2023 was an *annus horribilis* for Quoted UK Infrastructure and Renewable Energy

Consolidation is the new mantra

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Please note:

Closing stock market prices as at 31 December 2023 have been used, unless otherwise specified. Subsequent to that date, shares in the three energy storage-related funds have fallen sharply, most notably those of Gresham House Energy Storage following today's confirmation that its 4Q'23 dividend will be passed.

Exchange rates used are:

£ to € – €1.15

£ to US$ – US$1.26

£ to Brazil Real – Real6.15

In terms of the plant capacity figures cited in this publication, the data is based – with some adjustments – on information published by the relevant REIF.

Executive summary

- The focus of Hardman & Co Research is on the nine quoted Infrastructure Investment Companies (IICs) and on the 22 Renewable Energy Infrastructure Funds (REIFs): the stocks analysed are all members of the Association of Investment Companies (AIC). We are updating our publication of January 2023, assessing both the lacklustre share price performances during 2023 and the key issues, including interest rates, inflation and power prices.
- As a 31-strong group, its combined market capitalisation is now £26.2bn (the valuation of the suspended Asian Energy Impact – formerly ThomasLloyd Energy Impact – is assumed as being zero). During 2023, all members of the group have seen their share prices drop. The most pronounced falls have occurred in the shares of the less mature funds, which lack the revenue base to underpin their former ratings. While the FTSE-100 rose by just over 2% during 2023, shares – on an unweighted basis – of the most valuable 10 funds fell by ca.11%.
- During both 2022 and 2023, no IIC/REIF IPOs were undertaken; in 2021, there were nine such IPOs. For a combined sector that has raised ca.£10.3bn of new funds since 2020, the 2023 fundraising levels were paltry. To be sure, 3i Infrastructure raised £102m (gross) and Gresham House Energy Storage raised £50m (gross), but there were no other major sector offerings. Instead, consolidation, not expansion, became the new sector mantra.
- Within the 31-strong grouping, the most valuable IICs are currently 3i Infrastructure and HICL Infrastructure – they are capitalised at £3.0bn and £2.8bn, respectively. The equivalents in the REIF sector are Greencoat UK Wind and TRIG, which are capitalised at £3.5bn and £2.8bn, respectively. Fund mergers, as proposed recently by Octopus Renewables Infrastructure in respect of Aquila European Renewables, could see more highly capitalised entities emerge.
- Some of the smaller REIFs have had a dire 2023, certainly in terms of share price performance. Aside from the suspended Asian Energy Impact, shares in Harmony Energy Income, HydrogenOne Capital Growth and US Solar have all fallen by over a third. By far the worst performer in the combined sector has been Digital 9 Infrastructure, whose shares have fallen by a disastrous 66%.
- Over the past 18 months, the sharp rise in interest rates has had seriously negative implications for NAVs, since they have driven up fund discount rates. Not surprisingly, share price ratings, especially of the smaller REIFs, have fallen sharply in consequence. While many REIFs involved in renewable generation do have the benefit of strong energy prices as an offset, this feature does not generally apply to IICs (GCP Infrastructure excepted).
- The recent drop in UK inflation to ca.4% has allayed many concerns on that front. In fact, many established funds have high inflation linkage. Furthermore, IICs and REIFs, to varying extents, derive material benefits from higher inflation, providing – in an admittedly unlikely scenario – that it is not accompanied by higher interest rates: recent experience on the UK interest rate front underlines the close correlation between the two variables.
- While gas prices remain volatile, they fell back markedly from their 2022 peaks, as new gas contracts from countries outside Russia have been signed. However, this development has adversely affected some REIF valuations since long-term power price assumptions are a key factor – along with the more important discount rate figure – in determining the NAVs of most REIFs.
- Around 55% of the REIF sector's £13.6bn valuation is accounted for by wind power generation. Due primarily to generous subsidies, the UK wind power sector has expanded; it now exceeds 30GW of capacity, while UK solar capacity

is currently ca.15GW. The removal of subsidies, since 2017, for new solar plants remains challenging.

- Until quite recently, offshore wind power was booming, with the government seeking a quintupling of offshore wind capacity by 2030. The July 2022 auction for the development of North Sea sites saw several Contracts for Difference (CfDs) being awarded: the lowest accepted price was just £37.35p per MWh. But, as turbine-related input costs soared, along with higher interest rates, these very low bid prices no longer stack up. Hence, the government is now offering a maximum index-linked price of £73 per MWh (2012 prices) – a major U-turn.
- With high interest rates, it is really no surprise that the underlying premia over NAVs for IICs/REIFs have, in all 31 cases, disappeared. Even BBGI, whose premium was ca.25% for part of 2022, is now trading at a discount of over 4%: 3i Infrastructure's premium, too, has now been eroded. The most egregious decline has been that Digital 9 Infrastructure, whose shares are now trading at a discount of more than 70%.
- For the REIFs, the least bad share price performer in 2023 was Greencoat UK Wind – its shares were down marginally and are currently trading at a 9% discount to its latest published NAV. By contrast, shares in HydrogenOne Capital Growth fell by 38% during 2023. Excluding Asian Energy Impact, this was the worst performer in the REIF sector and HydrogenOne Capital Growth's shares are now trading at a discount of an unprecedented 51%.
- Excepting Aquila Energy Efficiency, Asian Energy Impact, Digital 9 Infrastructure, Ecofin US Renewables Infrastructure and Gresham House Energy Storage, all IICs/REIFs have avoided nominal dividend cuts, but most increases have been modest. Unquestionably, Greencoat UK Wind, which links its dividend payments to movements in the RPI, stands out. It has raised its projected dividend per share – due partly to one-off benefits – by almost 30% for 2023. 3i Infrastructure, whose dividend rose by 6.7% in 2022/23, is planning a similar increase in 2023/24. By contrast, HICL, a leading IIC, now seems set to pay the same dividend in nominal terms, namely 8.25p per share, for a sixth successive year.
- Underlying prospective dividend yields for most established IICs and REIFs now lie within ranges of 5.0%-6.5% and 6.0%-7.5%, respectively. Lower dividend cover had become a notable trend, with GCP Infrastructure and HICL Infrastructure being among those preferring to build up their cover by holding their dividend on a nominal basis.
- The more recent IPOs in the REIF sector have expanded well beyond the standard UK-based onshore wind and solar generation models of the past: Battery Energy Storage Systems (BESS) businesses, led by Gresham House Energy Storage, Gore Street Energy Storage and Harmony Energy Income now feature more prominently. Furthermore, TRIG and the three quoted solar stocks are among the longer-established REIFs that have invested in BESS projects.
- Political issues will feature prominently in 2024, with a UK General Election likely to be held next autumn; the Labour Party continues to hold a commanding lead in the opinion polls. Its key economic policy is the much-vaunted £28bn green investment plan, which periodically seems to be cut back. Furthermore, planning rules for onshore wind and solar plants in the UK may also be eased in the event of a majority Labour government. More generally, the biggest risk to the IICs and REIFs is probably increased interest rates, a likely scenario if the £ sterling becomes very weak on the foreign exchanges.
- Three Environmental Trusts – Impax Environmental Markets, Jupiter Green and Menhaden Resource Efficiency – are also discussed briefly in this document. Along with the 31 IICs and REIFs, they lie within the AIC universe.

- Please note that BBGI, one of the 31 IICs and REIFs analysed in this report, was – until recently – a client of Hardman & Co. Our Research Principles can be found here.

Current market ratings of UK IICs

IIC	Share price (p)	Shares in issue (m)	Market cap. (£m)	Year-end	NAV per share (p)	Prem./ disc. to NAV	Prosp. dividend (p)	Prosp. yield
3i Infrastructure	322	922	2,970	Mar	351.4	-8.4%	11.90	3.7%
BBGI	141	715	1,008	Dec	147.8	-4.6%	7.93	5.6%
Cordiant Digital Infrastructure	76	769	585	Mar	112.7	-41.4%	4.00	5.3%
Digital 9 Infrastructure	30	865	260	Dec	100.1	-70.2%	1.50	5.0%
GCP Infrastructure	72	868	625	Sep	109.8	-34.4%	7.00	9.7%
HICL Infrastructure	139	2,035	2,829	Mar	159.4	-12.8%	8.25	5.9%
INPP	137	1,910	2,617	Dec	155.2	-11.7%	8.13	5.9%
Pantheon Infrastructure	83	473	393	Dec	106.6	-25.2%	4.00	4.8%
Sequoia Economic Infrastructure	85	1,652	1,404	Mar	94.4	-10.0%	6.88	8.1%
Total			**12,691**					

Source: Hardman & Co Research

Current market ratings of UK REIFs

REIF	Share price (p)	Shares in issue (m)	Market cap. (£m)	Year-end	NAV per share (p)	Prem./ disc. to NAV	Prosp. dividend (p)	Prosp. yield
Aquila Energy Efficiency	57	100	57	Dec	93.5	-39.0%	0.00	0.0%
Aquila European Renewables	70	378	265	Dec	89.3	-21.6%	4.79	6.8%
Asian Impact Energy*	0	176	0	Dec	0.0	0.0%	1.04	n/a
Atrato Onsite Energy	72	150	108	Sep	92.0	-21.7%	5.00	6.9%
Bluefield Solar	118	611	721	Jun	136.4	-13.5%	8.80	7.5%
Downing Renewables and Infrastructure	88	181	159	Dec	118.7	-25.9%	5.38	6.1%
Ecofin US Renewables Infrastructure	43	138	59	Dec	70.4	-38.9%	2.77	6.4%
Foresight Solar	102	590	602	Dec	118.1	-13.6%	7.55	7.4%
Gore Street Energy Storage	89	495	441	Mar	112.9	-21.2%	8.00	9.0%
Greencoat Renewables (ex €)	87	1,141	992	Dec	98.3	-11.6%	5.59	6.4%
Greencoat UK Wind	151	2,310	3,488	Dec	165.8	-8.9%	10.00	6.6%
Gresham House Energy Storage	108	573	619	Dec	146.1	-26.1%	5.51	5.1%
Harmony Energy Income	79	227	179	Oct	115.4	-31.5%	8.00	10.1%
HydrogenOne Capital Growth	50	129	64	Dec	101.4	-50.7%	0.00	0.0%
JLEN	102	662	675	Mar	119.7	-14.8%	7.57	7.4%
NextEnergy Solar	92	591	544	Mar	108.3	-15.1%	8.35	9.1%
Octopus Renewables Infrastructure	90	565	509	Dec	107.0	-15.9%	5.79	6.4%
SEEIT	65	1,092	710	Mar	90.6	-28.3%	6.24	9.6%
TRIG	114	2,484	2,832	Dec	131.0	-13.0%	7.18	6.3%
Triple Point Energy Transition	66	100	66	Mar	95.1	-30.6%	5.50	8.3%
US Solar	43	332	143	Dec	68.1	-36.9%	4.47	10.4%
Victory Hill GSEO	78	416	324	Dec	105.7	-26.2%	5.52	7.1%
Total			**13,556**					

** Shares currently suspended, Source: Hardman & Co Research*

Overview of 2023

Very dispiriting for investors

For the IICs/REIFs, 2023 has been a dreadful year, especially for the less well-established REIFs and the digital infrastructure funds. During 2023, the FTSE-100 Index rose by a very modest 2.4%, while – over the same period – the FTSE-250 rose by an equally modest 2.8%. None of the 31 IICs/REIFs under review was able to report an increase in its share price over the year. Greencoat UK Wind and Sequoia Economic Infrastructure came closest with losses of 0.7% and 1.8%, respectively.

Shocking year for some

Some REIFs, in particular, had a shocking year. Asian Energy Impact (formerly ThomasLloyd Energy Impact) has seen its shares suspended since late April 2023 – whether that suspension is lifted shortly remains to be seen. Two others, Aquila Energy Efficiency and the re-named Triple Point Energy Impact, seem set to be wound down, although – in the latter's case – shareholders still need to approve this option.

The Digital 9 Infrastructure plunge

Shares in other REIFs also fell sharply during 2023: the formerly, highly rated SEEIT lost 32% of its share value, while the worst performance of all was HydrogenOne Capital Growth, whose shares fell by 38% during 2023. Even TRIG, the second-most valuable REIF, suffered a cut in its valuation of almost 13% during the year. Among the IICs, Digital 9 Infrastructure's shares plunged – by 66% during 2023 – as concerns deepened about its finances.

Minimal sector fundraising

While over £10.3bn of new funds have been raised by the 31 IICs/REIFs since January 2020, fundraisings in 2023 were paltry. Higher interest rates and major discounts at which the shares of most IICs/REIFs were trading have been widely cited as the key factors. As such, just over £150m was raised in new funds, £102m (gross) by 3i Infrastructure and £50m (gross) by Gresham House Energy Storage.

No doubt, other REIFs would like to have raised new capital, but they realised that the market response would probably be negative. Furthermore, even the oft-postponed IPO of AT85 Global Mid-Market Infrastructure failed to materialise.

High interest rates were the real villain

To be sure, there were many negative factors impacting the IICs/REIFs during 2023. Inevitably, the sector has been affected by high inflation, although some IICs, such as HICL Infrastructure, have strong inflation linkage. With UK inflation now back at ca.4%, the concerns about persistently high inflation have receded.

Discount rates rise

Nevertheless, the progressive rises in interest rates have adversely affected discount rates and thereby depressed the sector's NAVs. Almost all of the 31 IICs/REIFs have made upward adjustments to their discount rates to reflect this trend. Not only have NAVs been cut as a consequence – although, in some cases, this has been offset by other factors – but also the trading discounts for virtually all IICs/REFs have widened. Excepting the suspended Asian Energy Impact, the largest discount currently applies to Digital 9 Infrastructure, which is trading at a 70% discount to its June 2023 NAV.

Easing gas market

While the war in Ukraine will shortly be entering its third year, its impact has lessened of late, especially since gas prices have fallen sharply from their past peaks. Furthermore, far more gas contracts are being signed with non-Russian suppliers. Germany is a case in point as it has recently been signing contracts with Norwegian gas suppliers to replace the lost gas imports from Russia. In fact, the main impact of lower gas prices in the wholesale energy sector is to make CCGT plants rather more competitive – gas input costs are a very high percentage of their operating costs.

Dividends – few nominal dividend cuts

The low ratings for the sector have resulted in higher dividend yields. Despite the challenges that they have faced, nominal dividend cuts have been rare. Ecofin US Renewables Infrastructure, which suffered collateral damage to the wires used to transport some of its generated power in Texas, halved its 2Q'23 dividend. Both Aquila Energy Efficiency, now running down its asset portfolio, and the financially stretched Digital 9 Infrastructure have also suspended their planned dividend payments.

The Greencoat UK dividend stands alone

The most impressive dividend policy, by some way, is that of Greencoat UK Wind, which plans a 10.0p per share payment for 2023 – an increase of almost 30% over its 2022 payment: for 2024, a minimum 10p per share dividend has been flagged. 3i Infrastructure, too, is more aggressive than most on the dividend front – it is planning a 6.7% increase for 2023/24.

HICL's six-year dividend hiatus

At the other end of the scale are those IICs/REIFs that have maintained a held dividend, even when inflationary trends have been very apparent. HICL Infrastructure epitomises this trend. In 2024/25, it is now expected to pay an 8.25p per share dividend for the sixth year in succession. The contrast between the latter and Greencoat UK Wind, in terms of their respective dividend profiles, is self-evident.

And the winner – for the least bad performance – is Greencoat UK Wind

The least unimpressive share price performance by the IICs/REIFs was reported by Greencoat UK Wind, whose share price fell by just 0.7% during 2023. Others, whose share price fell by less than 5% during the year, included Sequoia Economic Infrastructure, due in part to the near full settlement of its written-off losses for the BULB Energy imbroglio, and 3i Infrastructure.

To build or not to build – that is the RUMS question

2023 held many disappointments for the sector, not least the months of acrimonious argument at the re-named Asian Energy Impact, whose shares have now been suspended for almost nine months, following the complex – to build or not to build – conundrum of the Rewa Ultra Mega Solar Park (RUMS) project in India. Funds with losses during 2023 of over 35% included Digital 9 Infrastructure (-66%), US Solar (-39%), HydrogenOne Capital Growth (-38%) and Harmony Energy Income (-35%).

UK General Election – Labour into power with its £28bn green investment programme?

In 2024, it is a near-certainty that a UK General Election will be held. If a majority government were to be elected, it is widely expected to be the Labour Party. While its policies on many issues are far from clear, it is unlikely that the IICs and the REIFs will be prime targets. The Labour Party had proposed a £28bn green investment programme. But, in recent months, this commitment has been pared back, not only in terms of the cost involved but also in terms of timing. There are few obvious reasons why, in the short-term, the sector should be adversely affected, unless a plunge in the £ sterling exchange rate leads to higher interest rates.

The table below highlights the – in many cases, depressing – share price performance of the 31 IICs/REIFs funds during the 2023 calendar year.

IIC/REIF share price performance during 2023

IIC/REIF	Share price performance during 2023
Greencoat UK Wind	-0.7%
Sequoia Economic Infrastructure	-1.8%
3i Infrastructure	-3.3%
Cordiant Digital Infrastructure	-9.5%
INPP	-9.5%
Octopus Renewables Infrastructure	-10.0%
BBGI	-10.4%
Pantheon Infrastructure	-10.9%
Greencoat Renewables	-11.0%
Aquila European Renewables	-12.3%
TRIG	-12.8%
Bluefield Solar	-13.5%
Foresight Solar	-14.5%
HICL Infrastructure	-15.2%
JLEN	-15.3%
NextEnergy Solar	-16.7%
Triple Point Energy Transition	-17.5%
Aquila Energy Efficiency	-20.2%
Gore Street Energy Storage	-20.4%
Downing Renewables and Infrastructure	-20.7%
Victory Hill GSEO	-24.0%
Atrato Onsite Energy	-24.5%
GCP Infrastructure	-29.4%
SEEIT	-32.1%
Ecofin US Renewables Infrastructure	-32.2%
Gresham House Energy Storage	-32.5%
Harmony Energy Income	-35.2%
HydrogenOne Capital Growth	-37.9%
US Solar	-39.1%
Digital 9 Infrastructure	-65.6%
Asian Energy Impact	Suspended

Source: Bloomberg

The UK macro environment

Key macroeconomic issues, as they relate to the UK economy, affect the 31 IICs/REIFs to varying degrees: this document assesses their implications.

The energy price valuation driver

Across the REIF subsector, soaring energy prices – due predominantly to the Ukraine crisis – have benefited some REIFs of late, although energy prices have fallen quite sharply from their high points of 2022.

UK inflation now ca.4%

Undoubtedly, high energy costs have been a major factor in recent inflation trends; until quite recently, the UK figure had exceeded 10%. While such a figure is negative for most other sectors – although banks are an obvious exception – many IICs and REIFs derive real benefit from such trends given that a high proportion of their revenues are effectively inflation-linked, especially those in the electricity and water sector. However, with UK inflation now at ca.4%, investor concerns about persistent inflation have abated.

HICL and INPP's 70%+ inflation protection

This high level of protection from inflation is illustrated by HICL Infrastructure and INPP: their inflation hedges are 80% and 70%, respectively. HICL Infrastructure has more than 100 assets while INPP is a major investor in the Thames Tideway Tunnel (TTT) sewerage scheme; it is also heavily involved in electricity transmission links to offshore wind farms.

The interest rate worm has turned

Hardly surprisingly, after a long and sustained period of low interest rates, the recent rise in interest rates has adversely impacted some IICs and REIFs, including the two leading digital infrastructure stocks – Cordiant Digital Infrastructure and, especially, Digital 9 Infrastructure – and other relatively highly geared funds. Against that background, fundraising has become more challenging, especially for digital infrastructure businesses, as the US technology boom faltered in 1H'22.

The Base Rate surge

The sharpness of the interest rate upturn is highlighted by its very pronounced increase over the past two years, as rising UK inflation became a serious concern. The graph below shows the Bank of England's official Base Rate from 2000 to 2023. The near-zero levels, which prevailed between the onset of the financial crisis in 2009 and prior to the post COVID-19 rise in inflation in 2021, have been replaced by the rise in the Base Rate to the current figure of 5.25%.

Bank of England Base Rate, 2000 to 2023

Source: LSEG

Rising discount rates – HICL's 80bp increase since March 2023

Inevitably, higher interest rates have driven up the discount rates of many IICs/REIFs. Consequently, their NAV valuation has fallen as future revenues are marked down in real terms value. Several IICs/REIFs have already responded in the past six months; HICL, for example, raised its discount rate from 7.2% in March 2023 to 8.0% in September 2023.

The controversial UK mini-Budget in November 2022 included many far-reaching tax changes, both on the personal and on the corporate fronts: the increase in the standard rate of Corporation Tax to 25% was widely expected.

Windfall taxes

The mini-Budget also addressed the widespread political demands for the imposition of a windfall tax, which had been levied on the banks in the early 1980s, when interest rates were very high, and in 1998 when the Labour Government justified the tax on the basis of a substantial undervaluation of utility assets at their privatisation.

How will EPL affect investment?

The rate of the Energy Profits Levy (EPL), which was introduced in 2022 and applies to oil and gas extraction, was set at 25%: it has been imposed in addition to the standard Corporation Tax rate and the existing 10% Supplementary Charge, thereby creating an investment-deterrent rate of ca.60%. Furthermore, it is due to apply until March 2028. Its most obvious targets are the oil majors, Shell and BP, who – understandably – are now reviewing their long-term investment plans.

The EGL seeks to capture "extraordinary returns"

More specifically, the Electricity Generation Levy (EGL) – a form of windfall tax – seeks to tax "extraordinary returns" from electricity generators, as power prices soared in 2021 and 2022. The EGL:

- taxes wholesale market revenues exceeding £75 per MWh;
- excludes revenues covered by Feed-in-Tariffs (FiTs), Renewable Obligation Certificates (ROCs) and Contracts for Differences (CfDs);
- grants an exemption threshold of £10m per year; and
- applies on a temporary basis.

Some older REIFs are affected

In effect, few REIFs are adversely affected by these fiscal changes, especially given all the exemptions. The longer-established wind and solar generating REIFs, such as Greencoat UK Wind, TRIG, Bluefield Solar, NextEnergy Solar and Foresight Solar, may be liable – to a modest extent – for some EGL liabilities.

Divergence in performance between the mature and the immature funds

Over the course of 2023, it is becoming increasingly clear that the 31 IICs/REIFs under review have begun to diverge quite markedly. The larger IICs, such as HICL, BBGI and INPP, have a wider range of investments and are seen as being more defensive in terms of their earnings capacity.

Digital infrastructure on the ropes

In 2021, digital infrastructure funds attracted considerable investor interest, despite their revenues being far less secure than those earned from government-backed PPI deals. The enthusiastic response to the IPOs of Cordiant Digital Infrastructure and of Digital 9 Infrastructure underlined this trend. More recently, though, digital infrastructure funds have been under severe pressure, not least Digital 9 Infrastructure, whose shares fell by 66% during 2023.

Very different models are evolving

For the REIFs, the sector has moved well away from simply focusing on wind and solar power generation. Stocks, such as SEEIT, Victory Hill GSEO and Asian Energy Impact, whose shares are currently suspended, have very different operating models from the conventional UK wind generation focus of Greencoat UK Wind.

The rush to invest in BESS

Furthermore, investment in BESS offerings has become very popular of late, propelled – in part – by the performance of Gresham Energy Storage, whose share price rose by a formidable 23% during 2022. It proved to be a false dawn – its shares fell by 32% in 2023.

Infrastructure investment companies (IICs)

Nine quoted IICs

Currently, there are nine quoted UK IICs; they are capitalised at a total of £12.7bn, with 3i Infrastructure at £3.0bn and HICL Infrastructure at £2.8bn being the most valuable in the sector.

Core IIC grouping

The core IIC grouping consists of HICL Infrastructure, INPP and BBGI. HICL owns more than 100 assets across a wide range of sectors. INPP focuses more on the regulated energy and water sectors, while BBGI has a portfolio of low-risk assets in both the UK and in North America across many sectors, including roads and bridges.

