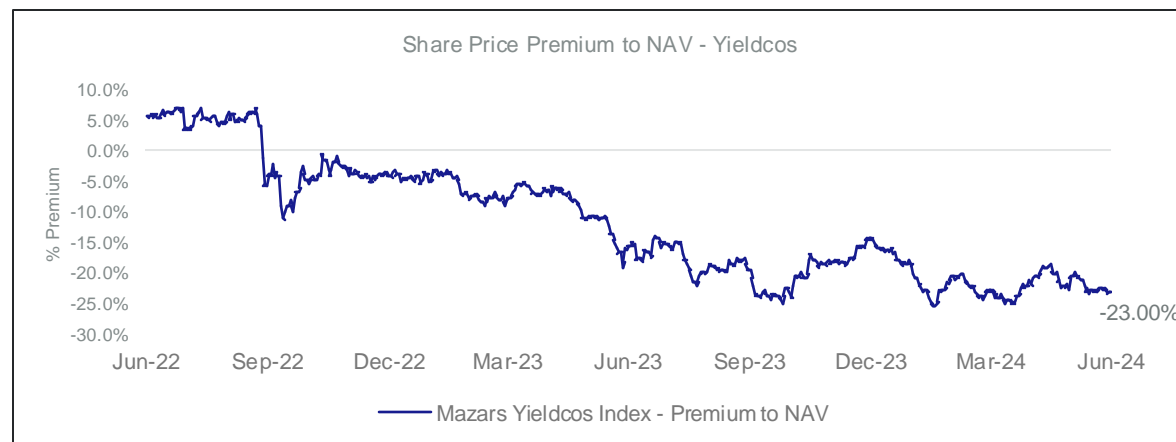
# Quarterly valuation update

## Equity valuation trends – renewable energy funds

No significant movement in the share price to NAV premium.



- Listed yieldcos have continued to trade at a significant discount to NAV
- This is despite transactions supporting the carrying value of the underlying assets. Funds have therefore not changed their approach to valuations, and there has been relatively little change from power price forecast updates
- The broader market has started to see increased transactional activity, including a significant number of greenfield projects being developed and transactions to help meet the funding requirements of development platforms



Source: Capital IQ, Reports from Funds, Forvis Mazars analysis

*“TRIG has sold six assets at an average premium of 12% to their respective valuations for total consideration of £125m.”*  
**- TRIG, Q1 2024 NAV Report**



# Quarterly valuation update

## Spotlight on: The use of NPV calcs in DCF valuation work

NPV calculations are inherent in the valuation of most infra and energy assets. But there are choices to make in how to do these and some pitfalls. Getting this wrong can be a key source of valuation error.

### Some basic principles

- The income method relies on a DCF analysis: cashflows (including any terminal value) are forecast and then discounted back to the valuation date using a discount rate that reflects the risk attached to this forecast.
- Valuation analysis focuses on both of these elements: whether the cashflow forecast is appropriate and whether the discount rate is reasonable.
- The calculation of the net present value (NPV) of these cashflows is the mechanism of applying the DCF analysis.

### Applying calculations may require valuation judgement

- Although calculations may appear purely mechanical, it is important that they reflect the realities of the projects being valued. A good example relates to the timing of cashflows:
  - The Excel XNPV formula assumes cashflows occur at the end of each valuation period
  - A common approach is to adjust this based on mid-period dates, the premise being that cashflows accrue evenly throughout the period
  - Applying mid-point discounting leads to an increase in the valuation. Is it the right thing to do? This depends both on the realities of the project (when cashflows are received in practice) and on the underlying modelling approach (the working capital assumptions). Ultimately, this is a matter of valuation analysis and judgement.
- A further example is whether to apply multiple discount rates or one blended discount rate when calculating the NPV of cashflows with different risk profiles.

### Calculation approaches... and common errors

#### NPV function in Excel

- Annual discount rate (so e.g. need to divide by 4 if valuing quarterly cashflows) and will anyway give the wrong answer unless valuing uniform period lengths
- Need to have a figure in the first period containing the valuation date (even 0) for the formula to work correctly

#### XNPV function in Excel

- More accurate NPV function, copes with different period lengths
- Needs to be aligned with the valuation date, subtracting first period cashflows to avoid double-counting
- End of period assumption re timing of cashflows

#### First principles approach

- Clear and transparent approach, as follows:
  - Periodic discount rate (annual rate x days in period / days in year) calculated for each period
  - Discount factor (previous period rate + current period discount rate) calculated for each period, with period 0 having the discount factor of 1
  - Cashflow in period divided by discount factor in period, then all of the discounted cashflows added together

#### Watch out for...

- Cashflows in the period of the valuation date
- Formula missing off the end of the valuation period
- Opening working capital – does this need to be added to the valuation or is it incorporated already?
- The formula being applied to the correct cashflow line – which will be different if, for instance, the valuation is an FCFF vs FCFE.

# Quarterly valuation update

## Conclusions

Three key themes from Q2 2024:

<b>Stable cost of debt this quarter</b>	Gilt yields have been stable over the past 3-6 months. This is helping transaction flow, allowing valuation expectations to stabilise.
<b>Increasing transactional activity across the renewable energy sector</b>	Market activity has been strong, helped in part by lower levels of volatility around the cost of capital. Publicly reported discount rates from listed funds (both general infrastructure funds and more focused renewable energy funds) have been largely flat now for 6-9 months, following a period of discount rate increases.
<b>NPV calculations are critical to most valuations in the sector – and therefore ensuring accuracy is also critical</b>	NPV calculations are basic building blocks to most asset valuations in the sector. Mistakes are not uncommon though. It is therefore important for investors not just to understand how to calculate accurately but also to consider the valuation governance they need to put into place to ensure errors are not being introduced as models are rolled forward from quarter to quarter.

# Appendix 1

## Information about the Forvis Mazars indices



Infrastructure is an increasingly mature asset class, with an increasing number of listed and unlisted funds set up specifically to invest in and manage real assets across the infrastructure and energy sectors. For the purpose of our analysis, we have constructed two global indices that focus on listed funds, as follows:

- An index of infrastructure funds, currently including 8 funds with activities across 15 countries
- An index of renewable energy funds, currently including 19 funds with activities across 23 countries

While other infrastructure and energy company indices exist in the public domain, they tend to have a broader scope, including for instance construction companies, transport operators, concessionaires and utilities to gauge broad sentiment across the sector.

By focusing on pure asset owners, the Forvis Mazars indices aim to be more closely aligned with market sentiment on the valuation of these assets. This is reflected in this update and includes a number of public statements from funds on how they are currently approaching their own valuations.



# Contact

## Forvis Mazars

### **Ben Morris**

Partner

[ben.morris@gif.mazars.com](mailto:ben.morris@gif.mazars.com)

### **Julian Macmillan**

Director

[julian.macmillan@gif.mazars.com](mailto:julian.macmillan@gif.mazars.com)

### **Karishma Merchant**

Director

[karishma.merchant@gif.mazars.com](mailto:karishma.merchant@gif.mazars.com)

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