Both the long-established GCP Infrastructure and the US-based Sequoia Economic Infrastructure are effectively major lenders. In the former's case, energy and PPP/PFI investments are key. In the latter's case, its lending is wide-ranging. In 2022, it struggled, with several major bad debts being faced; but, in 2023, real progress was made in settling them.

3i Infrastructure – *sui generis*

The highly successful 3i Infrastructure is very much a one-off within the IIC subsector, with a higher-risk profile and materially higher dividend growth.

The struggling digital players

The three other IICs – all of whom are recent sector arrivals – are either very, or partly, focused on the digital infrastructure market. In two cases, those of Cordiant Digital Infrastructure and Digital 9 Infrastructure, their core business is self-evident from their corporate names.

The Pantheon pitch

For Pantheon Infrastructure, floated in 2020, its investment remit is wide-ranging, with digital and energy infrastructure investments being considered priorities, as its recent investments have demonstrated.

Shown below are the seven IICs with market capitalisations of over £500m. Also included is Digital 9 Infrastructure, whose market value has fallen very sharply of late – it is now just £260m.

3i Infrastructure (market cap. £2,970m)

Investment sectors: In 2007, 3i Infrastructure was demerged from the 3i Group – and it has thrived subsequently. In the intervening 16 years, it has delivered an IRR of 21%, an achievement that – somewhat immodestly, but very understandably – it is very keen to highlight. In recent years, 3i Infrastructure's investments have become increasingly diverse; nonetheless, its focus still lies on mid-market economic infrastructure investments – within a typical equity range of £100m to £300m. Importantly, 3i Infrastructure periodically recycles its portfolio assets – often generating very substantial returns on its original investment. The completed sale in December 2023 of its ca.25% stake in Altero, a Dutch-based waste treatment and recycling company, for €215m (£187m) – delivering an uplift on the March 2023 book value of over 30% – is an obvious example.

Portfolio: 3i Infrastructure owns a portfolio comprising ca.20 investments. In terms of sectors, based on asset value, energy transition is the key component although communications – in various guises – has also become more prominent. Importantly, recent deals have given rise to material changes in the portfolio. Three investments – TCR, an airport services business, ESVAGT, an offshore services operator, and Infinis, a waste and re-cycling undertaking – now account for around 40% of total equity value to 3i Infrastructure. In terms of legal jurisdictions, the assets are split quite widely throughout the EU and the UK. Furthermore, 3i Infrastructure's operations have become more international, extending well beyond mainland Europe.

Financial/share price data: 3i Infrastructure's share price performance in 2023 was better than most IICs – its shares fell by just 3%. In its half-year results for 2023/24, the figures were impressive, with the reported NAV rising to 351.4p per share – up by 4.6% over the March 2023 figure: the shares are currently trading at an 8% discount to NAV. With the various initiatives to increase its shareholdings in such companies as GCX, ESVAGT and SRL, it is no surprise that the once formidable cash balance has been eroded. Indeed, 3i Infrastructure was one of the few sector members to undertake an equity issue in 2023 when it raised net proceeds of £100m in February: the discount, based on the pre-equity-raise announcement, was just 3.4%. On the dividend front, 3i Infrastructure is well ahead of its peers in announcing a dividend target of 11.90p per share for 2023/24, which represents a pronounced 6.7% increase on the 2022/23 dividend per share figure. The latest income statement is shown in the table below.

3i Infrastructure – half-year income statement, 2023/24

(£m)	to 30/09/23	to 30/09/22
Net gains on investment	**117**	**296**
Investment income	**97**	**70**
Fees payable on investment activities	(1)	(2)
Interest receivable	2	3
Investment return	215	368
Movement in FV of derivative instruments	14	(81)
Management and performance fees	(24)	(31)
Operating expenses	(1)	(2)
Finance costs	(16)	(5)
Exchange movements	3	(2)
Profit before tax	**191**	**247**
Income taxes	0	0
Profit after tax and profit for the year	**191**	**247**
Total comprehensive income for the year	**191**	**247**
EPS (basic and diluted, p)	**20.7**	**27.7**

Source: 3i Infrastructure, Hardman & Co Research

Following the end of its 2022/23 half-year, 3i Infrastructure published a table of its leading value contributors, led by the TCR Ground Support Equipment (GSE) business, which operates at around 160 airports. The relative valuations are set out below:

3i Infrastructure – leading value contributors

Company	Main markets	% of valuation to 3i Infrastructure at 30/09/23
TCR	Airport ground services	15%
ESVAGT	Offshore wind vessels	13%
Infinis	Waste/recycling	11%
GCX	Global data/sub-sea networks	9%
Tampnet	Offshore comms.	9%
Ionisos	Sterilisation facilities	8%
Joulz	Energy infrastructure	7%
Oystercatcher	Liquid storage terminals	6%
SRL	Traffic systems	6%

Source: 3i Infrastructure

Long-term investors should have benefited considerably from investing in 3i Infrastructure, as the five-year graph highlights – its outperformance against the IIC sector has been noticeable, with its shares virtually unchanged over the past year.

3i Infrastructure – five-year share price performance

Source: LSEG

BBGI (market cap. £1,008m)

Investment sectors: In essence, BBGI is a diversified social infrastructure company. It aims to invest in long-term, low-risk essential infrastructure investments that deliver stable and predictable cashflows. Most of its investments are via PPPs or derivatives thereof and, importantly, are supported by government-backed revenues. The strategy wholeheartedly embraces availability-based assets. As such, there are no investments in higher-risk, demand-based or regulatory-based sectors. Overall, BBGI has the lowest risk profile of all the IICs. Moreover, it consistently reports the lowest ongoing charges among the IICs to its shareholders – the figure is well below those of its peers.

Portfolio: Within its global 56-strong asset portfolio, investment in transport and health features prominently, accounting for 53% and 21% of the portfolio, respectively. Importantly, the portfolio concentrates on low-risk, public sector-financed, availability-based infrastructure investments. Its two leading markets are the UK, with 25 investments, and Canada, with 16 investments: these two markets account for 68% of BBGI's overall portfolio valuation. Currently, there is only one US investment, namely the Ohio River Bridge facility, which is BBGI's largest single investment and accounts for over 10% of the value of its portfolio. More specifically, BBGI is single-minded in its policy of investing in availability-based infrastructure assets; consequently, it avoided – unlike some other IICs, including HICL, which had invested in demand-based transport projects – any materially negative impact from COVID-19. Indeed, BBGI's assets are available for a remarkable 99.9% to its public sector clients. Furthermore, none of its existing 56 investments has reported either defaults or distribution lock-ups.

Financial/share price data: The 10% share price fall in 2023 saw the healthy 25% trading premium in mid-2022 being converted into a current trading discount of 5%. In August 2023, BBGI announced its results for its half-year ending June 2023: the key figures, with mark-to-market adjustments being very prominent, are reproduced below. BBGI's NAV record, despite the recent rise in its discount rate to 7.2%, remains solid, although its June 2023 NAV figure – at 147.8p per share – was 2.0p lower than a year previously. Inevitably, too, BBGI's TSR since its flotation in 2011 has fallen sharply and is now 7.4%, well below the comparable figure of just 18 months ago. A full-year dividend of 7.93p per share is expected for 2023. For 2024, BBGI has re-confirmed its target dividend, namely 8.40p per share.

BBGI – half-year income statement, 2023

(£m)	to 30/06/23	to 30/06/22
Income from investments at FVPL	19.7	100.4
Other operating income	1.6	0.2
Operating income	**21.3**	**100.6**
Administrative expenses	(6.3)	(5.8)
Other operating expenses	(0.2)	(0.4)
Net finance result	(1.4)	(0.9)
Profit before tax	**13.4**	**93.5**
Tax expense (net)	(2.3)	(1.0)
Profit for the year	**11.1**	**92.5**
Other comprehensive income	1.1	0
Total comprehensive income	**12.2**	**92.5**
EPS (basic, p)	**1.55**	**12.98**

Source: BBGI, Hardman & Co Research

BBGI's availability-based business model is centred upon assuming very low risks and generating good returns – a policy that has proved successful in recent years. Currently, BBGI has 56 investments. While this figure is set to grow, the new mantra is "disciplined capital allocation", so that there is unlikely to be a heavy flow of new investments: consolidation will be paramount for 2024 – and possibly beyond.

The image below provides an example of BBGI's 25 investments in the UK, namely the Mersey Gateway Bridge, which is located in the north-west of England.

Mersey Gateway Bridge

Source: https:/www.bb-gi.com

Cordiant Digital Infrastructure (market cap. £585m)

Investment sectors: Not surprisingly, Cordiant Digital Infrastructure's business model is very focused on digital infrastructure and enhanced connectivity; these rapidly developing markets lie at the heart of its business activities. Major acquisitions in Poland and in the Czech Republic indicate that Eastern Europe is its core market – and one where the opportunities for revenue growth, especially in Poland's booming economy, are clear-cut.

Cordiant

Portfolio: Cordiant Digital Infrastructure's most valuable business is the Polish-based, Emitel, which is a multi-asset digital information undertaking, located in Warsaw; it also owns over 550 communication towers. The Emitel acquisition cost more than £350m, but it was valued in the half-year accounts, ending in September 2023, at £461m. Cordiant Digital Infrastructure's second-most important business – bought at a cost of £306m – is Ceske Radiocomunikace (CRA) in the Czech Republic. This company owns a pivotal business comprising 660 broadcast towers, an optical backbone network and a portfolio of strategically located data centres; as a tuck-in deal, it has recently bought Cloud4com for an initial £30m. Two other post-IPO deals also merit comment – the acquisition of the New York City-based Hudson Interchange for $74m (£58m) and the recently completed purchase of Speed Fibre, which is located in the Republic of Ireland (RoI): its Enterprise Value (EV) was €191m (£167m). Undoubtedly, the Emitel and CRA operations in Eastern Europe will be crucial in driving the finances of Cordiant Digital Infrastructure.

Financial/share price data: With its shares down by 10% during 2023, Cordiant Digital Infrastructure's performance, although unexciting, was far better than that of its digital infrastructure peer, Digital 9 Infrastructure, whose shares fell by 66% during the year. Cordiant Digital Infrastructure recently published its half-year income statement for the period between April 2023 and September 2023, during which its NAV fell from 113.4p per share to 112.7p per share: the 0.2% increase since March 2023 in its discount rate – now 9.8% – was a key factor. As such, its shares are now trading at a 41% discount to its NAV. Cordiant Digital Infrastructure has been quite aggressive – although less so than Digital 9 Infrastructure – in building up its portfolio, having raised ca.£800m of funding from equity markets in under three years, including the £370m of gross proceeds at its IPO in February 2021. While further equity fundraising is certainly possible, some consolidation post the Speed Fibre completion is likely. On the dividend front, Cordiant Digital Infrastructure plans to pay an unchanged 4.00p dividend per share for its 2023/24 financial year.

Cordiant Digital Infrastructure – half-year income statement 2023/24

(£000)	to 30/09/23	to 30/09/22
Income		
Net gain on investments at FV through P/L	21,050	19,414
Total income	**21,050**	**19,414**
Operating expenses		
Investment acquisition costs	(1,198)	(717)
Other expenses	(6,869)	(6,846)
Operating profit	**12,983**	**11,851**
Foreign exchange movement of working capital reval'n.	332	2,887
Finance income	988	6,275
Finance expenses	(4,902)	0
Profit before tax for the period	**9,401**	**21,013**
Tax charge	0	0
Profit and total comprehensive income for the period	**9,401**	**21,013**
Basic EPS from continuing operations (p per share)	**1.22**	**2.72**
Diluted EPS from continuing operations (p per share)	**1.22**	**2.72**

Source: Cordiant Digital Infrastructure, Hardman & Co Research

Digital 9 Infrastructure (market cap. £260m)

D/9 DIGITAL INFRASTRUCTURE

Investment sectors: Digital 9 Infrastructure undertook its IPO in March 2021 – it emerged from the same stable as Triple Point Energy Transition. However, its experiences in 2023 were dire, with a plunging share price. Moreover, its key subsidiary, Verne Global, is now being sold, principally to raise cash. At the operating level, Digital 9 Infrastructure seeks to expand the digital infrastructure network and to reduce the digital divide. Data centres, subsea cables, terrestrial fibre and wireless networks have been priorities to date. However, a strategic review has just been launched so this focus may shift over the coming months, with the data centre market – following the planned Verne Global disposal – becoming less of a priority. Simultaneously, various senior management changes have taken place.

Portfolio: During 2021 and 2022, Digital 9 Infrastructure had made major progress in building its portfolio, with a series of investments. Its first substantial acquisition was that of Aqua Comms., an Irish-based business that operates capacity services across fibre-optic telecoms networks: it also manages a transatlantic subsea fibre system of ca.20,000km in length. Subsequently, Verne Holdings, which operates data centres in Iceland, was acquired for £231m. The expanded Verne Global, now with Finnish and UK operations, is to be sold shortly for a maximum $575m (£454m), – of which over 20% is dependent upon an earn-out – to a leading private investment house, Ardian, primarily to raise much-needed cash. Digital 9 Infrastructure has also bought a 48% stake in Arqiva, a UK data, networks and communications service provider, at a formidable cost of ca.£460m: its role within Digital 9 Infrastructure seems set to grow.

Financial/share price data: In the past few months, Digital 9 Infrastructure has really struggled, with its share price down by a thumping 66% over the past year – by some way, the worst performance of the 31 IICs/REIFs (excluding Asian Energy Impact, whose shares are suspended). Digital 9 Infrastructure has announced its half-year results for the six months ending June 2023. Its NAV, at June 2023, was 100.1p per share, compared with 109.8p per share at December 2022 – a sharp decline, partly attributable to forex losses. Given the very weak share price, this equates to a current trading discount of 70% to NAV. Having raised £300m (gross) from its IPO at flotation in 2021, Digital 9 Infrastructure has secured new equity amounting to ca.£900m in less than three years. The focus now is rebuilding its stretched balance sheet in the hope that its share price may rally. Its planned 2Q dividend was passed – a highly unusual event for an IIC. Moreover, the ongoing dividend policy is far from clear and may remain so until the crucial Verne Global disposal is completed.

Digital 9 Infrastructure – half-year income statement, 2023

(£000)	to 30/06/23	to 30/06/22
Income		
Income from investments held at FV	27,972	1,404
Gains on investments held at FV	(81,520)	30,007
Interest income	0	0
Total income	**(51,904)**	**31,411**
Expenses		
Acquisition expenses	0	0
Investment management fees	4,486	(3,352)
Other operating expenses	(977)	(682)
Total expenses	**(5,463)**	**(4,034)**
Operating profit	**(57,367)**	**27,377**
Finance expenses	0	(1)
Profit on ordinary activities before taxation	(57,367)	27,376
Profit and total comprehensive income attributable to shareholders	(57,367)	27,376
EPS (basic and diluted, p per share)	**(6.63)**	**3.43**

Source: Digital 9 Infrastructure, Hardman & Co Research

Key details of Digital 9 Infrastructure's many acquisitions in 2021 and 2022 are set out below – they highlight the aggressive acquisition strategy, which came to an end when interest rates rose sharply. A stretched balance sheet has meant the planned sale of Verne Global, which has now absorbed both Ficolo in Finland and Volta in the UK.

Digital 9 Infrastructure acquisitions since the March 2021 IPO

Date	Acquisition	Cost (£m)	Core business
Apr'21	Aqua Comms.	170^	Owner/operator of 20,000km of subsea fibre systems
Jul'21	EMIC-1	22-50*	Partner with Meta to build a 10,000m fibre system between Europe and India
Sep'21	Verne Holdings (now Verne Global)	231	Leading Icelandic data platform operator
Dec'21	SeaEdge UK1	15	Manages a data centre and landing station for the North Sea Connect subsea cable
Apr'22	Host Ireland	51	A leading enterprise broadband provider
Apr'22	Volta	45	Owns a premier data centre based in Central London
Jul'22	Ficolo	114	A leading Finnish data centre and cloud infrastructure platform business
Oct'22	Arqiva	459	Secured a 51.7% economic stake in the UK's sole national terrestrial TV and radio broadcasting network

*^ Post cash; *In part, future capex. Source: Digital 9 Infrastructure, Hardman & Co Research*

GCP Infrastructure (market cap. £625m)

Investment sectors: GCP Infrastructure, along with GCP Asset Backed, is one of two quoted Gravis Capital closed-ended investment funds: their market capitalisations are £625m and £282m, respectively. In recent months, detailed discussions have been held regarding a potential merger of the two funds: these talks have now concluded without a merger agreement. Instead, GCP Infrastructure will pursue its aim "to create a diversified portfolio of debt and similar assets secured against UK infrastructure projects". It focuses on debt investments in the renewable generation sector and on PPP/PFI schemes.

Portfolio: There are currently 51 investments within GCP Infrastructure's portfolio, with an average life of 10 years – all are UK-based. Its core business remains its renewable energy investments, especially wind generation, solar generation, and its biomass operations. In all, renewable energy accounts for 65% of GCP Infrastructure's underlying assets. Outside the energy sector, GCP Infrastructure has 24% of its asset value tied up within PPP/PFIs, a financing model that the UK government is effectively phasing out. Social housing, a sector in which further investment by GCP Infrastructure now seems unlikely, accounts for a further 11% of underlying asset value.

Financial/share price data: With a share price fall of almost 30%, 2023 was not a good year for GCP Infrastructure. In its full-year results for the period ending in September 2023, GCP Infrastructure reported an NAV figure of 109.8p per share: its shares are currently trading at a 34% discount to this figure. Lower wind speeds during the latter months of 2023 have adversely affected cashflow, along with falling energy prices – admittedly from historically high levels. To maximise the use of capital and to boost its NAV per share, a share buyback policy has been implemented of late. Having paid an annual dividend of 7.60p per share for seven consecutive years, GCP Infrastructure's dividend was cut to 7.00p per share in 2019/20, a figure that has been held subsequently – and seems unlikely to change for the foreseeable future.

GCP Infrastructure – full-year income statement, 2022/23		
(£000)	to 30/09/23	to 30/09/22
Income		
Net income/gains on FV financial assets	29,301	157,039
Net gains on FV derivative financial instruments at FV	12,860	386
Other income	9,544	60
Total income	**51,705**	**157,485**
Expenses		
Investment advisory fees	(8,670)	(8,558)
Operating expenses	(2,752)	(3,892)
Total expenses	**(11,422)**	**(12,450)**
Total operating profit before finance costs	40,283	145,035
Finance costs	(9,378)	(4,716)
Total profit and income for the period	**30,905**	**140,319**
EPS (basic and diluted, p)	**3.50**	**15.88**

Source: GCP Infrastructure, Hardman & Co Research

HICL Infrastructure (market cap. £2,829m)

Investment sectors: In its portfolio, HICL Infrastructure holds over 100 investments across many sectors. Despite various overseas acquisitions, including a recent foray into New Zealand, its portfolio remains heavily slanted towards the UK, which accounts for 63% of its investments: 17% arise from the EU. Following the acquisition of a 46% stake in the Texas Nevada Transmission business – now its fourth most valuable holding – the North American exposure is growing. Transport and health investments, which account for ca.51% of the overall value, are key sectors – along with electricity and water at 17% – in HICL Infrastructure's portfolio.

Portfolio: HICL Infrastructure has the largest and most extensive range of investments of the nine IICs under review. Its widespread portfolio has been built up over a sustained period since its IPO in 2006. Importantly, in terms of the risks faced by investors, contracted revenues, such as those under PPP/PFI schemes, are now earned from 63% of these assets. The demand-based revenue segment, which includes some revenue risk, is now 17%, while regulated revenues account for the remainder. Furthermore, HICL Infrastructure's portfolio currently offers inflation linkage of ca.80% – an impressive figure during a period of high inflation and above that of other quoted IICs.

During its latest half-year, ending in September 2023, HICL Infrastructure undertook some reshuffling of its portfolio, with £324m of divestments and £208m of acquisitions. Within the favoured transport sector, HICL Infrastructure still retains significant demand-based stakes, including HS1 and the A63 motorway in SW France, but it has recently reduced its shareholding in US Northwest Parkway to 23.3%. In the health sector, following the sale of the Queen Alexandra Hospital in Portsmouth for £108m, other hospital investments are now being sold. Significantly, too, HICL Infrastructure plans to sell part of its stake in the Hornsea 2 OFTO to the John Laing Group: the OFTO provides electricity links to the eponymous offshore wind farm. Having acquired a 75% stake in July 2023, it has sold off half of its holding and now plans to retain a 37.5% stake.

Financial/share price data: A 15% share price fall during 2023 was a setback for HICL Infrastructure, although its seemingly fixed dividend would certainly have been a factor. Recently, HICL Infrastructure published its half-year results for 2023/24. At first sight, they compare poorly with the equivalent figures for 2022/23, but the latter were flattered by the Queen Alexandra Hospital sale receipts. Importantly, due mainly to a very sharp increase in the discount rate – up from 7.2% to 8.0% – NAV fell from 164.9p per share at March 2023 to 159.4p at September 2023. Hence, the share trading discount is now almost 13%. Underlying dividend cash cover remains very tight, at just over 1.0x, although incoming sales proceeds will provide a one-off boost for this year. The dividend continues to be held at 8.25p per share for both 2023/24 and for the following year – meaning six years of a flat nominal dividend for the sector's bellwether.

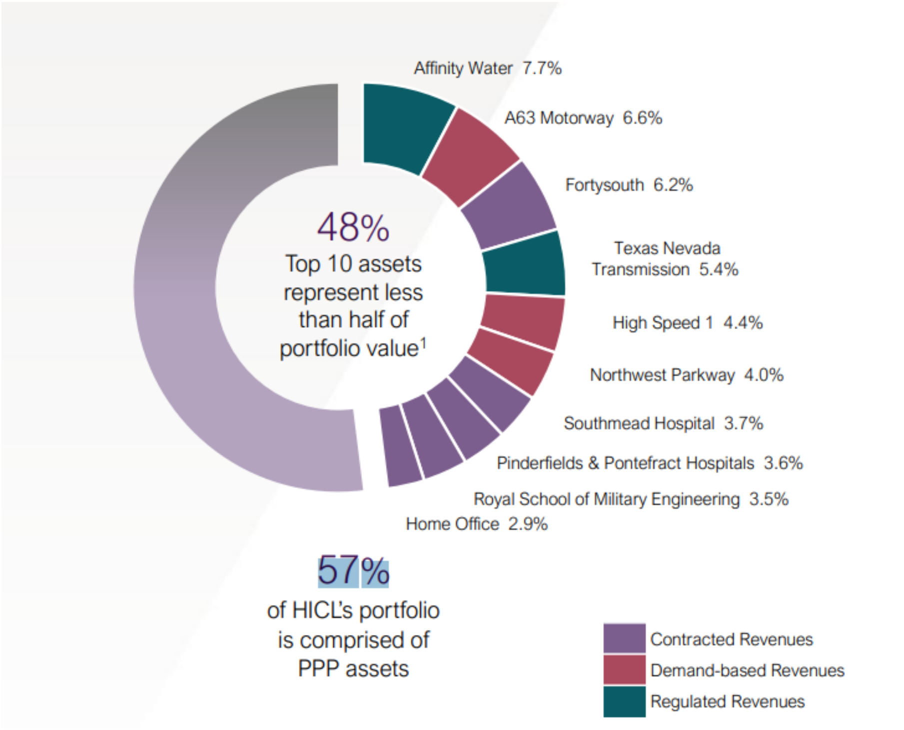
HICL Infrastructure – half-year income statement, 2023/24

(£m)	to 30/09/23	to 30/09/22
Dividends received	53.9	141.5
Interest income	64.0	59.7
FV movement	(108.9)	(116.4)
FV movement on investments	(11.3)	65.3
Loss on forex derivatives	7.9	(27.0)
Other income	5.3	2.7
Total income (IFRS basis)	**10.9**	**125.8**
Expenses/finance costs	(38.5)	(23.2)
Profit before tax	**(27.6)**	**102.6**
Tax	0	0
Total return	(27.6)	102.6
Earnings per share (basic and diluted, p)	**(1.4)**	**5.2**

Source: HICL Infrastructure, Hardman and Co Research

In its 2023/24 half-year results, HICL Infrastructure published further details of its current portfolio, on both a revenue and shareholding basis; details are set out in the chart below. Transport, at 30%, remains the most favoured sector for HICL Infrastructure, while there are four individual investments, which each account for more than 5% of the portfolio's value; namely, Affinity Water (7.7%); the A63 motorway in France (6.6%); Fortysouth, a New Zealand-based towers business (6.2%) and Texas Nevada Transmission (5.4%).

HICL's Infrastructure's portfolio 2023



Source: HICL Infrastructure's half-year results presentation

INTERNATIONAL PUBLIC PARTNERSHIPS

INPP (market cap. £2,617m)

Investment sectors: INPP's origins lie with Babcock & Brown, an Australian Investment Bank. Importantly, INPP focuses on the long term, with an investment horizon of well over 30 years. Its core investments are in the energy sector, especially in gas transportation – its 7.0% stake in Cadent is its most valuable asset – and electricity transmission. Indeed, investment as an OFTO is becoming more of a priority.

Portfolio: The utilities infrastructure sector lies at the heart of INPP's investment strategy. The Cadent gas distribution network is the UK's largest and supplies 11m homes and businesses – it accounts for 14.8% of INPP's portfolio value. Its second-largest investment is the 25km TTT super sewer, which is due to be fully operational by 2025; it is designed to capture 95% of London sewer overflows. The latest cost figure has risen – very modestly compared with other infrastructure projects – to £4.6bn. Much of the remainder of INPP's portfolio comprises transport and education investments, including more than 250 schools; these two sectors account for 18% and 16% of the portfolio, respectively. Furthermore, due to its price regulation exposure, INPP offers impressive inflation linkage of ca.70%. Geographically, the UK remains INPP's key market, with 75% of its portfolio being sited here. Of the remainder, Australia and Belgium (the latter with its Diabolo rail link contract to service Brussels airport) both account for 7%. In December 2023, INPP announced a revised "portfolio optimisation and capital allocation" strategy. Apart from a reallocation of its short-term funding arrangements, INPP also confirmed that £200m of funds were being released from its OFTO investments and that a maximum £85m was earmarked for a shareholding in the Moray East OFTO.

Financial/share price data: At the operational level, INPP continues to perform well, with reassuring progress being made on the TTT super sewer project, as its half-year results for 2023 – severely distorted by FV adjustments – highlighted. However, the rise in its weighted average risk capital discount rate from 7.7% at December 2022 to 8.1% at June 2023 has adversely affected its NAV returns. During the six-month period, INPP's NAV fell from 159.1p per share to 155.2p per share; hence, its shares are currently trading at a near 12% discount to its NAV. On the dividend front, INPP is more bullish than some of its peers; it plans an 8.13p per share distribution for 2023; this compares with a 7.71p dividend per share in 2022. Furthermore, an 8.33p dividend per share figure is being targeted for 2024. This dividend policy has helped limit the fall in INPP's share price during 2023 – down by over 9% – but a far more modest underperformance compared with some of its peers. INPP is also undertaking a £30m share buyback programme.

INPP – half-year income statement, 2023

(£000)	to 30/06/23	to 30/06/22
Interest income	51,688	45,336
Dividend income	34,012	27,911
Net change in investment at FV via P&L	(67,116)	166,934
Total investment income	18,584	240,181
Other operating income/expenses	3,341	(2,963)
Total income	**21,925**	**237,218**
Management costs	(16,004)	(13,999)
Administration costs	(1,095)	(934)
Transaction costs	(1,621)	(759)
Directors' fees	(235)	(242)
Total expenses	**(18,955)**	**(15,934)**
Profit before finance costs and tax	**2,970**	**221,284**
Finance costs	(2,711)	(2,048)
Profit before tax	**259**	**219,236**
Tax credit	(39)	9
Profit for the period	**220**	**219,245**
EPS (basic and diluted, p)	**0.01**	**12.38**

Source: INPP, Hardman & Co Research

SEQUOIA ECONOMIC INFRASTRUCTURE INCOME FUND LIMITED

Sequoia Economic Infrastructure (market cap. £1,404m)

Investment sectors: Sequoia Economic Infrastructure is a specialist investor in economic infrastructure debt. It manages a portfolio of debt – most of which is private – and bond investments, with generally shorter timeframes than those of other quoted IICs.

Portfolio: Currently, Sequoia Economic Infrastructure has ca.56 investments, with an average life of ca.3.5 years. By some way, the digitalisation market is the key sector: it accounts for 33% of Sequoia Economic Infrastructure's portfolio, around half of which is debt-funding for data centres. A similar exposure, of around a third, applies to the power, renewable energy and utilities sectors – wind and solar generation lending is very evident. In recent years, Sequoia Economic Infrastructure has expanded into many mature jurisdictions. Even so, slightly over half of its assets are located in North America, with a further 26% being in the UK and 22% in Europe. However, through Simply Energy, it faced significant exposure to the collapsed BULB Energy – a victim of the UK's shambolic energy supply market – which is now controversially owned by Octopus Energy. In fact, virtually all the £55m bad debt is set to be recovered, £39m is being paid in cash and £11.3m as a shareholding in Zoa Technologies, the former consumer technology platform of BULB Energy. A further bad debt has arisen with the Clyde Street Hotel project in Glasgow – the potential liability is being assessed.

Financial/share price data: Sequoia Economic Infrastructure's weak share price has rallied somewhat – it fell by less than 2% in 2023 – as discernible progress has been made in addressing its problems, including bad debts, as reported in its half-year results statement for 2023/24. Nevertheless, NAV per share remains flat; at December 2023, it was 94.4p per share compared with 93.3p per share in March 2023, thereby showing a current share trading discount of 10%. While Sequoia Economic Infrastructure's outlook remains somewhat uncertain, investors will welcome both the ongoing share buyback programme, which started in July 2022, and the pronounced 10% dividend increase as from 3Q'22. Consequently, the dividend for the 2023/24 full-year is expected to be 6.875p per share, in line with the enhanced dividend policy.

Sequoia Economic Infrastructure – half-year income statement, 2023/24

(£)	to 30/09/23	to 30/09/22
Revenue		
Net gains on non-derivative financial assets at FV	17,186,265	212,896,981
Net losses on derivative financial assets at FV	(201,704)	(187,934,965)
Investment income/deficit	35,188,198	(67,620,134)
Net foreign exchange loss	4,231,846	(12,011,438)
Total revenue	**56,404,605**	**(54,669,556)**
Expenses		
Investment adviser fees	4,763,410	6,176,304
Investment manager fees	199,851	183,668
Directors' fees and expenses	177,806	189,726
Other professional fees	1,577,320	2,182,873
Other expenses	228,047	191,039
Total operating expenses	**6,946,434**	**8,923,610**
Loan finance costs	3,784,731	3,806,112
Total expenses	**10,731,165**	**12,729,722**
Loss/profit and comprehensive loss/income for the year	**45,673,440**	**(67,399,278)**
EPS (basic and diluted, p)	**2.68**	**(3.82)**

Source: Sequoia Economic Infrastructure, Hardman & Co Research

European energy background

Europe beckons for the larger REIFs

Mainland Europe has attracted many REIFs. As such, it is appropriate to address the common energy issues that apply, especially in the larger markets – Germany, France and Italy – and in those, including Iberia and the Nordic countries, which are particularly favoured by REIFs for solar and wind generation investment, respectively.

In the expectation of a rapidly expanding EU renewable generation market, many REIFs, most notably TRIG, the RoI-based Greencoat Renewables, Downing Renewables and Infrastructure, Foresight Solar, Octopus Renewables Infrastructure and Aquila European Renewables, have all invested in mainland EU countries. In the case of the latter two REIFs, they may well merge – and, if so, focus on Europe investment quite aggressively.

Gas supplies and prices are key in Europe

The issue of gas prices has been all-consuming of late, especially in Germany and in leading countries in Eastern Europe, such as Hungary. For many years, these countries have been very dependent upon large volumes of imported gas from Russia. However, following the invasion of Ukraine and the sanctions applied by the EU, price levels soared and import volumes from Russia have plummeted. In any event, very serious damage to the Nord Stream 1 and 2 pipelines has put both out of action for the foreseeable future.

Germany's *Energiewende*

More specifically, the *Energiewende* in Germany, which envisages a very significant upsurge in renewable generation investment, remains a key driver. Undoubtedly, major investment will be required in the Baltic Sea region to finance new renewable plant, much of which – despite recent price rises – will consist of offshore wind turbines. Furthermore, with the closure of the country's last remaining nuclear power plant in April 2023, heavy investment will be required to wheel power from the north of Germany to the south of the country: Bavaria, which, historically, has been very dependent on nuclear power, will face a real challenge over the next decade in securing sufficient power resources.

Italy is of less interest

Gas supply issues are also to the fore in Italy, which, historically, has imported large volumes of gas. The energy market there is dominated by ENEL, which is the leading electricity generator and supply company. In fact, relatively few REIFs operate in Italy, although NextEnergy Solar has operated a small solar generation portfolio in the Puglia region in recent years.

The French nuclear conundrum – old plants riddled by outages

Since the 1970s, France's energy generation has been dependent on a massive nuclear power portfolio. Hence, renewable generation has been significantly slower to take off in France than elsewhere. However, the age of many French nuclear power stations is such that many technical problems, mainly reactor cracks, have emerged across the portfolio. Indeed, over the past 18 months, up to half of EdF's nuclear power portfolio has been off line at any one time – a most unfortunate situation given the Russian gas supply issue. For the REIFs, France offers some renewable energy investment opportunities: its wind power capacity is just one third of the ca.66GW in Germany. TRIG and Octopus Renewables Infrastructure do have significant renewable generation capacity in France, although JLEN sold its small French wind portfolio in 2021.

Sweden for wind, Iberia for solar – the Aquila European Renewables' mantra

Outside the three largest European energy markets, Sweden, Spain and, to a lesser extent, Portugal have emerged as the favoured markets for REIF investment. In fact, a discernible pattern is emerging from EU investment by REIFs, as exemplified by the strategy of Aquila European Renewables – the Nordic countries for wind generation investment and Iberia for solar generation investment. With respect to the former, it should be noted that Sweden has recently announced a major nuclear new-build programme, which will become the focus of its ongoing energy policy.

It is not only Sweden but also other Nordic countries, such as Norway and Finland, that are favoured for onshore wind investment – TRIG is a heavy investor in the region. Furthermore, Downing Renewables and Infrastructure has been building up a small hydro portfolio in Sweden, while Greencoat Renewables is also active in pursuing investment opportunities there.

Iberia's solar attractions

The two Iberian countries – Spain and Portugal – are markedly less affected by the challenging gas supply issues in Northern Europe. Both have been attracting significant solar investment of late: Spain's Andalucía province, with high levels of irradiation, is especially favoured by potential investors. TRIG, notably in Cadiz, Foresight Solar, and Aquila European Renewables are all active in the Iberian solar generation market, although Octopus Renewables Infrastructure has recently terminated its involvement in a key 175MW solar project in Andalucia.

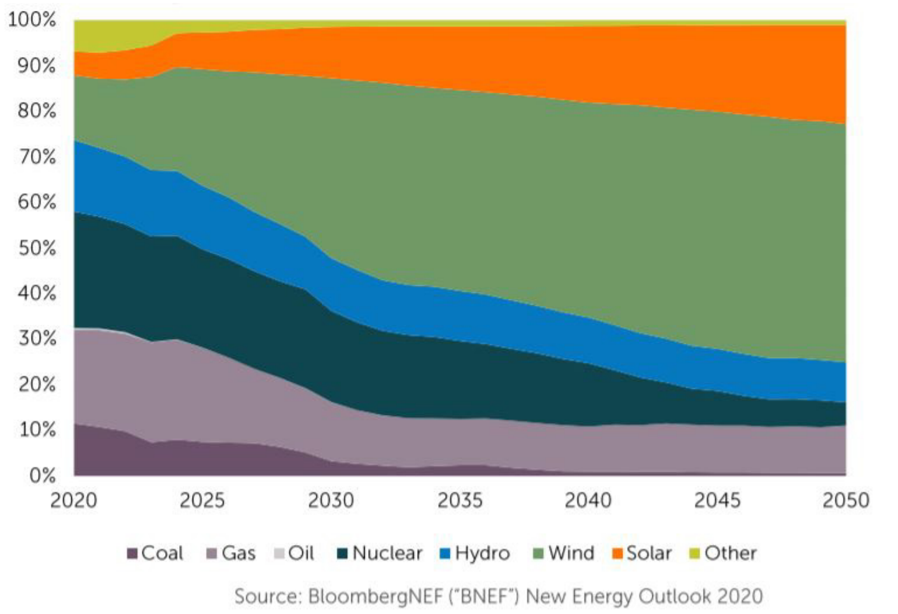
Poland – the EU's next big renewable energy market?

Poland, whose economy – unlike most of the EU – is booming, is also a target for renewable generation investment, especially wind power projects on its northern coast. However, Octopus Renewables Infrastructure is now selling – admittedly at attractive prices – its two wind plants at Kuslin and Krzecin in Poland. In common with Sweden, Poland has recently announced an aggressive nuclear new-build programme, which will be key to its long-term energy policy.

Bloomberg's long-term renewable energy projections

Looking forward over the next three decades, the chart below sets out the European generation projections of Bloomberg New Energy until 2050; these show a major expansion of both wind and solar generation in coming years.

European power generation mix to 2050 (Bloomberg New Energy)



Source: Bloomberg New Energy/JLEN September 2020 interim results presentation

UK Energy market

Ukraine and gas

Over the past two years, the Ukraine crisis, and more specifically, gas prices, have dominated debates in the UK energy sector. Various decisions of late, and especially the efforts to reduce the role of gas in energy generation, have been driven by the abiding concerns about future gas supplies and the price per therm at which they might be available.

Gas prices now way off their 2022 peaks

Importantly, in the past few months, gas prices have fallen sharply from their peaks during 2022. Whether this scenario will endure throughout the current winter is debatable; it will be highly dependent upon whether any prolonged periods of very cold weather are experienced. However, in the lead-up to January 2024, the UK has avoided any prolonged period of cold weather.

The £2bn Rough guide – as proposed by Centrica

Since the Ukraine war broke out in February 2022, various initiatives to boost UK gas supplies have been undertaken, some with a relatively short-term impact. The re-opening – at very considerable cost – of the Rough gas storage facility in the North Sea, which was controversially closed in 2017, provides some important protection against interruptions in gas supplies. Its owner, Centrica, has confirmed that it is prepared to invest up to £2bn to quadruple Rough's capacity and turn it into the world's biggest methane and hydrogen storage facility. But the regulation of Rough, both financially and operationally, must be acceptable to Centrica.

Ramping up North Sea gas projects

In respect of longer-term energy supplies, there has been a notable increase in approval levels for new North Sea oil and, most significantly, gas projects. Clearly, it will be some years before this trend bears fruit, in the form of enhanced output.

Norway, Qatar, the US and the Netherlands are key gas suppliers

The ongoing uncertainty attached to gas supplies has also meant a pronounced increase in imports – a trend that is common to other European countries, including Germany. Norway has long been a loyal gas supplier; recently, new contracts have been signed. Furthermore, Qatar will continue to be a major gas exporter to the UK, along with the US and the Netherlands.

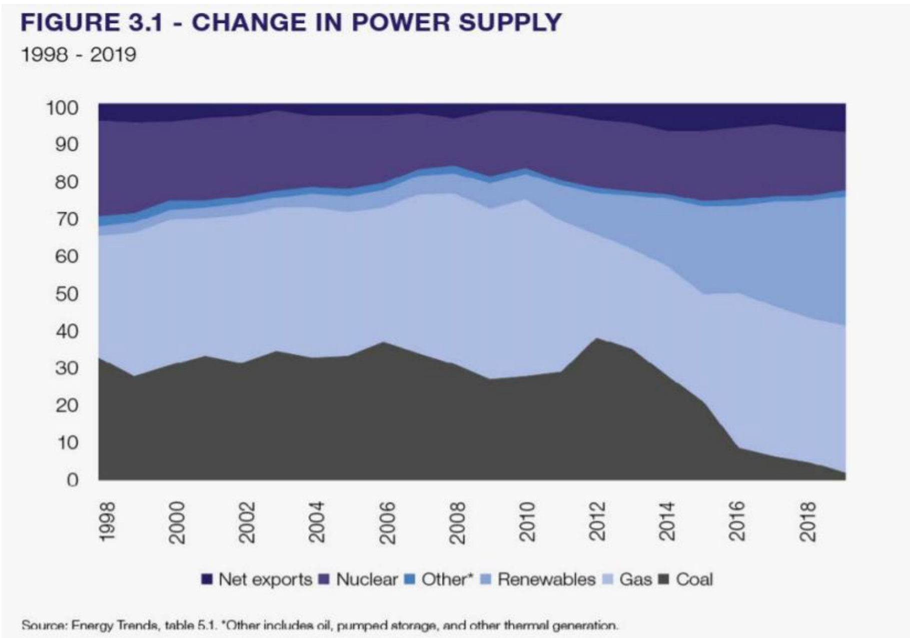
£1,928 per year average consumer price cap

Inevitably, the energy crisis has had a marked impact on UK consumers, both in terms of gas heating and cooking costs but also in terms of electricity prices, which are driven higher by surging gas input costs. As such, Ofgem has recently announced details of the controversial energy price cap for the January-March 2024 period. The cap has been set at a unit rate that is calculated to cost the average household £1,928 per year. For the previous October-December 2023 period, the figure was £1,834 per year.

The coal/renewables replacement process

In recent years, there has been a sea-change in electricity generation as output from renewable sources progressively replaces coal-fired output, which produces substantial CO_2 emissions. This pronounced shift in generation sources is clearly illustrated in the graph below, which was published in the Energy White Paper 2020. It shows how electricity generation sources have changed very markedly since 1998. Indeed, since the outbreak of the war in Ukraine and the surge in gas prices that it caused, the percentage allocated to gas-fired generation in 2018 will have fallen back.

Change in power supply



Source: Energy White Paper 2020

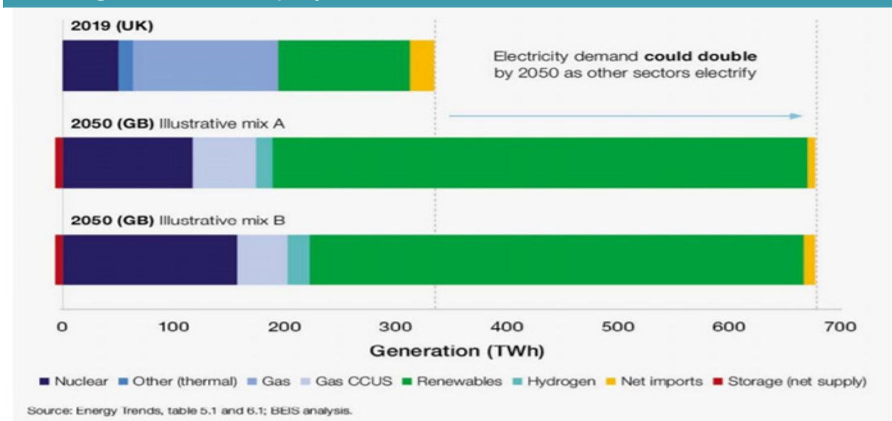
Renewables share was up from 7% in 2010 to a third in 2020

This switch in electricity generation sources was highlighted in the *Energy White Paper 2020*, which confirmed that the contribution from UK renewable generation was ca.33%, compared with just 7% in 2010 – a very sharp rise in a decade. Subsequently, renewable generation has continued to progress, especially in terms of the wind sector.

Long-term projections from *Energy White Paper 2020*

Looking a long way forward, the *Energy White Paper 2020* confirmed that there is massive scope until 2050 – and beyond – for new investment in wind power and solar power for deployment in the UK market. Unquestionably, the tranches earmarked for renewable generation, mostly from wind, are very ambitious.

Future generation mix projections



Source: Energy White Paper 2020

Wholesale power prices in the UK

The 1973/74 oil precedent for the recent gas price surge

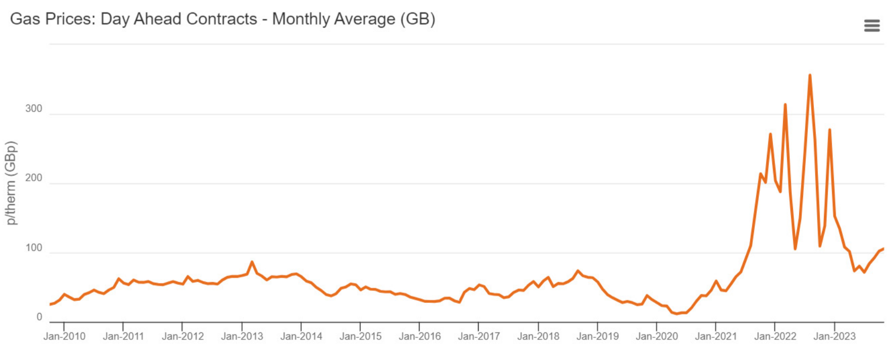
The past two years of wildly fluctuating spot gas prices have had a pronounced impact on UK energy prices – as well as on UK politics. Furthermore, they have undoubtedly had an impact on the underlying valuations of REIFs; although the 2022 and 2023 rises in interest rates have been more influential in depressing REIF valuations.

The spiking of spot gas prices from the latter part of 2021, which was enhanced by the invasion of Ukraine by Russia, is unprecedented in terms of the UK energy market. Only the OPEC-driven surge in oil prices in the mid-1970s – up fourfold between October 1973 and January 1974 – offers some sort of precedent of massive price increases over so short a timeframe.

Spot gas prices soared – and have now declined

The graph below, published by Ofgem, shows both how alarmingly gas spot prices have risen since 2010 but also how steeply they have fallen from their short-term peaks in 2022.

Gas prices per therm – forward delivery contracts (GB)



Source: https://www.ofgem.gov.uk/

Operation of market forces on the gas supply front

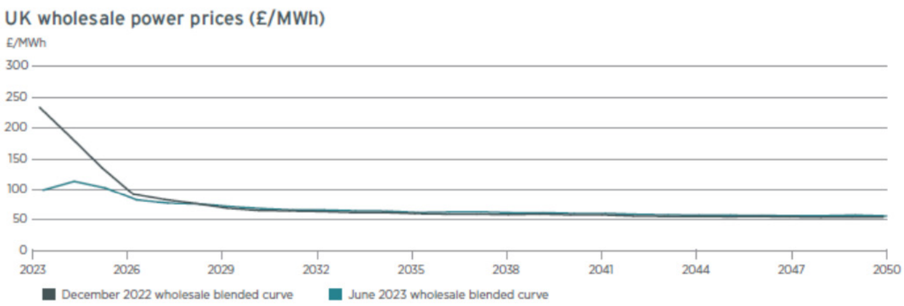
In time, the operation of market forces should enable more supply to come on stream and for the demand for gas to be reduced. However, it seems unlikely – at least for some years – that wholesale gas prices will return close to the levels seen prior to mid-2021.

As a result of much higher gas input costs, Combined Cycle Gas Turbine (CCGT) plants have become far less competitive than hitherto. In practice, virtually every generator sells part of its projected output – over a defined period – on a forward basis, at "locked-in" prices. However, some output is sold on a merchant price basis; this provides exposure to the benefits of higher prices to the generator, who also becomes susceptible to the risks of lower prices.

Foresight Solar's long-term power price projections

In its 2023 interim results presentation, leading solar generator, Foresight Solar, published a graph on its future UK wholesale electricity projections; it is reproduced below. It shows electricity prices returning, in real terms, to their pre-2021 levels by the 2030s. This view, which is barely changed from its 2022 comparator, is not unanimously shared among electricity generators.

UK wholesale power price projections (£/MWh)



Source: Foresight Solar

Cornwall Insights' data shows a plateau in ca.2025 – but at a level way above the pre-2021 figure

By contrast, the longer-term projections from Cornwall Insights, a well-known energy consultancy, produce very different conclusions. Its mid-2022 figures showed, as expected, a surge in gas prices, which begin to level out until 2025. Thereafter, there is a predicted return to near "normality". However, the figures from 2025 onwards show that the new long-term energy equilibrium prices are well above those quoted prior to mid-2021 – a very sharp ongoing premium is projected by Cornwall Insights, although other industry experts, such as Foresight Solar, consider this projected ongoing premium to be excessive.

In general, higher energy prices are good news for the 22 REIFs, in that they boost their revenue line, not necessarily immediately, but over time. The noticeable increases in NAVs during 2022, before any allowance for the impact of higher discount rates, underpin this characteristic:

Negative impact of higher interest rates on valuations

In the real world, higher inflation, which is often fuelled by higher energy prices, is likely to bring about a rise in interest rates; the latter, given the impact on discount rates, is a distinct negative for REIF valuations. As interest rates have risen significantly in the past 18 months, IIC/REIF valuations have been cut due to the application of higher discount rates, in the UK, in Europe and in the US. Share prices have responded accordingly.

Power costs in the UK

Higher gas prices generally mean lower CCGT output

Volatility has been a central element of energy generation costs in recent years. The Ukrainian-driven gas price surge made many CCGTs highly uncompetitive in 2022, although the subsequent decline in gas prices has helped restore their competitiveness. On the nuclear front, the operating costs of such plants have been far more predictable, although many are near the end of their operating lives. Of course, media headlines have focused on further extensive cost overruns – with costs soaring to above £30bn – and persistent delays at Hinkley Point C.

In addition, on the UK renewable generation front, onshore wind and solar investment persists – although way below the levels prior to 2017, when the subsidy payments for new onshore-wind and solar plant were abolished.

Greencoat UK's £320m investment in subsidy-free South Kyle

Nevertheless, Greencoat UK Wind continues to invest heavily in the unsubsidised 235 MW South Kyle wind farm in Scotland, which it bought for ca.£320m in September 2023 from its developer, Sweden's state-owned Vattenfall. While NextEnergy Solar has invested in some subsidy-free solar plants, it announced recently that these plants were for sale.

Sea change afoot in the North Sea

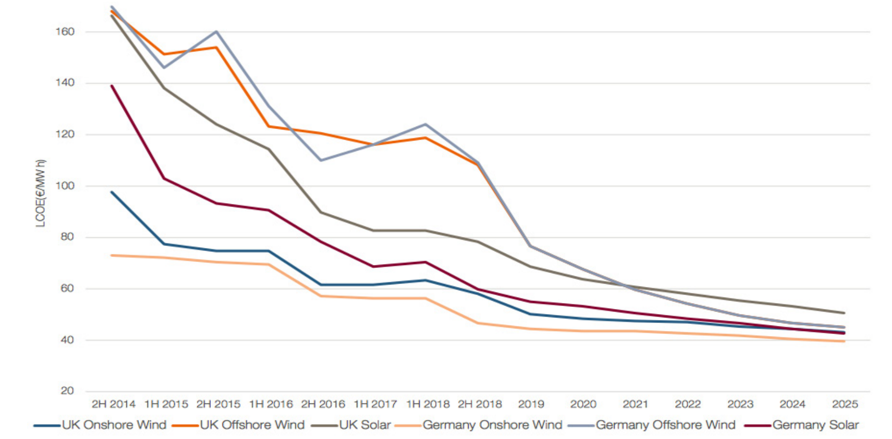
Offshore wind development is set to be a major growth area, with a sea change in costs, far larger turbines and minimal environmental concerns – the Energy White Paper 2020 was unequivocal in its support for offshore wind.

Rollercoaster offshore wind costs

On the cost front, offshore wind generation had performed extremely well – until recently. Indeed, the rapidly falling cost base prior to 2021 has seen a major reversal, with a heavy increase in costs being incurred since the end of COVID-19, especially for wind turbines as well as for the associated equipment, notwithstanding higher financing costs.

The graph below – compiled by IRENA – shows the very sharp falls in generation costs since 2014 for onshore and offshore wind, as well as for solar, in both the UK and Germany. Both the offshore wind lines in the graph will inevitably rise above IRENA's projections to reflect the recent, very pronounced, cost increases over the past 18 months.

Renewable power costs since 2014



Source: IRENA

Unquestionably, the massive fall in costs of offshore wind generation – until 2021 – had provided a kick-start for more aggressive offshore wind developments.

Gap between offshore wind costs and the £92.50 per MWh CfD strike price for Hinkley Point C has narrowed very quickly…

Clearly, too, the 2019 Dogger Bank winning bid of £39.65p per MWh (2012 prices) compares very favourably with the 35-year £92.50 per MWh (2012 prices) CfD for the desperately expensive – and much delayed – Hinkley Point C nuclear plant. More recently, in the 2022 offshore wind auction, the lowest successful CfD bid was for just £37.35p per MWh. Subsequently, following the major upsurge in costs for offshore wind projects, the government's maximum index-linked price (2012 prices), for CfD purposes, has risen very steeply to £73 per MWh – almost double the winning bids of just 18 months ago.

…but offshore wind development will continue

Despite the further imposition of energy-related taxes, which depress the projected rate of return, major oil sector players, including BP and Shell, are still expected to participate in offshore wind development – albeit less aggressively than originally intended – by taking stakes in North Sea offshore wind projects.

BP and Shell gear up for offshore wind investment

Irrespective of recent price increases, it seems inevitable that the government, whether Conservative or Labour, will focus on rolling out offshore wind projects; the politics of doing so are very straightforward when set against controversial – and financially very challenging – new nuclear-build.

National Grid pushing out the capex boat

Furthermore, National Grid, whose activities are pivotal to exploiting North Sea energy resources, has announced a massive £54bn investment budget for expanding its network, which is targeted at building more wind generation infrastructure, especially offshore. Despite its current net debt being just below £44bn, much of this £54bn budget is expected to be deployed before 2030.

Renewable energy infrastructure funds (REIFs)

The top two REIFs

In analysing the REIFs, we focus initially on the two most valuable REIFs – Greencoat UK Wind and TRIG; both have market capitalisations exceeding £2.8bn.

The JLEN renewable generation template

Included in this section, despite their market values now being below £1bn, are both Greencoat Renewables and SEEIT; the latter's market capitalisation had previously comfortably exceeded £1bn. Also included is JLEN, which arguably provides a portfolio template for a typical REIF. JLEN is UK-based, but it has some minor interests – for the moment at least – in mainland Europe. Its focus is on wind and solar generation, along with some smaller investments in other renewables technology, most notably in Anaerobic Digestion (AD) plants.

Three solar players

In addition, we analyse the three solar generation funds – Bluefield Solar, Foresight Solar and NextEnergy Solar: each has a current market capitalisation of more than £500m. Gresham House Energy Storage – the best performing REIF in 2022, although certainly not in 2023 – is also reviewed: it is the UK's leading BESS developer.

The two, leading quoted REIFs, namely Greencoat UK Wind and TRIG, are very dependent, especially the former, on their UK wind output in driving their cashflow generation and share price ratings. In total, this duo accounts for more than 45% of the 22 REIFs' total market capitalisation.

Greencoat UK Wind (market cap. £3,488m)

GREENCOAT UK WIND

Investment sectors: Greencoat UK Wind focuses almost exclusively on the UK wind sector, in which it is heavily invested; it has prospered to such an extent that it now has a 6% UK market share. Its capacity, following the acquisition of a 49.9% stake in the ca.67MW Kype Muir Extension wind farm in Scotland, now exceeds 2,000MW. Overall, around 40% of its capacity is sited in Scotland, with much of the remainder in England. Its inflation-linked dividend policy stands alone within the renewable generation sector.

Portfolio: Greencoat UK Wind's portfolio has increased sharply of late following the completion of the 235MW South Kyle wind farm in south-west Scotland. The plant was bought from the Swedish-based Vattenfall, at a cost of ca.£320m, in September 2023. Moreover, following its 12.5% investment in Hornsea 1, Greencoat UK Wind has now secured a 13.7% stake in the 630MW London Array project from Orsted – the cost is a very substantial £444m, of which £394m is equity. With a maximum £100m share buyback programme now under way, Greencoat UK Wind may curb some of its investment plans as it is becoming harder to generate the desired returns.

Financial/share price data: Due in part to its inflation-linked dividend policy, notwithstanding the recently announced intention to increase its dividend per share by almost 30% for 2023, Greencoat UK Wind's shares have seriously outperformed a weak sector. In 2023, its shares fell by just under 1%, although they are still trading at a discount of 9% to Greencoat UK Wind's NAV per share of 165.8p per share, as at September 2023; this compares with a NAV of 122.2p per share at March 2021. Given the financial challenges of late, this is a strong NAV rise in just 30 months. Undoubtedly, its shares have been boosted by an annual RPI-adjusted dividend increase as prescribed under Greencoat UK Wind's fund principles. Recently, it confirmed its plans for a minimum 10.00p dividend per share for 2024. Currently, Greencoat UK Wind is undertaking a share buyback programme of up to £100m.

Undoubtedly, Greencoat UK Wind is the bellwether for the nascent UK renewable generation sector. In terms of its share price – excepting the March 2020 COVID-19-related share price plunge, from which its recovery was quick – Greencoat UK Wind's five-year performance chart shows a consistent rise in its share price, illustrated by the graph below. The levelling off of its share price of late has been mitigated by its RPI-linked dividend policy and a new 10p per share dividend threshold as from 2024.

Greencoat UK Wind – five-year share price performance

Source: LSEG

In terms of Greencoat UK Wind's overall financial performance since 2013, the figures are impressive, especially the formidable 2022 cash generation figure, as demonstrated by the table below.

Greencoat UK Wind's financial performance – 2013-22

Period	Output (GWh)	Cash generation (£m)	Dividend (p)	Dividend cover (x)	RPI increase	NAV growth
2013 (9m)	292	21.6	4.50	1.8	1.9%	2.5%
2014	565	32.4	6.16	1.6	1.6%	2.5%
2015	799	48.3	6.26	1.7	1.2%	0.5%
2016	978	49.0	6.34	1.4	2.5%	4.0%
2017	1,457	80.1	6.49	1.5	4.1%	2.4%
2018	2,003	117.3	6.76	1.6	2.7%	10.8%
2019	2,385	127.7	6.94	1.4	2.2%	-1.4%
2020	2,952	145.2	7.10	1.3	1.2%	0.6%
2021	2,933	256.8	7.18	1.9	7.5%	9.4%
2022	4,362	560.1	7.70	3.2	13.4%	25.4%

Source: Greencoat UK Wind

TRIG (market cap. £2,832m)

Investment sectors: Greencoat UK Wind and TRIG have vied for sector leadership for some years – the former has emerged as the sector's bellwether, especially in terms of the UK. TRIG has an increasing international reach, notably in northern Europe. Investment in offshore wind generation – now accounting for a sizeable 33% of capacity – has also become a priority. In terms of generation sources, TRIG has focused primarily on the wind sector, both onshore and offshore; it has also invested in solar farms, most notably in Spain. Looking forward, further investment in BESS projects should be expected.

Portfolio: Following some notable additions, TRIG's latest operational capacity figure is ca.2,800MW. Exceptionally – and unlike the capacity figures quoted for other REIFs – this figure also includes investment commitments in plants that have yet to be commissioned. Over 50% of TRIG's capacity is based in the UK, with the exposure in Scotland being slightly short of that in England. Offshore wind generation investment has been a very notable feature in recent years, with the Hornsea 1 offshore wind project shareholding being the largest; it accounts for a 9% share of the portfolio. The Beatrice field shareholding, at 7%, is the next most valuable. In mainland Europe, Sweden, principally via the Jadraas plant, is TRIG's most important overseas market, accounting for 13% of its capacity, ahead of the 10% share represented by investment in France and in Germany. Until the recent surge in costs, which have caused far lower estimated returns, TRIG had been expected to invest aggressively in both the Baltic Sea and in the North Sea, where major build-outs there are expected over the next decade. On the solar front, TRIG has recently commissioned 234MW of new wind capacity at Cadiz in the Spanish province of Andalucía. In time, the four BESS plants, once commissioned, will boost TRIG's operational capacity further.

Financial/share price data: With its share price down by 13% during 2023, TRIG's shares are now trading at a similar discount to its NAV of 131.0p, as at September 2023. A marked increase in its portfolio discount rate, to 8.1%, was primarily responsible for a lower NAV; moreover, GB wind levels in 1H'23 were also well below expectations. Investors will be concerned about the major cost increases in offshore wind farm development, which will undoubtedly cut back expected returns. In terms of dividends, TRIG is expecting to pay a dividend of 7.18p per share, a near 5% increase over the 2022 payment; the former figure is underpinned by a 1.7x cash dividend cover ratio. It was also potentially significant that TRIG sold three of its old wind farms for €25m to Norway's Statkraft as part of its portfolio recycling policy.

The chart below shows movements in TRIG's share price over the past five years as it recovered from the COVID-19-induced plunge in March 2020.

TRIG – five-year share price performance

Source: LSEG

GREENCOAT RENEWABLES

Greencoat Renewables (market cap. £992m)

Investment sectors: Greencoat Renewables' focus is on the expanding wind generation sector, both within the Republic of Ireland (RoI) – its home territory – and in mainland Europe: it does not operate in Northern Ireland (NI). From its IPO in 2017, the RoI has been pivotal but, more recently, it has invested heavily overseas, with offshore wind investment in German waters; Sweden and Spain are the other preferred markets.

Portfolio: At October 2023, and including the North Erstrask project, Greencoat Renewables' operational plant capacity amounted to 1,384MW, almost all of which were wind generation assets. Clearly, the RoI market remains pivotal as the core business. However, in the past three years, major investment has been undertaken elsewhere in the EU: nine operating assets were acquired in 2022 and €275m (£239m) was invested in 1H'23. In German waters in the North Sea, Greencoat Renewables now owns a 50% stake in the 312MW Borkum Riffgrund project as well as a 45% stake in the 288MW Butendiek offshore wind farm – these are large investments. The Nordic Region is also a favoured market. Greencoat Renewables has invested heavily in the Erstrask projects in Sweden – initially, in the more advanced southern section but, more recently, in the northern section, which became operational in October 2023: their combined capacity is 235MW. While there have been investments in both France and Finland, it is likely that Spain will become increasingly important – Greencoat Renewables has emphasised that even unsubsidised plants there offer attractions.

Financial/share price data. Compared with its stable-mate, Greencoat UK Wind, Greencoat Renewables' share price did less well in 2023 – it fell by 11% and is now trading at a discount of over 11% to the June 2023 NAV of 98.3p (c113.0) per share. Despite raising gross proceeds of €287m (£250m) in April 2022, Greencoat Renewables' gross debt of €1,154m is almost 50% of its Gross Asset Value (GAV) – proportionately higher than its peers; the heavy investment in 2H'22 and 1H'23 has been the key factor. In terms of its 2023 full-year dividend, Greencoat Renewables is targeting a payment of 5.59p (c6.42) per share, a 3.9% increase over the 2022 dividend. Unusually in the IIC/REIF sector, its shares are €-denominated and, since its IPO in 2017, had performed solidly until interest rates rose last year. The shares, though, have rallied of late, rising by 16% between the end of October 2023 and the end of December 2023.

SEEIT

SEEIT (market cap. £710m)

Investment sectors: Following its IPO in 2018, SEEIT has focused on investing in energy efficiency projects along with Combined Heat and Power (CHP) schemes. With the completion of its seed project investments, SEEIT has continued to expand its operations, most notably in the US and, to a lesser extent, in the Europe. However, with a weak share price of late, SEEIT's period of expansion now seems likely to be replaced by one of consolidation.

Portfolio: With the US as its core market, SEEIT has undertaken many acquisitions there. Most notably, it bought the district energy system, Red Rochester, based around the very large Eastman Industrial Park in Rochester, New York. This business is SEEIT's most valuable single investment, although – due to various factors, including below budget revenues, which were partly weather-related – its book value was sharply reduced, from £254m at March 2023 to £180m at September 2023. SEEIT also has full ownership of Primary Energy, which operates several co-generation projects within the US steel industry: its latest book value is £178m. Elsewhere in the US, SEEIT manages – via ONYX – a steady, solar generation and energy storage business, with off-takers spread across many sites. Onyx's current book value, at £161m, is now only slightly below that of Red Rochester.

In Europe, SEEIT has invested ca.£100m in Vartan Gas, whose main subsidiaries are Gasnatet, a Swedish gas distribution business, and Stockholm Gas; these businesses account for ca.6% of SEEIT's overall portfolio value and have performed solidly of late. SEEIT's 125MW co-generation Oliva portfolio in Spain, comprising five CHP plants, two olive-processing plants and two biomass plants, is also expected to deliver an EBITDA return that is in line with its budget, despite the Cepuente plant being offline for some months. In 2022, SEEIT bought a 69MW portfolio of renewable assets from United Utilities for ca.£100m.

Financial/share price data: In 2023, SEEIT's share price fell by no less than 32%, mainly on account of interest rate factors – a very unsatisfactory scenario given the £860m of new equity that it has raised since January 2020. As such, SEEIT's share price discount to the latest NAV figure of 90.6p per share, as at September 2023, is now 28%. The NAV was depressed not only by some valuation issues at Red Rochester but also by a notable increase in the discount rate – SEEIT's unlevered figure is now 8.7%. Its levered figure has risen to 9.4%, having been 8.5% as recently as March 2023; the valuation implications are self-evident. The latest gearing figure at 44% of NAV is also quite high; hence, the recent share buyback programme was limited to £20m. The short-term dividend outlook is reasonably promising, with a planned 6.24p per share payment for 2023/24, a 4% increase on 2022/23. However, with the planned dividend barely covered, a cut certainly cannot be ruled out. If one were to be implemented, SEEIT may not be able to count on the 90%+ support that it received from shareholders in defeating a "continuation motion" at the 2023 AGM.

JLEN (market cap. £675m)

JLEN

Investment sectors: JLEN (formerly John Laing Environment Fund), which was floated in March 2014 out of the eponymous housebuilder, now has 42 assets, 92% of which are UK-located; its few EU investments are modest. With 161MW of wind capacity, it is a significant wind generator, although well below the size of Greencoat UK Wind. Solar generation, waste processing and anaerobic digestion (AD) are also key aspects of JLEN's operations. Indeed, its portfolio, broad details of which are set out below, provides the template for a renewable energy start-up business, at least in terms of achieving diversification across the UK renewables sector.

Portfolio: Of late, JLEN's operational capacity has remained steady – at 359MW. Around 45% of its generation capacity is onshore wind, with all these plants – its small French wind portfolio was sold in 2022 – being in the UK. JLEN also owns six UK solar plants, with a capacity of 80MW. Waste and bioenergy account for a further 64MW of capacity. Almost exceptionally, among the other REIFs bar SEEIT, JLEN has invested in AD facilities; it operates capacity of 50MW. These AD plants have earned impressive returns, since plant revenues are underpinned by substantial payments from the Heat Incentive Scheme – in 1H'23/24, an AD Electric price of over £306 per MWhe was achieved, compared with £198 per MWhe for the whole of 2022/23. In common with other REIFs, JLEN has struggled to find renewable energy projects that can achieve its desired financial returns commensurate with assuming the appropriate risks – the recent Cramlington CHP acquisition met those criteria. Central to the quest for further portfolio-enhancing investments is Foresight Group, which is now the Investment Adviser to JLEN.

The table below shows JLEN's current generation portfolio, which totals 359MW.

JLEN – generation portfolio, as at September 2023

Resource	Capacity (MW)
Wind	161
Solar	80
Waste/bioenergy	64
Anaerobic digestion	50
Hydro	4

Source: JLEN

Financial/share price data: During 2023, JLEN's shares fell by more than 15%; they are now trading at a similar discount to the September 2023 NAV of 119.7 per share – the latter figure showed a fall of over 4% compared with its NAV of 125.4p per share as at September 2022. But both figures were well above the very depressed NAV of 92.2p per share at its March 2021 year-end. JLEN's latest NAV was adversely affected by another pronounced increase in its discount rate to 9.4%, compared with 8.4% as recently as March 2023. On the back of a rising dividend cover, JLEN's dividend forecast for 2023/24 is 7.57p per share, a reassuring 6% increase over its 2022/23 payment. With JLEN's gearing being significantly below the sector average, its finances are in reasonable shape. There is, though, a risk of a "continuation" motion being tabled, which could be triggered by an average discount rate being above 10% to its NAV over a full year. Even if triggered, it seems very unlikely that such a motion would result in the winding down of the fund's activities.

Bluefield Solar (market cap. £721m)

Investment sectors: Bluefield Solar, which undertook its IPO in July 2013, is the oldest of the three quoted solar generation stocks on the UK market – its peer group includes Foresight Solar and NextEnergy Solar. Until the recent increase in interest rates, its share price performance had been impressive. Bluefield Solar's focus is entirely on the UK; it derives major benefits from the various generous subsidies, including ROCs and FiTs. Indeed, a high proportion of its revenues are fixed and inflation-linked for the next decade.

Portfolio: Bluefield Solar's latest capacity figure is 813MW, with virtually all its plants being located south of Yorkshire; the 5MW wind farm at Wormit in north-east Fife is anomalous. Despite recently acquiring a small wind portfolio, 93% of Bluefield Solar's capacity revolves around solar generation assets. Major solar plants include Bradenstoke in Wiltshire, accounting for 9% of the portfolio, and the two solar farms at West Raynham in Norfolk and Welborne in Hampshire; the latter account for 6% of the portfolio apiece. Looking ahead, Bluefield Solar boasts a reassuring development pipeline of 93MW under construction and a further 595MW of potential capacity, which has been consented but awaits construction. An additional 364MW of potential capacity is in planning. In common with Greencoat UK Wind, but unlike Foresight Solar, Bluefield Solar's entire portfolio is based in – and is dependent upon – the UK, its irradiation levels and its regulatory regime.

Financial/share price data: Having raised £150m of new equity in June 2022, Bluefield Solar's finances are robust, despite a share price that fell by more than 13% during 2023. Its shares are currently trading at a discount of 13% to its latest NAV, as at September 2023, of 136.4p per share; its NAV, in June 2022, was 140.4p per share. A key factor for this decline has been the movement in Bluefield Solar's discount rate, which was 6.75% in June 2022 and is now 8.0% – quite a sharp increase with negative valuation implications. Bluefield Solar's dividend position, especially in terms of its dividend cover, is reassuring – and certainly compared with some other REIFs. In 2022/23, an 8.60p per share dividend was paid, with a minimum 8.80p per share pencilled in for 2023/24.

Bluefield Solar's shares rallied strongly after the end of COVID-19 but have slumped of late – despite a strong dividend record – following the upward surge in interest rates, as its five-year share price graph highlights.

Bluefield Solar – five-year share price performance

Source: LSEG

Foresight Solar (market cap. £602m)

Investment sectors: As the second-most valuable quoted solar generation REIF – after Bluefield Solar – Foresight Solar offers certain distinguishing characteristics. Almost 30% of its declared 1,018MW capacity (omitting the three BESS plants that are under construction) is sited overseas, either in Australia or in Spain. While certain disposals are under way, Foresight Solar's expansion seems set to continue, especially in Spain, where solar power is widely favoured. Some co-ownership of assets may also be on the agenda, following the 50% sell-down of the 99MW Lorca portfolio in Spain, which raised €26.9m, at an impressive 21% premium over book value.

Portfolio: Except for its three BESS investments, all Foresight Solar's capacity is comprised of solar plants, over 70% of which are located in the UK. In Australia, Foresight Solar has faced various challenges in recent years, but some progress has been made of late, although part of the four-asset portfolio may be sold under the well-trailed 200MW sale commitment. In southern Spain, the solar plant portfolio, with capacity of 125MW before the recent part divestment of the Lorca assets, is performing well. Given the 467MW development stage pipeline, further Spanish acquisitions seem likely – assuming funds become available. Outside the solar sector, Foresight Solar has entered the BESS market, both with JLEN and on its own account.

Financial/share price data: Despite a generally positive news flow, Foresight Solar's share price fell by almost 15% in 2023. The shares now trade at a near 14% discount to its NAV, which was 118.1p per share at September 2023. In December 2022, its NAV was 126.5p per share – and just 91.9p per share at March 2021. Importantly, in its September 2023 NAV calculation, Foresight Solar increased its global discount rate to 8.0% compared with 7.55% to June 2023 – quite a sharp rise. In terms of its dividend policy, Foresight Solar has confirmed a 7.55p per share target for 2023 – a 6% increase over its 2022 payment. Reassuringly, dividend cover is expected to be 1.5x at least until 2025. Foresight Solar is also undertaking a modest share buyback programme.

The graph below shows how Foresight Solar's shares have performed over the past five years – the middle years were adversely affected by COVID-19.

Foresight Solar– five-year share price performance

Source: LSEG

Looking ahead, portfolio changes may be afoot, as Foresight Solar's former parent company, Foresight Group, whose interests extend well beyond the former's core renewable energy sector, undertook an IPO in February 2020; it is now valued at £506m.

NextEnergy Solar (market cap. £544m)

Investment sectors: NextEnergy Solar, which focuses on operating solar plants as well as increasingly participating in BESS projects, undertook its IPO in April 2014. At that time, longer-term energy price projections were considerably higher than proved to be the case until late 2021, when gas prices began their upward surge due to the invasion of Ukraine. Over the past nine years, NextEnergy Solar has assembled a generation portfolio of more than 100 solar assets. As at September 2023, installed capacity was 933MW, most of which is UK-based, with much of the remainder located in southern Italy. Around 33MW of the 933MW capacity figure relates to NextEnergy Solar's share of NPIII's overseas operating assets: NextEnergy Solar has a minority stake in the latter's parent company, NESF. In the shorter term, however, NextEnergy Solar will be focused on its recently established Capital Recycling Programme (CRP), which plans to sell five of its unsubsidised UK solar plants.

Portfolio: Excluding the 35MW of solar capacity in southern Italy, some other small plants in the EU and the NESF shareholding, the remainder of NextEnergy Solar's 933MW of capacity is UK-based. And, despite the end of the Renewable Obligation (RO) for new solar plants in 2017 and – more specifically – the end of the subsidies to which it gave rise, NextEnergy Solar has been continuing to invest in additional, but unsubsidised, solar capacity. However, this policy has now been superseded by the CRP, which is expected to see the disposal of 236MW of capacity, with the unsubsidised plants at Hatherden, Whitecross, Staughton, The Grange and South Lowfield all being sold. In the case of Hatherden, a £15m sale has already taken place on a "ready-to-build" basis. Having secured shareholder approval to raise its standalone energy storage exposure from 10% of GAV to 25%, NextEnergy Solar's attention – at least at the operating level – is now turning increasingly to exploiting opportunities in the BESS sector.

Financial/share price data: With shares in NextEnergy Solar having fallen by 17% during 2023 and currently trading at a 15% discount to its NAV of 108.3p per share, as at September 2023, challenges abound. But dividend cover is set to grow, admittedly from a low base. Furthermore, NextEnergy Solar plans to deliver an 11% increase – to 8.35p per share – in its dividend for 2023/24; few other IICs/REIFs, Greencoat UK Wind excepted, can match this uplift. The focus now is twofold. First, NextEnergy Solar seems likely to invest quite aggressively in BESS projects and needs to deliver them efficiently and within budget. Secondly, maximising proceeds from the CRP initiative is key – a substantial proportion of the funds to be raised seems destined to be reinvested in BESS projects.

The chart below shows how NextEnergy Solar's share price has performed over the past five years. Unlike some other REIFs, its share price has failed to reach the levels achieved prior to the COVID-19 plunge in early 2020 – and, for the moment, seems unlikely to do so.

NextEnergy Solar – five-year share price performance

Source: LSEG

Undoubtedly, the three largest UK-quoted wind generators – including the Irish-based Greencoat Renewables – and the three solar generators form the backbone of the quoted REIF sector, which now comprises a membership of 22 funds. In market capitalisation terms, these six REIFs account for ca.65% of the sector's overall value.

In comparing their portfolios, the three quoted (almost) pure solar companies – Bluefield Solar, Foresight Solar and NextEnergy Solar – are included in the wind and solar data table below, along with Greencoat UK Wind, TRIG and JLEN. The latest plant capacity data of these six REIFs are also highlighted in the table.

UK wind and solar data

REIF	Installed capacity (MW)	UK	Solar	Wind
Bluefield Solar	813	100%	93%	7%
Foresight Solar	1,018	71%	100%	0%
Greencoat UK Wind	2,009	100%	0%	100%
JLEN	359	92%	23%	45%
NextEnergy Solar	933	85%	100%	0%
TRIG	ca.2,800*	57%	14%	82%

**This figure also includes investment commitments for plants still to be commissioned.*
Source: Hardman & Co Research

The quest for BESS

Over the past few years, BESS, as an energy source, has come to the fore as the quest to design a viable storage system for power generated by renewable energy sources persists. The unquestioned UK leader is Gresham House Energy Storage. The RoI-based Gore Street Energy Storage is also a significant player in this growing energy subsector, along with Harmony Energy Income. Some prominent wind and solar generators, including TRIG, Bluefield Solar, Foresight Solar and NextEnergy are also investing – at a comparatively modest level to date – in this developing field.

Since 1857
Gresham House
Specialist asset management

Gresham House Energy Storage (market cap. £619m)

Investment sectors: Gresham House Energy Storage is the largest of the three quoted REIFs – Gore Street Energy Storage and Harmony Energy Income are the others – who are heavily invested in the BESS subsector. Investing in BESS plants is the undoubted core business of Gresham House Energy Storage. These plants enable the provision of frequency balancing services to grid operators, although the key revenue stream, expected to be provided by National Grid's Electricity System Operator (ESO), has been delayed – a major factor in Gresham House Energy Storage's poor share price performance in both 2023 and subsequently.

Portfolio: Following a pronounced build-up over the past four years, Gresham House Energy Storage now operates utility-scale BESS assets at many different sites in England and Scotland. With the energisation of the 50MW West Didsbury BESS – one of its largest – Gresham House Energy Storage's total plant capacity figure has now risen to 690MW. With various other plants under construction, many in Yorkshire, it is expected that plant capacity will reach 1,000MW within the next two years – a sharp increase. Gresham House Energy Storage seeks to benefit from the many arbitrage opportunities that have recently arisen as UK renewable generation output rises in a volatile energy trading market, although the delays in the ESO launching the Open Balancing Mechanism (OBM) have undoubtedly been frustrating. Overseas, the to-be-delayed 160MW Iliad project in California will be a key investment, given its long-term potential.

Financial/Share price data: During 2023, Gresham House Energy Storage's share price fell by over 32% – a major reverse from its outstanding performance in 2022. Consequently, its shares are now trading at a discount of 26% to its NAV of 146.1 per share, as at September 2023; the delay in setting up trading on the Open Balancing Platform (OBP) was certainly a negative factor. Furthermore, the very conservative 10.9% blended discount rate – way above the sub 8.0% figure still used by some REIFs – suggests some material hidden value. Gresham House Energy Storage plans to pay a dividend of 5.51p per share for 2023. Since January 2020, Gresham House Energy Storage has raised ca.£450m of new equity finance, including £50m (gross) for its Iliad project in May 2023, although up to £80m was sought. No other REIF undertook a major equity fundraise in 2023. Even so, given its substantial pipeline, Gresham House Energy Storage may need further fundraises.

Fundraisings

Paltry sector fundraisings – just £152m – in 2023…

2023 was a distinctly barren year for IIC/REIF fundraising, with just £152m (gross) of proceeds being raised, £102m (gross) of which was attributable to 3i Infrastructure and £50m (gross) to Gresham House Energy Storage. As such, there were no IPOs in the sector, despite the efforts, on several occasions, of AT85 Global Mid-Market Infrastructure to raise equity through a public listing.

…and very few deals

Despite various tuck-in acquisitions, there were few major deals during the year, notably by the digital infrastructure-orientated IICs. 3i Infrastructure, Digital 9 Infrastructure, Greencoat UK Wind, Octopus Renewables Infrastructure and Pantheon Infrastructure were among those who made material, as opposed to tuck-in, acquisitions during 2023. Nevertheless, given the low level of corporate activity, there were few reasons to raise further equity funds.

Over £10.3bn raised since 2020

Nevertheless, judging by the table below, which shows that the IICs and REIFs have raised over £10.3bn of new money since January 2020, investor appetite had been reasonably strong – until the fallow period of late 2022 and 2023, when interest rates rose sharply. Several REIFs experienced serious problems as their share prices fell, their discounts widened and, in some cases, their shareholders demanded quite radical solutions. Neither Aquila Energy Efficiency nor Triple Point Energy Transition seem to have a long-term future as quoted funds. Major questions hang over Asian Energy Impact, whose shares have remained suspended since April 2023.

No IPOs since 2021

Previously, many investors had been prepared to accept the IIC/REIF risk profiles. Nine sector IPOs had taken place in 2021 – three IICs and six REIFs but none since. Furthermore, many secondary fundraisings had been achieved at a very modest discount to the then prevailing share price.

From late 2022, the worm turned…

From late 2022, the outlook changed quite rapidly. Pantheon Infrastructure's proposed £250m C share issue was pulled in September 2022: "extreme volatility" due to the castigated mini-Budget of 2022 was cited as the reason. In the case of Harmony Energy Income, its latest equity offering raised just £15m, way below the maximum £130m that was sought. A similarly disappointing response greeted the November 2022 fundraise of Asian Energy Impact (then ThomasLloyd Energy Impact), which yielded just over £30m (gross) of proceeds. Subsequent events perhaps justified investors' caution.

The poor response to these equity fundraises – and to others that were not publicised – explain the paucity of equity fundraising by the IIC/REIF sector in 2023. Undoubtedly, the interest rate rises did major damage to REIF valuations, and especially to those of the less mature funds. Not surprisingly, in 2023, the focus moved to consolidation, rather than expansion, of the IIC/REIF asset bases.

…and some IICs/REIFs need more equity

Looking forward, many of the smaller REIFs may face a real challenge if they need additional funding. In fact, most such IICs/REIFs are awaiting better times; in other cases, some non-core assets have been sold off.

Core asset sales – needs must by both Digital 9 Infrastructure and by Harmony Energy Income

Despite what must have been deep reservations, Digital 9 Infrastructure has agreed to sell its core Verne Global business in order to strengthen its very weak balance sheet. In Harmony Energy Income's case, the sale of its Rye Common "shovel-ready" project was completed on the basis that the funds generated could finance its ongoing BESS programme elsewhere.

Share buybacks now all the rage

Several REIFs, including the formerly deal-hungry SEEIT and Victory Hill GSEO, have implemented a share buyback programme, both to boost the NAV and, it is hoped, to boost the share price; success on this front, to date, has been limited.

The table below shows the major fundraisings by the 31 IICs/REIFs since January 2020. The total new equity raised over the four years exceeds £10.3bn. However, a meagre £152m was raised in 2023, as higher interest rates made an impact.

Major IIC and REIF fundraises since January 2020

IICs and REIFs	Date	New shares (m)	Price (p)	Gross proceeds (£m)
3i Infrastructure	Feb'23	30.9	330	102
Aquila Energy Efficiency	May'21	100.0	100	100
Aquila European Renewables	Sep'21	87.4	89	76
	Oct'20	122.9	89	107
	Mar'20	38.1	90	34
Asian Energy Impact	Nov'22	34.3	89	31
	Dec'21	115.4	100	85
Atrato Onsite Energy	Nov'21	150.0	100	150
BBGI	Jul'21	45.2	166	75
	Nov'20	32.5	169	55
Bluefield Solar	Jun'22	115.4	130	150
	Jul'21	89.1	118	105
	Nov'20	36.5	124	45
Cordiant Digital Infrastructure	Jan'22	188.7	106	200
	Jun'21	185.0	100	185
	Feb'21	370.0	100	370
Digital 9 Infrastructure	Jul'22	54.5	110	60
	Jan'22	88.1	108	95
	Sep'21	255.8	107	275
	Jun'21	166.6	105	175
	Mar'21	300.0	100	300
Downing Renewables and Infrastructure	Jun'22	47.6	111	53
	Oct'21	14.5	103	15
	Dec'20	122.5	100	123
Ecofin US Renewables Infrastructure	May'22	10.7	101	10
	Dec'20	125.0	100	99
Foresight Solar	NIL			0
GCP Infrastructure	NIL			0
Gore Street Energy Storage	Apr'22	136.4	110	150
	Sep'21	68.8	107	74
	Apr'21	132.3	102	135
	Dec'20	60.0	100	60
	Jul'20	24.6	96	24
	Feb'20	3.6	96	3
Greencoat Renewables	Apr'22	251.4	95	240
	Oct'21	148.6	95	139
	Dec'20	110.6	97	105
Greencoat UK Wind	Nov'21	341.0	132	450
	Feb'21	150.9	131	198
	Sep'20	305.3	131	400
Gresham House Energy Storage	May'23	32.2	155	50
	May'22	103.4	145	150
	Jul'21	89.3	112	100
	Nov'20	114.3	105	120
	Feb'20	30.0	104	31
Harmony Energy Income	Oct'22	14.8	100	15
	Nov'21	210.0	100	187
HICL Infrastructure	Jul'22	94.7	169	160
	Jul'20	73.2	164	120
HydrogenOne Capital Growth	Apr'22	21.5	100	21
	Jul'21	107.4	100	107
INPP	Apr'22	203.8	160	325
	Jul'20	81.8	165	135

Major IIC and REIF fundraises since January 2020 (continued)

IICs and REIFs	Date	New shares (m)	Price (p)	Gross proceeds (£m)
JLEN	Jan'22	60.1	101	61
	May'21	54.7	104	57
	Feb'20	49.7	115	57
NextEnergy Solar	NIL			0
Octopus Renewables Infrastructure	Nov'21	70.0	105	74
	Jun'21	144.9	104	150
Pantheon Infrastructure	Nov'21	400.0	100	400
SEEIT	Sep'22	118.4	114	135
	Mar'22	87.0	115	100
	Sep'21	226.2	110	250
	Feb'21	150.9	106	160
	Oct'20	100.0	105	105
	Jun'20	105.8	104	110
Sequoia Economic Infrastructure	Mar'21	105.0	105	110
	Feb'20	267.9	112	300
TRIG	Mar'22	210.1	132	277
	Sep'21	161.3	124	200
	Mar'21	195.0	123	240
	Nov'20	160.0	125	200
	May'20	100.0	120	120
Triple Point Energy Transition	Oct'20	100.0	100	100
US Solar	May'21	132.0	72	98
Victory Hill GSEO	Jun'22	111.0	110	122
	Dec'21	69.0	101	70
	Feb'21	242.6	100	243
Total				**10,312**

Note: Overseas currencies have been converted at 31/12/23 exchange rates. Source: Hardman & Co

Current market ratings

Set out below are the latest market ratings for the 31 IICs and REIFs that are under review. Most NAV figures are those published at the end of either June 2023 or September 2023.

Dividends, yields and NAVs

The tables below covering dividends, yields and NAVs show:

- A prospective underlying dividend yield for the 31 IICs/REIFs of between 5.0% and 7.5%, with a few outliers, such as 3i Infrastructure, whose prospective dividend yield of 3.7% is noticeably lower.

- A total market capitalisation for the 31 IICs and REIFs of £26.2bn, split as follows: IICs at £12.7bn and REIFs at £13.5bn. We have assumed a zero valuation for Asian Energy Impact whose shares remain suspended.

In the wake of the pronounced rise in interest rates in 2H'22 and in 2023, all IICs/REIFs are currently trading at discounts to their NAVs. In some cases, these discounts are very substantial – Digital 9 Infrastructure, at 70%, and HydrogenOne Growth, at 51%, being the most notable.

NAV discounts very wide-ranging

The table below shows the NAV data reported by each of the 31 IICs and REIFs – in most cases, at the end June 2023 or September 2023. In respect of the two most valuable REIFs, Greencoat UK Wind and TRIG, NAVs for September 2023 have been used. Consistency among the funds on such issues as discount rates, long-term power prices, asset valuations and asset life remains elusive; this precludes authoritative read-across comparisons between NAV discounts and other valuation tools. Current prospective yields for the IICs and REIFs, based on our dividend projections for the coming period, are also set out.

UK-quoted IICs and REIFs

IIC and REIF	Share price (p)	Market cap. (£m)	NAV per share (p)	Prem./Disc. to NAV	Prospective yield
3i Infrastructure	322	2,970	351.4	-8.4%	3.7%
Aquila Energy Efficiency	57	57	93.5	-39.0%	0
Aquila European Renewables	70	265	89.3	-21.6%	6.8%
Asian Energy Impact (ex $ to £)	Suspended	Suspended	39.9	n/a	n/a
Atrato Onsite Energy	72	108	92.0	-21.7%	6.9%
BBGI	141	1,008	147.8	-4.6%	5.6%
Bluefield Solar	118	721	136.4	-13.5%	7.5%
Cordiant Digital Infrastructure	76	585	112.7	-41.4%	5.3%
Digital 9 Infrastructure	30	260	100.1	-70.2%	5.0%
Downing Renewables and Infrastructure	88	159	118.7	-25.9%	6.1%
Ecofin US Renewables Infrastructure (ex $ to £)	43	59	70.4	-38.9%	6.4%
Foresight Solar	102	602	118.1	-13.6%	7.4%
GCP Infrastructure	72	625	109.8	-34.4%	9.7%
Gore Street Energy Storage	89	441	112.9	-21.2%	9.0%
Greencoat Renewables (ex € to £)	87	992	98.3	-11.6%	6.4%
Greencoat UK Wind	151	3,488	165.8	-8.9%	6.6%
Gresham House Energy Storage	108	619	146.1	-26.1%	5.1%
Harmony Energy Income	79	179	115.4	-31.5%	10.1%
HICL Infrastructure	139	2,829	159.4	-12.8%	5.9%
HydrogenOne Capital Growth	50	64	101.4	-50.7%	0
INPP	137	2,617	155.2	-11.7%	5.9%
JLEN	102	675	119.7	-14.8%	7.4%
NextEnergy Solar	92	544	108.3	-15.1%	9.1%
Octopus Renewables Infrastructure	90	509	107.0	-15.9%	6.4%
Pantheon Infrastructure	83	393	106.6	-25.2%	4.8%
SEEIT	65	710	90.6	-28.3%	9.6%
Sequoia Economic Infrastructure	85	1,404	94.4	-10.0%	8.1%
TRIG	114	2,832	131.0	-13.0%	6.3%
Triple Point Energy Transition	66	66	95.1	-30.6%	8.3%
US Solar (ex $ to £)	43	143	68.1	-36.9%	10.4%
Victory Hill GSEO	78	324	105.7	-26.2%	7.1%
Total	**n/a**	**26,246**	**n/a**	**n/a**	**n/a**

Note: Based on prices as at 31/12/23. Source: Bloomberg, Hardman & Co Research

Valuation issues

NAV movements remain pivotal for valuing IICs and REIFs – despite anomalies

In valuing IICs and REIFs, movements in their NAVs are pivotal. For most of 1H'22, there were significant premia over NAV for most quoted IICs and REIFs. These premia have been eroded in the past 18 months, as 10-year gilt yields and interest rates moved upwards. However, the defensive characteristics of most IICs and the larger REIFs, especially at a time of economic uncertainty and inflation concerns, have appealed to many discerning, income-seeking investors. More specifically, many NAVs fell during 2023, mostly due to the higher discount rates that were applied when valuing portfolios.

3i Infrastructure and Greencoat UK Wind prevail

On a longer-term basis, the table below tracks the latest published NAVs for the leading IICs and REIFs; it also compares them with those reported back in late 2018 or early 2019 – both dates preceded the outbreak of the COVID-19 pandemic. The 2023 NAV figures quoted below are mostly based upon the latest published data, from either June 2023 or from September 2023. The two outstanding performances, in terms of NAV growth over almost five years, have been delivered by 3i Infrastructure, which continues to thrive, and Greencoat UK Wind, whose dividend growth has outdistanced that of other REIFs. At the other end of the scale is Sequoia Economic Infrastructure whose NAV is almost 9% below its equivalent in late 2018/early 2019.

Latest NAVs for leading IICs and REIFs

IIC and REIF	Latest NAV figure (p)	NAV at either 12/18 or 03/19 (p)	Current prem./disc. to 12/18 or 03/19 NAV
3i Infrastructure	351.4	234.7	+49.7%
BBGI	147.8	133.5	+10.7%
Bluefield Solar	136.4	114.4	+19.2%
Foresight Solar	118.1	111.2	+6.2%
GCP Infrastructure	109.8	112.5	-2.4%
Greencoat Renewables	c113.0	c103.4	+9.3%
Greencoat UK Wind	165.8	123.1	+34.7%
HICL Infrastructure	159.4	157.5	+1.2%
INPP	155.2	148.1	+4.8%
JLEN	119.7	104.7	+14.3%
NextEnergy Solar	108.3	110.9	-2.3%
Sequoia Economic Infrastructure	94.4	103.4	-8.7%
TRIG	131.0	108.9	+20.3%

Source: Company accounts, Hardman & Co Research

Lack of data consistency in determining NAVs

In analysing the IICs and REIFs, it is very apparent that there is a pronounced lack of consistency in setting individual fund valuation methodologies. Many of the key valuation tools, such as discount rates, future power price assumptions, inflation projections, asset lives and energy yields, *inter alia*, are – in some cases – inherently subjective. To that extent, they increase distortions from read-across comparisons.

Dividends

While UK inflationary concerns are abating, many IICs/REIFs funds will find it challenging to deliver real increases in dividends. 3i Infrastructure, with its aggressive dividend projections, should be an exception in this respect – for 2023/24, it is projecting a 6.7% increase. Greencoat UK Wind – in the light of its RPI-linked dividend policy – is now expected to pay a dividend for 2023 of 10.00p per share, which is 29.5% above its 2022 payment of 7.72p per share. Given the current financial environment, this is an impressive increase – driven by its formidable cashflow. It also explains why Greencoat UK Wind's has been the best performing IIC/REIF share during a very challenging 2023.

HICL's flat-as-a-pancake dividend

At the other end of the dividend scale is a leading IIC, HICL Infrastructure. In respect of 2024/25, it has indicated that its dividend will be held for yet another year – the sixth in succession. Disregarding Asian Energy Impact, two other REIFs cut their dividends during 2023, namely Aquila Energy Efficiency, which is in the process of being wound down, and Ecofin US Renewables Infrastructure, which suffered from collateral damage to the local electricity network following a tornado in Texas. Most recently, Gresham House Energy Storage has confirmed that its 4Q'23 dividend will be passed. Digital 9 Infrastructure, with its challenging financial issues, has also ceased paying dividends for the moment.

Eroding dividend cover for several REIFs

In 2021, dividend cover levels fell to quite low levels for many of the established stocks within the IIC and REIF grouping, but this was not the case for 3i Infrastructure, a major outlier in this respect. Several funds are paying dividends that are barely covered, which clearly has implications for future dividend growth. In other cases, notably Foresight Solar, HICL Infrastructure, JLEN and NextEnergy Solar, raising dividend cover had become a priority: all four have recently reported improved cash dividend cover. Unquestionably, in framing their future dividend targets, IICs and REIFs will be very mindful of their level of projected dividend cover and how it might change going forward.

Most yields now lie in the 5.0% to 7.5% range – 3i Infrastructure's growth profile makes it a clear outlier with a 3.7% prospective yield

The table below shows projected dividend payments and the relevant prospective yields for the quoted IICs and REIFs. The underlying prospective yields vary quite considerably, but most lie within the 5.0%-7.5% range. Despite several IICs and REIFs having quite low dividend cover, most are targeting modest nominal dividend increases. Such a scenario is, admittedly, unexciting. However, when set alongside the shock 58% per share dividend cut imposed by the UK's leading gas supply company, Centrica, in 2019, such increases are arguably acceptable.

Prospective dividends

IICs and REIFs	Financial year-end	Prospective dividend (p)	Prospective yield
3i Infrastructure	Mar	11.90	3.7%
Aquila Energy Efficiency	Dec	0	0
Aquila European Renewables	Dec	4.79	6.8%
Asian Energy Impact	Dec	1.04	n/a
Atrato Onsite Energy	Sep	5.00	6.9%
BBGI	Dec	7.93	5.6%
Bluefield Solar	Jun	8.80	7.5%
Cordiant Digital Infrastructure	Mar	4.00	5.3%
Digital 9 Infrastructure	Dec	1.50	5.0%
Downing Renewables and Infrastructure	Dec	5.38	6.1%
Ecofin US Renewables Infrastructure	Dec	2.77	6.4%
Foresight Solar	Dec	7.55	7.4%
GCP Infrastructure	Sep	7.00	9.7%
Gore Street Energy Storage	Mar	8.00	9.0%
Greencoat Renewables	Dec	5.59	6.4%
Greencoat UK Wind	Dec	10.00	6.6%
Gresham House Energy Storage	Dec	5.51	5.1%
Harmony Energy Income	Oct	8.00	10.1%
HICL Infrastructure	Mar	8.25	5.9%
HydrogenOne Capital Growth	Dec	n/a	n/a
INPP	Dec	8.13	5.9%
JLEN	Mar	7.57	7.4%
NextEnergy Solar	Mar	8.35	9.1%
Octopus Renewables Infrastructure	Dec	5.79	6.4%
Pantheon Infrastructure	Dec	4.00	4.8%
SEEIT	Mar	6.24	9.6%
Sequoia Economic Infrastructure	Mar	6.88	8.1%
TRIG	Dec	7.18	6.3%
Triple Point Energy Transition	Mar	5.50	8.3%
US Solar	Dec	4.47	10.4%
Victory Hill GSEO	Dec	5.52	7.1%

Source: Company accounts, Hardman & Co Research

Reassuring dividend resilience

Overall, though, the dividend payout record in recent years from the IICs and REIFs has been reassuring, especially when set alongside the intense financial pressures that other UK energy stocks, such as Centrica, have faced. With the relative lack in the market of good-quality stocks on decent yields, and the many dividend cuts and/or suspensions by well-known quoted companies over the past few years, it is hardly surprising that IICs and REIFs attracted the interest of many discerning yield-driven investors. Of course, this confidence has been seriously eroded of late by increases in interest rates and their negative impact on both valuations and sector share prices.

Consistent NAV premia – the Severn Trent RAV contrast with IICs/REIF NAVs

Except for the period in the spring and summer of March 2020, when the COVID-19 pandemic panic was at its height, many IICs and REIFs continued – until mid-2022 – to trade at a good premium to their NAV, in common with utilities such as regulated water stocks. Severn Trent, for example, is currently trading at a ca.15% premium to its regulatory asset value (RAV, a similar concept to NAV, is used by price-regulated utilities) despite the forthcoming PR24 periodic review.

The worm has turned

In just 18 months, this premium-based scenario has changed very markedly, with all 31 IICs/REIFs now trading at a discount to their NAVs – many discounts exceed 30%. Once interest rates fall, it is likely – although not certain – that these discounts will fall quite markedly, at least for most funds. Whether IICs, such as BBGI, recover to trade at a 25% premium to its NAV, as was the case as recently as 2022, remains to be seen.

Lower-capitalised IICs and REIFs

The smaller infrastructure players

Seven of the 31 IICs and REIFs have a current market capitalisation of over £1bn; these were assessed previously. Prospects for the two largest digital infrastructure players, Cordiant Digital Infrastructure and Digital 9 Infrastructure, along with GCP infrastructure, were also addressed earlier. In addition, the business activities and financial prospects of the three solar funds – Bluefield Solar, Foresight Solar and NextEnergy Solar – as well as those of SEEIT, JLEN and Gresham House Energy Storage have also been discussed earlier in this report.

With the exception of Octopus Renewables Infrastructure, at £509m, the remaining IICs and REIFs all have market capitalisations below the £500m mark. At the lower end of the market capitalisation scale are some REIFs, which are currently valued at below £100m; they include Aquila Energy Efficiency, Ecofin US Renewables Infrastructure, HydrogenOne Capital Growth and Triple Point Energy Transition. Asian Energy Impact, whose shares are currently suspended, would also – in all probability – fit into this category.

BESS is of real interest to value-seeking investors

Over the past four years, interest in BESS technology has undoubtedly increased. Hence, the business models of Gore Street Energy Storage, Gresham House Energy Storage and Harmony Energy Income have all been highlighted. While they offer some characteristics of a typical REIF – they are listed as such under the AIC criteria – their business models and their cashflows are materially different from those of a relatively mature wind and solar generation business.

Many 2021 IPO businesses are struggling

For the non-digital infrastructure 2021 sector entrants – Aquila Energy Efficiency, Asian Energy Impact (formerly ThomasLloyd Energy Impact), Atrato Onsite Energy, Harmony Energy Income, HydrogenOne Capital Growth, Pantheon Infrastructure and Victory Hill GSEO – it is still relatively early days. However, most of these IICs/REIFs have suffered challenges and their financial performance, in most cases, will be very different from their mid-case modelling assumptions prior to their IPOs. Aquila Energy Efficiency and HydrogenOne Capital Growth, in particular, have seen their share prices fall sharply in 2023: Asian Energy Impact's shares, once – and if – the suspension is lifted seem very likely to trade at well below their pre-suspension price.

Brief profiles of the smaller REIFs and of Pantheon Infrastructure are set out below.

Aquila Energy Efficiency (market cap. £57m)

AQUILA CAPITAL

Investment sectors: At its IPO in May 2021, Aquila Energy Efficiency emphasised its commitment to delivering energy efficiency projects in both the public and private sectors. Key markets included Italy, Spain, Germany and the UK. However, these aspirations have been overtaken by subsequent corporate events, with the pivotal "continuation" resolution being voted down in February 2023. As such, Aquila Energy Efficiency has been placed in a "managed run-off" status. The aim now is to sell its assets at acceptable prices, while eschewing any further investment (with a few minor exceptions). Unless a single buyer emerges, dismantling Aquila Energy Efficiency may be a lengthy and complex process.

Portfolio: Delivering completed energy efficiency deals has been painstakingly slow for Aquila Energy Efficiency – a major issue for some shareholders when voting in the "continuation" resolution in February 2023. Compared with other REIFs, Aquila Energy Efficiency has been very tardy in deploying the £100m (gross) of proceeds that it raised at its May 2021 IPO. The portfolio that is now being offered for sale includes various energy efficiency-related assets, such as solar PV installations and lighting systems, in four countries as follows:

- Italy, where £37m has been committed and £33m deployed, mainly via Noleggio Energia;
- Spain, where £29m has been committed and £11m deployed;
- Germany, where £22m has been committed and £19m deployed; and
- UK, where £6m has been committed and £5m deployed.

Disengaging from the committed Spanish investment may prove to be particularly challenging. Furthermore, many of the investments are subject to long-term contracts, many of which will need to be renegotiated.

Financial/share price data: In recent quarters, Aquila Energy Efficiency's NAV figure has been edging downwards – in June 2023, it was 93.5 per share. The book value of its assets was £66m, to which the June 2023 net cash balance of £29m should be added. While a 3.50p per share dividend for the 2022 financial year was paid, it seems unlikely that any dividends will be paid in respect of the 2023 financial year – unless planned sales exceed expectations. Given the corporate turmoil that it has experienced in 2023, it is hardly surprising that Aquila Energy Efficiency's share price has been weak – down by over 20% during the last year and currently trading at a 39% discount to its NAV – as "the managed run-off" process continues. All in all, a sad end to the hopes and aspirations of Aquila Energy Efficiency's backers at the IPO back in May 2021.

Aquila European Renewables (market cap. £265m)

AQUILA CAPITAL

Investment sectors: Aquila European Renewables is based in Hamburg, Germany, a country that will undergo major energy changes over the next decade. Offshore wind generation plant, despite rapidly rising costs, is set to replace many of the decommissioned nuclear power plants. Significantly, wind power and solar power are Aquila European Renewables' preferred technologies; they have been the core of the business since the IPO in May 2019. However, in common with Aquila Energy Efficiency, there has been shareholder discontent – albeit with a different outcome. In the case of Aquila European Renewables, a "continuation" motion was carried, with 74% of votes in favour – a further "continuation" vote is expected in the autumn of 2024. Recently, the larger Octopus Renewables Infrastructure has publicly proposed that it should combine with Aquila European Renewables, whose board has not yet announced a substantive response to the proposal.

Portfolio: Prior to 2023, Aquila European Renewables had expanded aggressively: it now has an operational generation capacity of 454MW (the 13.7 % stake in The Rocks plant in Norway is included in this figure). Its mantra is simple – wind generation in northern Europe, solar generation in southern Europe: in terms of technology, its capacity is split on 231MW solar and 198MW wind basis, with the remaining 25MW being supplied by hydro power in Portugal. On a country basis, Spain is, by some way, its key market, accounting for 42% of capacity, followed by Norway at 17%, Portugal at 15% and Denmark at 14%. Also, unlike any other REIF, Aquila European Renewables has invested directly in Greece where it owns the 40MW solar generation plant at Desfina. Irrespective of the proposed "continuation" resolution in the autumn of 2024, Aquila European Renewables seems unlikely to undertake further major investment, although some consolidation – through working existing assets harder – is expected: wind output in 1H'23 was 15% below budget. However, if the Octopus Renewables Infrastructure combination proposal is approved, this scenario would assuredly change.

Financial/share price data: Aquila European Renewables' NAV has been flatlining at best. At September 2023, its NAV was 89.3p (c102.6) per share, with its shares trading at a 22% discount: indeed, during 2023, the shares were down by 20%. Following its IPO in May 2019, Aquila European Renewables raised further funds in both 2020 and 2021 as it expanded its generation portfolio. In 2023, by contrast, it has embarked on a share buyback programme as it seeks to raise its NAV per share. With respect to dividends, a target payment of 4.79p (c5.51) per share has been confirmed for 2023. On the corporate front. more radical action has been flagged – Chairman, Ian Nolan, recently stated that we are "committed to pursuing broader options if that value fails to be reflected in the share price".

Asian Energy Impact (SHARES SUSPENDED)

Asian Energy Impact Trust

Investment sectors: When Asian Energy Impact (the former ThomasLloyd Energy Impact), undertook its IPO in December 2021 and raised £100m of gross proceeds, it broke new ground for the REIFs since its planned investments were in Asia, in which some 4.6bn people currently live. India and the Philippines were particularly favoured as target markets. In recent months, these aspirations have been halted, with serious delays in the submission of its accounts, which culminated in the suspension of trading in its shares on 25 April 2023. Subsequently, there has been deep-seated and acrimonious disagreement between Asian Energy Impact's board, the investment managers and major shareholders, including ThomasLloyd. The shares remain suspended more than eight months later.

Portfolio: Although Asian Energy Impact has a significant involvement in the Negros Solar Power plant operating in the Philippines, the most intractable problem has arisen from the plan by the fully owned SolarArise, a New Delhi-located solar generation company, to build a solar farm at the Rewa Ultra Mega Solar Park (RUMS): contracts have been signed. There are very different viewpoints, which have been strongly expressed about this planned investment. According to some who have assessed the project, its financial viability is dubious at best – and, therefore, it should not be built. However, if the project were scrapped, there are substantial financial "abandonment" penalties for which Asian Energy Impact would be liable. This issue, along with the profound disagreement to which it has given rise, has curtailed other portfolio investments.

Financial/share price data: For the record, Asian Energy Impact's latest NAV, at September 2023, was 39.9p (c50.4) per share – around half of the September 2022 figure as heavy one-off adjustment charges were made to the accounts. RUMS is reportedly now valued at a negative $14.6m (£11.5m). A dividend of 1.39p (c1.76) per share is expected for this year. Whether the longer-term dividend policy – stated in the 2021 Prospectus as yielding 7%+ by year three – can be met is very questionable. Indeed, following an 81% vote not to proceed towards voluntary winding-up, a strategic review has been commissioned, whose recommendations are due shortly. Furthermore, the long-delayed 2022 annual results, along with the 1H'23 results, are also due to be published. Only when they are issued, can the suspension of trading in the shares of Asian Energy Impact be removed – providing the FCA agrees. This highly unusual state of affairs at Asian Energy Impact – and the vituperative exchanges of views in public, especially within the staid world of investment trusts – has few precedents. To what extent they have – irrevocably or not – damaged Asian Energy Impact's appeal to investors remains to be seen.

Atrato Onsite Energy (market cap. £108m)

ROOF
ATRATO ONSITE ENERGY

Investment sectors: The core business of Atrato Onsite Energy lies in the domestic energy market. More specifically, though, it focuses on the installation of energy equipment on the rooftops of commercial properties; supermarkets, such as Tesco, are obvious targets. Solar PV installations are central to its business, as demonstrated by two key acquisitions, notably the £77m ASG deal for 34MW of capacity and the 55MW Skeeby project in North Yorkshire; the latter is due to be fully energised by the end of 1Q'24.

Portfolio: In having fully committed all its IPO proceeds – unlike some other REIFs – Atrato Onsite Energy has built up its portfolio, which includes some high-profile names. Currently, it has solar PV capacity of 147MW, a figure that is due to rise to 182MW once all the planned installations are completed by April 2024. Clearly, managing the 34MW capacity generated by the ASG acquisition is key, along with ensuring the satisfactory completion of the Skeeby project, which is the subject of a three-year PPA with Ovo Energy, the UK's third-largest domestic energy supplier. At present, Atrato Onsite Energy is operating on multiple sites, many occupied by household names, such as Tesco, Nissan, Amazon and the private equity-owned Anglian Water. Importantly, 93% of Atrato Onsite Energy's revenues are either the subject of PPAs or are actual subsidies.

Financial/share price data: Atrato Onsite Energy's NAV, at September 2023, was 92.0p per share, which was marginally below the 92.8p per share that was reported for September 2022 – and it remains flat. Furthermore, Atrato Onsite Energy's share price, at just 72p, languishes currently at a 22% discount to its NAV. A dividend payment of 5.00p per share is being targeted for 2022/23, which is due to increase to 5.50p for 2023/24. Atrato Onsite Energy's share price fell by over 24% in 2023 and is now 28% below the IPO price in November 2021, despite raising £150m of new equity from an issue in which applications covered "the maximum IPO size multiple times". Times have certainly change

Downing Renewables and Infrastructure (market cap. £159m)

Investment sectors: Since its IPO in 2020, Downing Renewables and Infrastructure has been quietly building up a portfolio of generation investments in its key European market of Sweden, where it has been focusing on small hydro-electric plants and, to a lesser extent, on the wind sector. It has also invested in the solar market in the UK. Further corporate activity, including further "tuck-in" acquisitions in Sweden. looks likely.

Portfolio: Central to building its generation capacity to its current figure of 199MW was the £60m deal with Fortum AB to buy eight – mainly run-of-river – plants in Sweden, with a capacity of 26MW. Subsequently, it has acquired further hydro plants there to boost its Swedish capacity to half of its total capacity. Gabrielsberget Syd Vind, a 46MW onshore wind farm, is Downing Renewables and Infrastructure's largest single asset. To boost its solar power portfolio, Downing Renewables and Infrastructure invested £42m to acquire additional capacity of 96MW in the UK. In terms of power sources, the latest split shows solar accounting for 46% of capacity and hydro-power accounting for 40%. Both these figures have been calculated before two recent acquisitions, namely the £7.3m investment in Project Blue, a grid business in northern Sweden, and Mersey Reactive Power, a UK business, costing £11m – the latter has key contracts with National Grid until 2031.

Financial/share price data: Downing Renewables and Infrastructure's shares have performed poorly in 2023 – down by almost 21%; currently, they trade at a 26% discount to the latest NAV of 118.7p per share, as at September 2023. The assumed portfolio valuation discount rate now has a weighted average of 7.7% – ranging from 6.5% for the unlevered Swedish wind assets to 8.0% for levered UK solar and Swedish hydro-plants. For 2023, Downing Renewables and Infrastructure has reaffirmed a dividend of 5.38p per share – an impressive 7.6% increase on the 2022 figure. Furthermore, it is expecting dividend cover to be between 1.4x and 1.6x between 2024 and 2026 – a very reassuring statement to those investors fearing a dividend cut. Although Downing Renewables and Infrastructure raised over £122m of proceeds (gross) at its IPO in December 2020 and a further £53m (gross) in June 2022, additional funds may be needed, as it seeks to expand further in Sweden. Downing Renewables and Infrastructure has confirmed that co-investors could become involved.

Ecofin US Renewables Infrastructure (market cap. £59m)

Investment sectors: In common with its struggling US counterpart, US Solar, Ecofin US Renewables Infrastructure is facing challenging times. Like several other REIFs, it has commissioned a strategic review, which may see assets sold and the business wound down. On the operational front, the focus remains both on the solar operations and on the Whirlwind Energy wind plant in Texas, which incurred collateral damage from a tornado: a key transmission station nearby, used by Ecofin US Renewables Infrastructure, was put out of action. In 2020, a successful IPO on the LSE was undertaken; it was followed by a build-out of a solar generation portfolio across eight states. However, recent shareholder discontent has given rise to the strategic review and the search for radical shareholder value-enhancing solutions.

Portfolio: Ecofin US Renewables Infrastructure now owns capacity of 177MW of renewable generation; this figure was recently boosted by the addition of 20MW of new capacity. Operations extend across eight states, including Texas, California and Massachusetts. At the heart of the portfolio are the 65 separate assets, almost all of which are solar plants. However, the largest capacity unit is the 60MW Whirlwind Energy wind farm in Texas. Following a tornado in June 2023, it has been offline subsequently and is in the process of being re-energised. Given its size, its outage has, not surprisingly, had a major impact on the finances of Ecofin US Renewables Infrastructure.

Financial/share price data: With a share price that fell by 32% in 2023 and a current trading discount of 39% to its September 2023 NAV of 70.4p (c89.1) per share, these are difficult times for Ecofin US Renewables Infrastructure. Primarily due to the prolonged Whirlwind Energy outage, the 2023 full-year dividend is set to be cut to 2.77p (c3.50) per share – well short of the expected figure earlier in the year. At its IPO in 2020, when Ecofin US Renewables Infrastructure raised $125m (£99m) of gross proceeds, the focus was on acquisitions. Now, with concerns about structural changes affecting the US solar generation sector, the surprise resignation of three of its well-established investment managers in July 2022, the Whirlwind Energy outage and a cut dividend have combined to destabilise Ecofin US Renewables Infrastructure. Apart from stabilising the business, the focus now seems likely to move towards asset disposals and how the best sale prices can be achieved.

Gore Street Energy Storage (market cap. £441m)

Investment sectors: Gore Street Energy Storage, based in the RoI, continues to invest in a diversified portfolio of utility-scale BESS projects – it operates in the same space as the larger Gresham House Energy Storage. Despite its RoI base, the key revenue drivers currently are the two 50MW plants in NI. Aside from its GB operations, Gore Street also owns a 90% stake in the Cremzow plant in Germany and, through its ERCOT business, three 10MW plants in Texas, US. On the commercial front, Gore Street Energy Storage uses battery cell technology to provide frequency balancing services to grid operators – undoubtedly an expanding market as supply constraints endure.

Portfolio: Initially, Gore Street Energy Storage was focused on the UK and on the RoI, where it has been assembling a portfolio of BESS investments. With the recent energisation of its 80MW Stony plant, Gore Street Energy Storage now owns 372MW of operating assets. Importantly, the two 50MW NI plants at Drumkee and Mullavilly – with their distinctly favourable margins on the D53 revenues – deliver the bulk of overall EBITDA returns. In the RoI, the two BESS plants – Porterstown and Kilmannock – are expected to increase their capacity in the medium term. On the international front, Gore Street Energy Storage continues to expand. Currently, through ERCOT, it has three plants in Texas as well as holding a 90% stake in a project at Cremzow in Germany. Looking forward, Gore Street Energy Storage has two particularly large projects, namely the construction of the planned 200MW Big Rock plant in California and a similarly sized plant at Heysham, Lancashire –

commissioning of the latter is unlikely before 2026. Given the current financial climate and its weak share price, financing the pipeline – or even part of it – may not prove straightforward.

Financial/share price data: With a share price that fell by over 20% in 2023 alone – and is now trading at a 21% discount to its NAV – Gore Street Energy Storage is facing challenges. Its latest NAV, as at September 2023, was 112.9p per share; this figure was struck after an increase in its discount rate to 10.3% – a figure way above the 6%-8% range used to value its GB assets in 2020/21 and one which is more in line with that of Gresham House Energy Storage, its nearest comparator. For 2023/24, Gore Street Energy Storage is planning to pay a dividend of 8.00p per share. To finance its aggressive expansion, Gore Street Energy Storage raised £150m of gross proceeds, in April 2022, and negotiated a $60m (£76m) loan against its Big Rock project in California. Elsewhere in the US, it recently issued 14m new shares to Nidec Motor Corporation, one of its suppliers, at the NAV figure of 112.9p per share, thereby raising gross proceeds of £15.8m.

Harmony Energy Income (market cap. £179m)

Investment sectors: In common with Gresham House Energy Storage and Gore Street Energy Storage, the focus of the Yorkshire-based Harmony Energy Income is unambiguous – developing and operating commercial-scale BESS plants. Harmony Energy Income's current operating BESS capacity totals 228MW, a figure that – given the "under construction" status of several of its projects – is set to rise sharply over the next 18 months. All these plants are located in the UK.

Portfolio: The current operating capacity is 278MW; this figure includes the recently completed Little Raith BESS. The portfolio is dominated by two plants. The lead project has been at Pillswood, near East Cottingham in East Yorkshire, which is now operational: its total capacity is 196MW, 98MW of which is attributable to Harmony Energy Income. The other major project is the 99MW Bumpers Farm facility in Buckinghamshire; this plant, too, is now operational. Several other projects, including Hawthorn Pit in County Durham and Wormald Green in Yorkshire are due to be energised in 1Q'24 and 2Q'24, respectively. However, the Rye Common "shovel-ready" site in Hampshire was recently sold, essentially to enable the two aforementioned projects to be financed. On the commercial front, the operational portfolio has had a mixed year with lower-than-expected revenues. However, National Grid ESO's launch – albeit somewhat delayed – of the OBP should provide a boost to revenues.

Financial/share price data: Harmony Energy Income's NAV, at October 2023, was 115.4p per share: it was boosted by the energisation of the Pillswood and the Bumpers Farm plants. However, its share price performance in 2023 was very poor, recording a 35% decline: the shares are now trading at a discount to its NAV of over 31%. In terms of its dividend policy, Harmony Energy Income plans to pay an 8.00p dividend per share in its 2022/23 financial year, which ended in October 2023. At its IPO in November 2021, Harmony Energy Income raised proceeds of £210m (gross), much of which was deployed in completing the building of its seed assets, most notably the Pillswood project. Subsequent fundraising initiatives have been rather more challenging. Its planned fundraising in the autumn of 2022 was very poorly supported, with just £15m of proceeds (gross) being raised out of a maximum of £130m (gross) being sought. Subsequently, it was decided to sell the "shovel-ready" Rye Common project to raise funds for other construction projects.

HydrogenOne Capital Growth (market cap. £64m)

Investment sectors: While the hydrogen market has excited many investors, the share price performance of the sector in 2023 was far less satisfactory. In theory, HydrogenOne Capital Growth is well-positioned to deliver significant benefits to shareholders, now that it has secured shareholdings in 10 private investments. However, to date, HydrogenOne Capital Growth has not identified a single specific element of the emerging hydrogen market on which to focus, although over half of its exposure is currently related to the supply chain. More generally, the hydrogen market is racked with uncertainties, not least with current government policy, both in the UK and in the EU. The scope for inserting hydrogen – up to a certain level – into the UK domestic gas network remains an aspiration; two recent planned trials on the Wirral and in Redcar have now been abandoned.

Portfolio: Recently, HydrogenOne Capital Growth provided an update of its 10 private investments, eight of which are currently generating revenues. Three of these investments accounted for 52% of its NAV. The largest is the stake in Sunfire, a German industrial electrolysis producer, which accounts for 19.4% of NAV. Just over 17% of NAV is attributable to Elcogen, whose head office is in Estonia. Elcogen supplies solid oxide fuel cells and electrolysis components. Importantly, the South Korean conglomerate, HD Hyundai, has confirmed a €45m (£39m) investment in Elcogen – undoubtedly, this is a major boost. The third-most important investment, accounting for just over 15% of NAV, is Strohm Holdings, a hydrogen pipeline business. Given that most of the net proceeds from HydrogenOne Capital Growth's July 2021 IPO have been invested, it was no surprise that 2023 was quite quiet on the corporate front. With the current very weak share price, this pattern may be repeated in 2024.

Financial/share price data: HydrogenOne Capital Growth had a very poor 2023, with its shares falling by 38% during the year; this was partly sector-related, driven by the very adverse interest rate environment. Nevertheless, with its September 2023 NAV of 101.4p, this indicates a heavy discount of almost 51% to NAV. Moreover, this decline took place against an NAV that had actually risen by 5% in September 2023 over September 2022. In terms of its discount rate, this has recently been raised to 13.5%, a figure that is well above that of any other IIC/REIF, including the average 11.8% discount rate used by Digital 9 Infrastructure. It should be noted that HydrogenOne Capital Growth, as its name implies, has no interest in paying large dividends, but it does seek to make sufficient payments to enable it to retain its investment trust status; in the absence of any guidance, we have assumed a zero dividend per share for 2023. At its IPO in July 2021, HydrogenOne Capital Growth raised proceeds of £107m (gross) as investor interest soared: a further £21m (gross) was raised in April 2022. Subsequently, the fortunes of HydrogenOne Capital Growth have foundered – to the concern, no doubt, of many shareholders, who have not benefited from the growth implied by the fund's name.

Octopus Renewables Infrastructure (market cap. £509m)

Investment sectors: Octopus Renewables Infrastructure undertook its IPO in December 2019. Subsequently, it has built up a strong portfolio of renewable generation assets, with a capacity of 603MW (post the two recent plant sales – amounting to a combined 59MW – in Poland). The investment strategy is very pan-European as Octopus Renewables Infrastructure continues to focus on the wind and solar generation markets; it is now increasingly participating in offshore wind generation projects. Furthermore, its recent proposal to combine its business with the smaller Aquila European Renewables would, if accepted, offer real opportunities to expand further, especially in mainland Europe. A substantive response regarding this proposal from Aquila European Renewables remains outstanding.

Portfolio: After excluding its two Polish plants, which are being sold – with a combined capacity of 59MW – Octopus Renewables Infrastructure owned, as at

September 2023, total generation capacity of 603MW, split almost 50%/50% between wind and solar. In the UK, following the Breach Solar acquisition in Cambridgeshire, Octopus Renewables Infrastructure now owns an additional 123MW of solar plant capacity. Offshore, it recently increased its stake in the 270MW Lincs project to 15.5%: this investment now accounts for 16% of its GAV. More generally, Octopus Renewables Infrastructure is now active in many leading EU markets, including France, the RoI, Sweden and Finland. Indeed, its 120MW solar portfolio in France remains its most significant international deal to date. Substantial solar generation investment is currently under way in both RoI and Spain, although the option to acquire 175MW of ready-to-build solar capacity in the latter country has recently been terminated. Octopus Renewables Infrastructure has also acquired 48MW of wind capacity in Sweden. However, it has recently sold its two wind generation plants in Poland, with a combined capacity of 59MW, at a premium to book value of 21%.

Financial/share price data: Octopus Renewables Infrastructure's share price, down by 10% in 2023, has performed rather less poorly than many of its peers. Nevertheless, its shares are currently trading at a 16% discount to its NAV, as at September 2023, of 107.0p per share. The dividend profile is distinctly positive. For 2023/24, a 5.79p dividend per share is being targeted, up by a reassuring CPI-linked 10.5%, while an upgraded dividend target of 6.02p per share for 2024/25 has just been announced. Furthermore, Octopus Renewables Infrastructure has confirmed that it expects its dividend cover to be around 1.7x until at least 2027. Having raised equity proceeds of £774m (gross) between its IPO in 2019 and 2022, there appears to be no immediate need for additional funding, despite a formidable investment pipeline. However, if the proposed combination with Aquila European Renewables is completed, the financial policies of both funds are likely to be reviewed.

Pantheon Infrastructure (market cap. £393m)

PANTHEON
INFRASTRUCTURE
PLC

Investment sectors: Pantheon Infrastructure's investment focuses on digitalisation and power infrastructure; it has ambitious and wide-ranging plans. At its IPO in November 2021, it identified the following sectors as possible targets: digital infrastructure, renewables and energy efficiency, power and utilities, transport and logistics, and social investment. Under the transport and logistics head, ports, rail, road and airports were also cited. Pantheon Infrastructure had been seeking to acquire between eight and 12 assets by the autumn of 2022 – a target that has been achieved. However, the pulling of its proposed £250m C shares issue in September 2022 – at the height of the mini-Budget controversy – was an undoubted setback and has been a constraint as Pantheon Infrastructure seeks to expand its portfolio. Persistently high interest rates have also raised valuation issues about possible targets.

Portfolio: To date, as the table below shows, almost £460m has been invested by Pantheon Infrastructure, mostly during 2022, in 13 different projects – thereby averaging ca.£35m per project. They have been spread across several sectors – digital infrastructure, now accounting for over 40% of investments, and power/utilities/renewables, at ca.35%, being the most prominent. In terms of markets, ca.75% of its assets are located either in Europe, with 41%, or in North America, with 34%: the UK element is a modest 8%.

The table below lists the acquisitions recently completed by Pantheon Infrastructure since its IPO and the costs involved.

Pantheon Infrastructure acquisitions since IPO				
Company	Date	Sub-sector	Region	Cost (£m)
Primafrio	3/22	Transport/logistics	Spain	44
CyrusOne	3/22	Digital data centre	North America	28
National Gas	3/22	Gas transmission	UK	41
Vertical Bridge	4/22	Digital towers	North America	27
Delta Fiber	4/22	Digital fibre	Netherlands	24
Cartier Energy Holdings	5/22	District heating	North America	33
Calpine	6/22	Electricity generation	North America	48
Vantage Data Centers	7/22	Digital data centre	North America	27
Fudura	7/22	Renewables	Netherlands	45
National Irish Broadband	11/22	Digital fibre	RoI	47
GD Towers	1/23	Digital towers	Germany/Austria	40
Global Connect	6/23	Digital infrastructure	Sweden	20
Zenobe	9/23	Battery storage	UK	35

Source: Pantheon Infrastructure plc

The £48m investment in Calpine is, arguably, Pantheon Infrastructure's most significant project to date – it is also the most expensive. Calpine is the largest generator of electricity from natural gas and geothermal resources in the US. In time, Pantheon Infrastructure's portfolio may begin to resemble that of 3i Infrastructure – but with less risk, lower returns and higher US exposure.

Financial/share price data: Pantheon Infrastructure's NAV, as at September 2023, was 106.6p per share compared with 98.9p per share at December 2022. With its shares falling by almost 10% during 2023, they are now trading at a discount of over 25% to the NAV. In November 2021, Pantheon Infrastructure's IPO had been very strongly supported in that its £300m fundraising target was easily reached; eventually, a figure of £400m was prescribed – a very different scenario from the pulled C shares issue in September 2022. Subsequently, Pantheon Infrastructure has been undertaking a share buyback programme, suggesting that consolidation – rather than further expansion – has become more of a priority. In terms of dividends, it plans to pay 4.00p per share for 2023

Triple Point Energy Transition (market cap. £66m)

Investment sectors: Triple Point Energy Transition (formerly Triple Point Energy Efficiency) undertook its IPO in October 2020 and raised £100m (gross) of proceeds at the same time. Just over three years later, there was an RNS announcement that – subject to shareholder approval – the fund would "move towards an orderly realisation of assets". Currently, Triple Point Energy Transition's assets are dominated by small hydro-power plants, of which Loch Blair is the largest, and BESS plants, of which the Auchteraw facility has the highest capacity at 50MW. These two sectors account for almost 75% of Triple Point Energy Transition's deployed and committed portfolio; the remainder is mainly CHP plants. To realise good returns from the sale of these assets will not be straightforward.

Portfolio: In the past, Triple Point Energy Transition had sought acquisitions within its preferred £5m to £30m band. Currently, it has 20 assets, all of which are likely to be sold. Over 40% of these assets are small hydro plants in the UK, most of whose revenues are underpinned by Feed-in-Tariffs (FiTs). On the back of its fixed rate debt facility provided to Virmati Energy, which is now being run down, BESS plants have been of major interest to Triple Point Energy Transition. Indeed, this element accounts for over 30% of its invested and committed funds. Much of the remaining investment has been in CHP-related assets via the Teesside-based Spark Stream. In the light of the recent "orderly realisation" announcement, further uncommitted acquisitions are very unlikely.

Financial/share price data: Triple Point Energy Transition's share price has fallen by almost 18% during 2023, with the shares now trading at a discount of nearly 31% to the NAV of 95.1p, as at September 2023. This scenario was instrumental in the pivotal RNS announcement of 13 December 2023. In terms of dividends, a full-year payment of 5.50p per share is expected for the 2023/24 financial year. Thereafter, it is likely that there will be realisation payments to shareholders as the assets are sold down – a sad end to a niche business, which focused on key issues, such as investing in energy efficiency.

US Solar (market cap. £143m)

Investment sectors: At its IPO in April 2019, US Solar set out its policy to invest in solar power assets, predominantly in the US, where many states offer attractive financial incentives for such investment. Subsequently, a solar generation portfolio was assembled, mainly on the east and west coast of the US, as well as in Utah. However, in common with Aquila Energy Efficiency and Triple Point Energy Transition, there has been major disquiet among shareholders. In US Solar's case, a strategic review was commissioned to assess the options available whereby shareholder value could be maximised. The options presented included selling the portfolio and returning the net proceeds to shareholders, selling the fund outright, or replacing the investment managers. US Solar's board chose the latter – and easier – option.

Portfolio: Since 2019, US Solar's focus has been on investing in states on the US east and west coasts, as well as operating its core 128MW Milford plant in Utah. Following the $52m (£41m) sale, in June 2023, of its 50% stake in the Californian-based Mount Signal 2 plant, US Solar now has a portfolio of 443MW of solar generation capacity across four states. Its largest investment – 28 plants in all – is in North Carolina, with a capacity of 168MW. Aside from the Milford facility, the 10 plants in Oregon are also pivotal to US Solar's underlying valuation.

Financial/share price data: In April 2019, US Solar had raised proceeds of $200m (£158m) (gross) at its IPO. However, its share price has been particularly weak over 2023, falling by 39%. It is currently trading at a 37% discount to its NAV figure of 68.1p (c86.20) per share, as at September 2023; over the past nine months, its NAV has fallen by more than 10%. The persistent – and heavy – trading discount to US Solar's NAV was a major factor cited by the board for its decision to commission a full strategic review. Despite these uncertainties, a 4.47p (c5.66) dividend per share is planned for the 2023 financial year. Given the seasonal cashflow profile, US Solar's dividends in the latter part of the year have tended to be higher than those earlier in the year. Undoubtedly, US Solar's overtly expansionist strategy has been curtailed by material structural changes adversely affecting the US solar sector – and its likely commercial and financial returns. Significantly, US Solar is currently not seeking new investment opportunities.

Victory Hill GSEO (market cap. £324m)

Investment sectors: At its IPO in January 2021, Victory Hill GSEO planned to "invest in a diversified portfolio of global sustainable energy infrastructure assets" – it has certainly done so. Its targeted investments are widespread and, to some eyes, rather eclectic, except for their main emphasis on the energy sector. Three years after its IPO, Victory Hill GSEO now has major investments in Brazil – notably, the 198MW Mascarenhas hydro-plant – as well as in the US: the UK and Australian portfolios are, so far, quite modest.

Portfolio: In Brazil, Victory Hill GSEO has acquired the 198MW run-of-river hydro-plant at Mascarenhas, in Espirito Santo state, which was previously owned by EDP, the leading Portuguese utility. The cost was ca.£115m – around two-thirds of which is payable upfront; the remainder is being deferred. This plant has been operational since 1974. Elsewhere in Brazil, Victory Hill GSEO is investing in a portfolio of 16 remote solar distribution plants in several states. Its US investments are also very material, notably the ca.£76m ($96m) that was spent on acquiring two terminal storage sites on the Texan coast. In the UK, Victory Hill GSEO is investing in carbon reduction projects. Its lead UK investment is to fund two flexible CHP plants, with a combined capacity of 45MW, one of which is a 10MW plant in Nottingham and the other, at 35MW, in County Durham; after some delays, the former plant is due to be fully commissioned shortly. Investing in solar power in Australia is also an aspiration for Victory Hill GSEO, but it is still early days. However, in common with Foresight Solar, progress in Australia has been slow. Recently, though, three small solar PV sites in New South Wales were energised.

Financial/share price data: With a share price fall of 24% during 2023, Victory Hill GSEO's shares are now trading at a discount of 26% to its latest NAV, as at September 2023, of 105.7p. With dividend cover of 1.3x, it is planning to pay a 5.52p per share dividend in respect of its 2023 financial year. Having raised more than £460m of gross proceeds over the past three years, Victory Hill GSEO's finances are stronger than most REIFs. To boost its NAV, a share buyback programme is under way, albeit at a distinctly modest level, namely a maximum £10m. Going forward, the key Mascarenhas hydro-plant in Brazil will be pivotal in driving the cashflow of Victory Hill GSEO – with 60% of its revenues subject to long-term PPAs. During 2023, it was reported that this plant had performed over budget.

Environmental Investment Trusts (EITs)

Impax Environmental leads the trio

Although their business models are somewhat different from those of the 31 IICs and REIFs analysed in this document, we also assess briefly the three Environmental Investment Trusts (EITs), which are classified as "Environmental" by the AIC. The three stocks concerned are Impax Environmental Markets, which is capitalised at £1,117m, and the much smaller Jupiter Green and Menhaden Energy Resources.

Impax Environmental Markets (£1,117m)

Investment sectors: As an EIT that invests in the expanding environmental sector, Impax Environmental Markets focuses on four key areas: clean energy and energy efficiency; water treatment and pollution control; water technology and natural resource management; and sustainable food. Importantly, no investment in its portfolio is permitted to represent more than 3% of the fund's value.

Portfolio: In managing its diverse, environmentally orientated portfolio, Impax Environmental Markets has focused on the four key areas highlighted above. Its top 10 investments account for ca.24% of the portfolio's value. Just over one half of the portfolio is invested in the US, with a further 35% in Europe. The leading stock, with a 2.8% share of the portfolio, is PTC, a US software solutions business. Another US business, Clean Harbors, which operates in the hazardous waste sector, accounts for 2.5%, a similar figure to another US business, Littlefuse, which supplies the electronic circuits market. Within Impax Environmental Markets portfolio, there are also shareholdings in both Northland Power, a Canadian generator, and Spirax-Sarco Engineering, a UK business with expertise in the pumps sector: both stakes account for a 2.4% share of the portfolio. It is significant, too, that there is a key holding in EDP Renovaveis, a Portuguese company that is now the fourth-largest owner of renewable assets worldwide.

Financial/share price data: Having published its 2023 half-year income statement, Impax Environmental Markets has subsequently updated its NAV. Impressively, Impax Environmental Markets has grown its NAV from 250p per share at 31 December 2018 to 437p per share at the December 2023 year-end. With a current share price of 393p, it is trading at a discount of 10%. In terms of dividends, Impax Environmental Markets has recently increased its payments, which are aligned with earnings. For 2023/24, a payment of around 4.40p per share is likely, with a yield of slightly above 1%.

Impax Environmental Markets – half-year income statement 2023

(£000)	to 30/06/23	to 30/06/22
Gains/losses on investments	41,667	(255,299)
Net forex gains/losses	(2,192)	(2,355)
Income	12,569	11,625
Investment management fees	(4,789)	(5,515)
Other expenses	(754)	(664)
Activities before finance costs and tax	46,511	(252,208)
Finance costs	(1,540)	(755)
Return on ordinary activities before tax	44,971	(252,963)
Tax	(1,437)	(1,351)
Return on ordinary activities after tax	43,534	(254,314)
Return per ordinary share (p)	14.36	(83.83)

Source: Impax Environmental Markets, Hardman & Co Research

Jupiter Green (market cap. £39m)

Investment sectors: Jupiter Green is an investment trust, which "invests globally in companies that have a significant focus on environment solutions". More specifically, it looks to invest across three key sectors – infrastructure, resources efficiency and demographics.

Portfolio: In terms of markets, 39% of Jupiter Green's assets are invested in US stocks, while the remaining 61% is well diversified, with France accounting for 10%. Importantly, no stock within its portfolio accounts for more than 4%. The largest shareholding, at 3.8%, is in the French-based Veolia Environnement; a 3.7% share is accounted for by another French company, Schneider. Watts Water Technologies in the US and the Italian-based Prsymian, whose colourful history traces back to Pirelli, account for a further 3.6% each. The next most valuable shareholding, at 3.4%, is in the UK waste company, Renewi, which has integrated the well-known Shanks operations.

Financial/share price data: During a turbulent year for many of the IICs/REIFs, Jupiter Green's shares were flat – they are currently trading, though, at a 20% discount to the December 2023 year-end NAV of 251p per share. Owing to Jupiter Green's revised policy to switch its investment strategy more towards small, innovative companies, future dividend payments are expected to be either very modest or to be passed entirely.

Menhaden Resource Efficiency (market cap. £78m)

Investment sectors: Menhaden Resource Efficiency operates a "multi-asset investment strategy, which seeks to provide the best balance between risk and reward across equity, credit and private universes." Generally, it runs position in between 15 and 25 assets, mainly in the US or in Europe; resource efficiency is a key investment criterion.

Portfolio: The latest figures show that Menhaden Resource Efficiency has undertaken some major portfolio reshuffling during the past year. Currently, its portfolio has a 50% exposure to North America and a 31% exposure to Europe; this indicates a significant switch during the past year – away from the US and towards Europe. Its core holding is now the French-based Airbus, which accounts for a 12.5% share of its portfolio. In recent months, the Alphabet stake – the owner of Google – has been sold down; it now equates to a more orthodox 12.0% of the portfolio. The three next most important holdings are Microsoft, which accounts for 11.0%, and two French businesses, Safran and VINCI – with the latter pair making up 9.3% and 8.3% of the portfolio, respectively.

Financial/share price data: During 2023, Menhaden Resource Efficiency's shares rose by 12% – a very different scenario from that of the 31 IICs/REIFs under review. Yet, Menhaden Resource Efficiency continues to trade at a very pronounced discount – currently 38% – to its December 2023 year-end NAV of 160p per share; this discount persists despite a major overhaul of the portfolio. Understandably, management continues to review the various options in its very challenging quest to narrow the large – and ongoing – trading discount to NAV. To preserve its investment trust status, Menhaden Resource Efficiency is expected to pay a modest dividend, perhaps of 0.5p per share, for 2023.

Databoxes

Reproduced below are databoxes for the 31 IICs/REIFs and the three environmental stocks - they contain key financial information. In terms of Total Shareholder Returns (TSRs) – listed as "return record" in the databoxes – the relevant information, in some cases, is not readily available: the time-periods also vary. Moreover, given the poor performance of the sector's stocks during 2023, it is perhaps unsurprising that less prominence is now given to highlighting TSRs since the relevant IPO date.

3i Infrastructure

Issue	Comments
Status	IIC
Ticker/website	3IN/www.3i-infrastructure.com
Fund aim	"To maintain a balanced portfolio of infrastructure investments delivering an attractive mix of income yield and capital appreciation for shareholders"
Key sectors	Utilities, transportation and digitalisation
Key markets	EU, UK, Norway and US
Year-end	Mar
Core portfolio	ca.20 infrastructure assets
NAV per share	351.4p (09/23)
Discount rate	11.3%
Market cap./share price	£2,970m/322p
Premium/discount to NAV	-8.4%
Prospective DPS/yield	11.90p/3.7%
Return record	Since its IPO in 2007, TSR has increased by an average 11.7% per year

Source: 3i Infrastructure, Bloomberg

Aquila Energy Efficiency

Issue	Comments
Status	REIF
Ticker/website	AEET/www.aquila-energy-efficiency-trust.com
Fund aim	The fund "focuses on investments in small to medium-sized energy efficiency projects in the private and public sectors"
Key sectors	Energy efficiency
Key markets	UK, EU
Core portfolio capacity	n/a
Year-end	Dec
NAV per share	93.5p (6/23)
Discount rate	n/a
Market cap./share price	£57m/57p
Premium/discount to NAV	-39.0%
Prospective DPS/yield	0.0p/n/a
Return record	n/a

Source: Aquila Energy Efficiency, Bloomberg

Aquila European Renewables

Issue	Comments
Status	REIF
Ticker/website	AERS/www.aquila-european-renewables-income-fund.com
Fund aim	"Will seek to generate stable returns, principally in the form of income distribution, by investing in a diversified portfolio of renewable energy infrastructure investments"
Key sectors	Wind, solar and hydro generation
Key markets	Nordics, Iberia
Core portfolio capacity	464MW
Year-end	Dec
NAV per share	(c102.6)/89.3p (09/23)
Discount rate	7.7% (levered assets)
Market cap./share price	£265m/70p
Premium/discount to NAV	-21.6%
Prospective DPS/yield	(c5.51)/4.79p/6.8%
Return record	n/a

Source: Aquila European Renewables, Bloomberg

Asian Energy Impact (SHARES SUSPENDED)

Issue	Comments
Status	REIF
Ticker/website	AEIT/www.asianenergyimpact.com
Fund aim	"The infrastructure investment platform offers unique access to the growth market for infrastructure in Asia – based on a broad range of dependable investment solutions that reflect two key investor demands – real assets with stable valuations and attractive potential returns, and responsible and sustainable investments"
Key sectors	Renewable generation
Key markets	India, Philippines and East Asia
Core portfolio	265MW
Year-end	Dec
NAV per share	(c51.2)/40.4p (06/23)
Discount rate	10.0%-12.5%
Market cap./share price	Suspended
Premium/discount to NAV	Suspended
Prospective DPS/yield	(c1.32)/1.04p/n/a
Return record	n/a

Source: Online websites, Bloomberg

Atrato Onsite Energy

Issues	Comments
Status	REIF
Ticker/website	ROOF/www.atrato.roof.com
Fund aim	"The company's investment objective is to support the net zero agenda whilst delivering capital growth and progressive dividend income to its shareholders"
Key sectors	Solar – roof installations
Key markets	UK (commercial, especially supermarkets)
Core portfolio capacity	Multiple sites
Year-end	Sep
NAV per share	92.0p (09/23)
Discount rate	n/a
Market cap./share price	£108m/72p
Premium/discount to NAV	-21.6%
Prospective DPS/yield	5.00p/6.9%
Return record	n/a

Source: Atrato Onsite Energy, Bloomberg

BBGI

Issue	Comments
Status	IIC
Ticker/website	BBGI/www.bb-gi.com
Fund aim	We are "an Infrastructure Investment Company that invests in and actively manages, for the long term, a globally diversified, low-risk portfolio of essential social infrastructure investments. We are committed to delivering stable and predictable cash flows with progressive long-term dividend growth and attractive, sustainable. returns to shareholders."
Key sectors	Roads, bridges, schools, hospitals, blue light (fire and police stations)
Key markets	Canada, UK, US
Core portfolio	56 investments
Year-end	Dec
NAV per share	147.8p (06/23)
Discount rate	7.2% (06/23)
Market cap./share price	£1,008m/141p
Premium/discount to NAV	-4.6%
Prospective DPS/yield	7.93p/5.6%
Return record	Since its IPO in 2011, TSR has increased by an average 7.4% per year

Source: BBGI, Bloomberg

Bluefield Solar	
Issue	**Comments**
Status	REIF
Ticker/website	BSIF/www.bluefieldsif.com
Fund aim	"Acquisitioned management of a diversified portfolio of large-scale solar energy in the UK, with the objective of delivering long-term stable yield'
Key sectors	Solar generation
Key markets	UK
Core portfolio capacity	813MW
Year-end	Jun
NAV per share	136.4p (09/23)
Discount rate	8.0%
Market cap./share price	£721m/118p
Premium/discount to NAV	-13.5%
Prospective DPS/yield	8.80p/7.5%
Return record	Since its IPO in 2013, TSR has increased by 90%

Source: Bluefield Solar, Bloomberg

Cordiant Digital Infrastructure	
Issue	**Comments**
Status	IIC
Ticker/website	CORD/www.cordiantdigitaltrust.com
Fund aim	"The Company invests principally in operating digital infrastructure assets (that) exhibit a number of attractive investment features which drive value growth, including recurring long-term contracts ....with predictable cashflows"
Key sectors	Digital infrastructure
Key markets	Czech Republic, Poland and US
Core portfolio	Digital networks in Eastern Europe
Year-end	Mar
NAV per share	112.7p (09/23)
Discount rate	n/a
Market cap./share price	£585m/76p
Premium/discount to NAV	-41.4%
Prospective DPS/yield	4.00p/5.3%
Return record	n/a

Source: Cordiant Digital Infrastructure, Bloomberg

Digital 9 Infrastructure	
Issue	**Comments**
Status	IIC
Ticker/website	DGI9/www.d9infrastructure.com
Fund aim	As an investment trust, it "actively invests in critical digital infrastructure assets with a target annual return of 10% per annum"
Key sectors	Digital infrastructure
Key markets	UK, EU and Middle East
Core portfolio	Digital networks
Year-end	Dec
NAV per share	100.1p (06/23)
Discount rate	11.8%
Market cap./share price	£260m/30p
Premium/discount to NAV	-70.2%
Prospective DPS/yield	1.50p/5.0%
Return record	n/a

Source: Digital 9 Infrastructure, Bloomberg

Downing Renewables and Infrastructure

Issue	Comments
Status	REIF
Ticker/website	DORE/www.doretrust.com
Fund aim	It "aims to achieve stable and sustainable returns by investing in a diversified portfolio of renewable energy and other infrastructure assets"
Key sectors	Hydro, wind and solar generation
Key markets	Sweden, GB
Core portfolio capacity	199MW
Year-end	Dec
NAV per share	118.7p (09/23)
Discount rate	7.7%
Market cap./share price	£159m/88p
Premium/discount to NAV	-25.9%
Prospective DPS/yield	5.38p/6.1%
Return record	n/a

Source: Downing Renewables and Infrastructure, Bloomberg

Ecofin US Renewables Infrastructure

Issue	Comments
Status	REIF
Ticker/website	RNEP/www.uk.ecofinvest.com
Fund aim	"To provide shareholders with an attractive level of current distributions by investing in a diversified portfolio of mixed renewable energy and sustainable assets, predominantly located in the US"
Key sectors	Solar and wind generation
Key markets	US (California, Texas, Massachusetts)
Core portfolio capacity	177MW
Year-end	Dec
NAV per share	(c89.1) 70.4p (09/23)
Discount rate	7.4%
Market cap./share price	£59m/43p
Premium/discount to NAV	-38.9%
Prospective DPS/yield	(c3.50)/2.77p/6.4%
Return record	n/a

Source: Ecofin US Renewables, Bloomberg

Foresight Solar

Issues	Comments
Status	*REIF*
Ticker/website	*FSFL/www.fsfl.foresight.group.eu*
Fund aim	''To provide investors with a sustainable and inflation-linked quarterly dividend …and it aims to preserve and, where possible, enhance capital value through the re-investment of excess cashflow''
Key sectors	Solar generation
Key markets	UK, Australia, Spain
Core portfolio capacity	1,018MW solar (inc.723MW in UK, 170MW in Australia and 125MW in Spain) and 75MW BESS
Year-end	Dec
NAV per share	118.1p (09/23)
Discount rate	8.00%
Market cap./share price	£602m/102p
Premium/discount to NAV	-13.6%
Prospective DPS/yield	7.55p/7.4%
Return record	Since its IPO in 2013, TSR has increased by an average of 8.3% per year

Source: Foresight Solar, Bloomberg

GCP Infrastructure

Issues	Comments
Status	IIC
Ticker/website	GCP/www.graviscapital.com
Fund aims	"Our investment objective is to provide shareholders with regular, sustained, long-term dividends and to preserve the capital of (our) investment assets"
Key sectors	Renewable energy, PPP/PFI, social housing
Key markets	UK
Core portfolio	51 investments, mainly energy and PPP/PFI stakes
Year-end	Sep
NAV per share	109.8p (09/23)
Discount rate	7.7%
Market cap./share price	£625m/72p
Premium/discount to NAV	-34.4%
Prospective DPS/yield	7.0p/9.7%
Return record	Since its IPO in 2010, TSR has increased by 57.1%

Source: GCP Infrastructure, Bloomberg

Gore Street Energy Storage

Issues	Comments
Status	REIF
Ticker/website	GSF/www.gsenergystoragefund.com
Fund aims	"To focus on projects that are well-positioned for growth in strategic locations with high barriers to entry and with a sustainable low operating cost structure" and "to generate value for our companies and investors beyond capital"
Key sectors	Battery storage systems
Key markets	UK, RoI, Germany, US
Core portfolio capacity	372MW (operational as at 9/23) of energy storage systems
Year-end	Mar
NAV per share	112.9p (09/23)
Discount rate	10.3%
Market cap./share price	£441m/89p
Premium/discount to NAV	-21.2%
Prospective DPS/yield	8.00p/9.0%
Return record	Since its IPO in 2018, TSR has increased by 13.3%

Source: Gore Street Energy Storage, Bloomberg

Greencoat Renewables

Issues	Comments
Status	REIF
Ticker/website	GRP/www.greencoat-renewables.com
Fund aim	"Initially to focus on investing in operating wind assets in Ireland.... over time, it will also target certain other Eurozone countries"
Key sectors	Wind generation
Key markets	RoI, Germany, France, Nordics, Spain
Core portfolio capacity	1,451MW (inc. Erstrask North), mainly wind capacity in RoI and in other leading EU countries
Year-end	Dec
NAV per share	(c113.0) 98.3p (09/23)
Discount rate	6%-7%
Market cap./share price	£992m/87p
Premium/discount to NAV	-11.6%
Prospective DPS/yield	(c6.42)/5.59p/6.4%
Return record	Since its IPO in 2017, TSR has increased by ca.49%

Source: Greencoat Renewables, Bloomberg

Greencoat UK Wind

Issues	Comments
Status	REIF
Ticker/website	UKW/www.greencoat-ukwind.com
Fund aim	It "invests in UK wind farms" and "seeks to provide investors with an annual dividend that increases in line with RPI inflation whilst preserving the capital value of its investment portfolio in the long term"
Key sectors	Wind
Key markets	UK
Core portfolio capacity	2,007MW
Year-end	Dec
NAV per share	165.8p (09/23)
Discount rate	8.0%
Market cap./share price	£3,488m/151p
Premium/discount to NAV	-8.9%
Prospective DPS/yield	10.0p/6.6%
Return record	Since its IPO in March 2013, TSR has increased by 132%

Source: Greencoat UK Wind, Bloomberg

Gresham House Energy Storage

Issues	Comments
Status	REIF
Ticker/website	GRID/www.greshamhouse.com
Fund aim	"To provide investors with an attractive and sustainable dividend over the long term by investing in a diversified portfolio of utility-scale operational energy storage systems"
Key sectors	Battery storage systems
Key markets	UK
Core portfolio capacity	690MW of battery storage systems
Year-end	Dec
NAV per share	146.1p (09/23)
Discount rate	10.9%
Market cap./share price	£619m/108p
Premium/discount to NAV	-26.1%
Prospective DPS/yield	5.51p/5.1%
Return record	Since its IPO in November 2018, TSR has increased by 80%

Source: Gresham House Energy Storage, Bloomberg

Harmony Energy Income

Issues	Comments
Status	REIF
Ticker/website	HEIT/www.harmonyenergy.co.uk
Fund aim	"Its investment objective is to provide investors with an attractive and sustainable level of income returns, with the potential for capital growth by investing in commercial scale energy storage and renewable energy generation projects..."
Key sectors	Battery storage systems
Key markets	UK
Core portfolio capacity	228MW (operational)
Year-end	Oct
NAV per share	115.4p (09/23)
Discount rate	n/a
Market cap./share price	£179m/79p
Premium/discount to NAV	-31.5%
Prospective DPS/yield	8.0p/10.1%.
Return record	n/a

Source: Harmony Energy Income, Bloomberg

HICL

Issues	Comments
Status	IIC
Ticker/website	HICL/www.hicl.com
Fund aim	"HICL's investment proposition is to deliver sustainable income from a diversified portfolio of investment core infrastructure"
Key sectors	Health, transport
Key markets	UK
Core portfolio	Over 100 investments
Year-end	Mar
NAV per share	159.4p (09/23)
Discount rate	8.0%
Market cap./share price	£2,829m/139p
Premium/discount to NAV	-12.8%
Prospective DPS/yield	8.25p/5.9%
Return record	Since its IPO in 2006, TSR has increased by an average of 8.7% per year

Source: HICL Infrastructure, Bloomberg

HydrogenOne Capital Growth

Issues	Comments
Status	REIF
Ticker/website	HGEN/www.hydrogenonecapitalgrowthplc.com
Fund aim	"HydrogenOne Capital Growth was established to provide investors with opportunities in clean hydrogen and energy storage for energy transition"
Key sectors	Hydrogen
Key markets	UK, Germany, Estonia and Netherlands
Core portfolio capacity	n/a
Year-end	Dec
NAV per share	101.4p (09/23)
Discount rate	13.7%
Market cap./share price	£64m/50p
Premium/discount to NAV	-50.7%
Prospective DPS/yield	0.0p/n/a
Return record	n/a

Source: HydrogenOne Capital Growth, Bloomberg

Impax Environmental Markets

Issues	Comments
Status	EIT
Ticker/website	IEM/www.impaxenvironmentalmarkets.co.uk
Fund aim	"It seeks to achieve sustainable, above-market returns over the longer term by investing globally in companies active in the growing Resource Efficiency and Environmental Markets"
Key sectors	Energy, waste, water
Key markets	US, Europe
Core portfolio	All investments account for less than 3% of the portfolio
Year-end	Mar
NAV per share	437p (12/23)
Discount rate	n/a (virtually all investments are quoted)
Market cap./share price	£1,117m/393p
Premium/discount to NAV	-10.1%
Prospective DPS/yield	4.40/1.1%
Return record	Since 02/2002, its share price has almost quadrupled

Source: Impax Environmental Markets, Bloomberg

INPP	
Issues	**Comments**
Status	IIC
Ticker/website	INPP/www.internationalpublicpartnerships.com
Fund aim	"We aim to provide investors with long-term, inflation-linked returns, by growing our dividend and creating the potential for capital appreciation"
Key sectors	Over 140 investments in energy, transport
Key markets	Predominantly UK, but Belgium and Australia
Year-end	Dec
Core portfolio	Electricity, gas and water price-regulated assets
NAV per share	155.2p (09/23)
Discount rate	8.1%
Market cap./share price	£2,617m/137p
Premium/discount to NAV	-11.7%
Prospective DPS/yield	8.13p/5.9%
Return record	Since its IPO in 2006, TSR has increased by an average by 6.4% per year

Source: INPP, Bloomberg

JLEN	
Issues	**Comments**
Status	REIF
Ticker/website	JLEN/www.jlen.com
Fund aim	"To provide shareholders with a sustainable dividend paid quarterly, that increases progressively in line with inflation and to preserve the capital value of its portfolio on a real basis over the long term"
Key sectors	Renewable generation
Key markets	UK
Core portfolio capacity	42 assets with 359MW capacity, 161MW of which is wind and 80MW solar – almost entirely UK
Year-end	Mar
NAV per share	119.7p (09/23)
Discount rate	9.4%
Market cap./share price	£675m/102p
Premium/discount to NAV	-14.8%
Prospective DPS/yield	7.57p/7.4%
Return record	Since its IPO in March 2014, TSR has increased by an average of 5.7% per year

Source: JLEN, Bloomberg

Jupiter Green	
Issues	**Comments**
Status	EIT
Ticker/website	JGC/www.jupiteram.com
Fund aim	"It invests globally in companies which have a significant focus on environment solutions"
Key sectors	Energy, waste, technology
Key markets	US
Core portfolio	US (ca.60%), France
Year-end	Mar
NAV per share	251p (12/23)
Discount rate	n/a
Market cap./share price	£39m/201p
Premium/discount to NAV	-20.4%
Prospective DPS/yield	nil/n/a
Return record	Since its launch in 2006, its share price has doubled

Source: Jupiter Green, Bloomberg

Menhaden Resource Efficiency

Issues	Comments
Status	EIT
Ticker/website	MHN/www.menhaden.com
Fund aim	"Seeks to generate long-term shareholder returns…by investing in business opportunities that are demonstrably delivering or benefiting from the efficient use of energy and resources"
Key sectors	Resource and energy efficiency
Key markets	US, Europe
Core portfolio	Airbus and Alphabet
Year-end	Dec
NAV per share	160.1p (12/23)
Discount rate	n/a (ca.84% of assets are quoted)
Market cap./share price	£78m/99p
Premium/discount to NAV	-38.2%
Prospective DPS/yield	0.5p/n/m
Return record	Since July 2015, its shares have fallen by ca.3%

Source: Menhaden Resources, Bloomberg

NextEnergy Solar

Issues	Comments
Status	REIF
Ticker/website	NESF/www.nextenergysolarfund.com
Fund aim	"Seeks to provide investors with a sustainable and attractive dividend that increases in line with RPI over the long term; in addition, the Company seeks to provide investors with an element of capital growth"
Key sectors	Solar generation
Key markets	UK, Italy
Core portfolio capacity	100 operating assets, mainly 865MW of solar (830MW capacity in UK, 35MW capacity in Italy)
Year-end	Mar
NAV per share	108.3p (09/23)
Discount rate	8.0%
Market cap./share price	£544m/92p
Premium/discount to NAV	-15.1%
Prospective DPS/yield	8.35p/9.1%
Return record	Since its IPO in 2014, TSR has increased by 67%

Source: NextEnergy Solar, Bloomberg

Octopus Renewables Infrastructure

Issues	Comments
Status	REIF
Ticker/website	CORIT/www.octopusrenewablesinfrastructure.com
Fund aim	"Seeks to provide investors with an attractive and sustainable level of income returns, with an element of capital growth by investing in a geographically and technology-diversified spread of renewable energy assets"
Key sectors	Solar and wind generation
Key markets	UK, RoI, France, Finland
Core portfolio capacity	603MW (after Polish plant disposals)
Year-end	Dec
NAV per share	107.0p (09/23)
Discount rate	7.7%
Market cap./share price	£509m/90p
Premium/discount to NAV	-15.9%
Prospective DPS/yield	5.79p/6.4%
Return record	Since its IPO in 2019, TSR has increased by 6.1%

Source: Octopus Renewables Infrastructure, Bloomberg

Pantheon Infrastructure	
Issues	**Comments**
Status	IIC
Ticker/website	PINT/www.pantheoninfrastructure.com
Fund aim	We "will enable investors to gain exposure to a high-quality mix of yielding and growth infrastructure assets with strong downside and inflation protection in developed markets"
Key sectors	Digital infrastructure, renewable energy generation, transport infrastructure
Key markets	US, EU and UK
Core portfolio	Digital infrastructure and gas transportation
Year-end	Dec
NAV per share	106.6p (09/23)
Discount rate	14.0%
Market cap./share price	£393m/83p
Premium/discount to NAV	-25.2%
Prospective DPS/yield	4.00p/4.8%
Return record	n/a

Source: Pantheon Infrastructure, Bloomberg

SEEIT	
Issues	**Comments**
Status	REIF
Ticker/website	SEIT/www.seeitplc.com
Fund aim	"To provide an attractive total return for shareholders of 7%-8% per annum – with a stable dividend income, capital preservation and the opportunity for capital growth"
Key sectors	CHP, gas generation/networks and biomass
Key markets	US, Spain, Sweden, UK
Core portfolio	Various energy asset holdings
Year-end	Mar
NAV per share	90.6p (09/23)
Discount rate	8.7% (unlevered) and 9.4% (levered)
Market cap./share price	£710m/65p
Premium/discount to NAV	-28.3%
Prospective DPS/yield	6.24p/9.6%
Return record	n/a

Source: SEEIT, Bloomberg

Sequoia Economic Infrastructure	
Issues	**Comments**
Status	IIC
Ticker/website	SEQI/www.seqifund.com
Fund aim	Sequoia Economic Infrastructure "invests in income-generating economic infrastructure debt, creating attractive risk-adjusted returns for shareholders from its diverse portfolio of private debt and bond investments, across 12 mature jurisdictions and a range of sectors and sub-sectors"
Key sectors	Economic infrastructure debt
Key markets	US, EU, UK
Core portfolio	TMT, transport, power
Year-end	Mar
NAV per share	94.4p (12/23)
Discount rate	Varied
Market cap./share price	£1,404m/85p
Premium/discount to NAV	-10.0%
Prospective DPS/yield	6.88p/8.1%
Return record	Since its IPO in 2015, TSR has increased by ca.42%

Source: Sequoia Economic Infrastructure, Bloomberg

TRIG

Issues	Comments
Status	REIF
Ticker/website	TRIG/www.trig-ltd.com
Fund aim	"To invest principally in a diverse range of operational renewable energy infrastructure assets, with a focus on the UK and other parts of Northern Europe….and to seek to provide an attractive long-term income-based return with a positive correlation to inflation"
Key sectors	Wind and solar generation
Key markets	UK, France, Sweden, Germany, Spain and RoI
Core portfolio capacity	ca2,800MW (inc. commitments) – 57% of capacity is in the UK
Year-end	Dec
NAV per share	131.0p (09/23)
Discount rate	7.9%
Market cap./share price	£2,832m/114p
Premium/discount to NAV	-13.0%
Prospective DPS/yield	7.18p/6.3%
Return record	Since its IPO in 2013, TSR has increased by an average 8.7% per year

Source: TRIG, Bloomberg

Triple Point Energy Transition

Issues	Comments
Status	REIF
Ticker/website	TENT/www.tpenergytransition.com
Fund aim	"We target UK-based, institutional-grade energy efficiency infrastructure assets whilst helping to ensure our shareholders receive an attractive long-term income source with a positive impact"
Key sectors	CHP systems, distributed generation, energy efficiency
Key markets	UK
Core portfolio	CHP and small hydro-power investments
Year-end	Mar
NAV per share	95.1p (09/23)
Discount rate	n/a
Market cap./share price	£66m/66p
Premium/discount to NAV	-30.6%
Prospective DPS/yield	5.50p/8.3%
Return record	n/a

Source: Triple Point Energy Transition, Bloomberg

US Solar

Issues	Comments
Status	REIF
Ticker/website	USFP/www.ussolarfund.co.uk
Fund aim	"To provide its shareholders with attractive and sustainable dividends, with an element of capital growth, through investing in a diversified portfolio of solar power assets located in North America and other OECD countries in the Americas"
Key sectors	Solar generation
Key markets	US (North Carolina, Oregon, California and Utah)
Core portfolio capacity	443MW of solar plant
Year-end	Dec
NAV per share	(c86.2) 68.1p (09/23)
Discount rate	n/a
Market cap./share price	£143m/43p
Premium/discount to NAV	-36.9%
Prospective DPS/yield	(c5.66)/4.47p/10.4%
Return record	n/a

Source: US Solar, Bloomberg

Victory Hill GSEO	
Issues	**Comments**
Status	REIF
Ticker/website	*VICT/www.vh-gseo.com*
Fund aim	"Seeks income yield and NAV growth by investing in stable, yielding, sustainable energy infrastructure investments that are in operation, in construction or "ready-to-build"…"
Key sectors	Hydro-power, CHP and solar generation
Key markets	Brazil, UK, US and Australia
Core portfolio capacity	ca.285MW, including the 198MW Mascarenhas hydro plant in Brazil
Year-end	Dec
NAV per share	105.7p (09/23)
Discount rate	n/a
Market cap./share price	£324m/78p
Premium/discount to NAV	-26.2%
Prospective DPS/yield	5.52p/7.1%
Return record	n/a

Source: Fund website, Bloomberg

Conclusion

Is the going getting tougher?

Despite the fall in all IIC and REIF share prices in 2023 – on the back of markedly higher interest rates – both sectors still offer some attractions. In particular, the more well-established funds, as defensive investments, look to be well placed. Their earnings are generally high-quality – often backed by public sector contracts or by PPAs – while their dividend payment profiles, in most cases, are reasonably secure.

Higher interest rates and lower power prices are key risks

Of course, both IICs and REIFs are exposed to risks, with high interest rates being one obvious concern – the fall in sector share prices in 2023 undoubtedly highlighted this risk element. More specifically, some IICs are vulnerable to the revenue risk of holding demand-based assets. Leading REIFs, especially wind and solar generators, are exposed to potentially lower power prices.

On the assumption that interest rates are expected to fall – although this is far from guaranteed – quoted IICs and REIFs continue to offer appeal on several fronts. Dividends are expected to rise at least in nominal terms, on the back of a combined sector yield of between 5.0% and 7.5%; these are quite attractive yields in the current environment.

The more mature funds to attract interest?

As such, despite their low profile and indifferent – at best – share price performance throughout 2023, IICs and REIFs, especially the more mature funds, are expected to remain of interest to the discerning investor.

Appendix 1

Glossary

Glossary	
AD	Anaerobic Digestion
AIC	Association of Investment Companies
BESS	Battery Energy Storage System
CfD	Contract for Difference
CHP	Combined Heat and Power
CMA	Competition and Markets Authority
CPI	Consumer Price Index
Discount to NAV	Amount at which a fund's shares trade below NAV
EGL	Electricity Generation Levy
EPL	Energy Profits Levy
EV	Enterprise Value
EIT	Environmental Investment Trust
FCA	Financial Conduct Authority
FM	Facilities Management
FV	Fair Value
GAV	Gross Asset Value
GWh	Gigawatt Hour – Electricity Generation per Hour
IFRS	International Financial Reporting Standards
IIC	Infrastructure Investment Company
IMF	International Monetary Fund
IPO	Initial Public Offering
MWh	Megawatt Hour – Electricity Generation per Hour
NAV	Net Asset Value
NI	Northern Ireland
NTMA	National Treasury Management Agency
OBM	Open Balancing Mechanism
OBP	Open Balancing Platform
PFI	Private Finance Initiative
PPA	Power Purchase Agreement
PPP	Public/Private Partnership
Premium to NAV	Amount at which a fund's shares trade above NAV
RAV	Regulatory Asset Value
REC	Regional Electricity Company
REIF	Renewable Energy Infrastructure Fund
RoI	Republic of Ireland
ROC	Renewable Obligation Certificate
RPI	Retail Price Index
SPV	Special Purpose Vehicle
TMT	Technology, Media and Telecom
TSR	Total Shareholder Return
TWh	Terawatt Hour – Electricity Generation per Hour

Source: Hardman & Co Research

Appendix 2

Possible questions

We list, below, various questions – some of which may not relate to all 31 stocks under review – that might reasonably be asked of the Directors of IICs or of REIFs.

- What is the impact on your business model of recurring inflation and higher interest rates?
- How is your NAV calculated?
- What projections are you using for long-term power prices?
- What is the blended discount rate that you use for your NAV calculations?
- What percentage of your revenues is subsidy-driven?
- How difficult is it for you to find new investments at an attractive price that meet your financial return requirements?
- What is your policy regarding investment in demand-based assets?
- Are you liable for the Electricity Generation Levy (EGL) that has been introduced by the government?
- Which overseas markets do you see as the most attractive for IIC/REIF investment – and why?
- What has been your TSR since your IPO?
- What percentage of your revenues is covered by PPAs?
- In percentage terms, what is your inflation linkage?
- What is your latest dividend cover?
- What is your long-term dividend policy?
- How damaging is the 2017 closure of the RO for new solar investment?
- When do you expect gas prices to return to 2020 levels?
- Have you had any issues with “continuation” votes?

About the author

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Nigel Hawkins is the Renewables sector analyst at Hardman & Co.

Nigel is responsible for analysing the UK Utilities, including those privatised in the 1980s and 1990s, as well as newer arrivals in the sector. He has been involved in the Utilities sector since the late 1980s, as a feature writer at Utility Week magazine and as an analyst at Libertas Capital, which specialised in the renewable energy sector. Prior to that, he was the Telecoms analyst at Williams de Broë. Between 1989 and 1995, he worked at Hoare Govett as the Water and Electricity sector analyst.

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