4. Environmental, social, and governance (ESG) factors in infrastructure
Key findings

1. ESG factors are of increasing importance for private investors looking to manage and mitigate risk and enhance financial performance and returns.

2. Consideration of ESG factors is particularly important for infrastructure investors due to infrastructure's long investment horizon and the significant upfront investment required for infrastructure assets. This locks in projects before the impact of many ESG issues – such as climate-related risks – and leaves investors facing a much higher risk of stranded assets.

3. More investors are incorporating ESG factors into their investment and management decisions, particularly after the pandemic forced companies to transform and be more resilient. Notably, companies investing in infrastructure are incorporating ESG factors better than other companies, particularly the environmental aspect. Infrastructure assets are also improving their ESG reporting and targeting.

4. Environmental factors (particularly climate-related) are the largest and most common ESG concern, whereas social and governance dimensions are less assessed.

5. Green private investment in infrastructure projects has been increasing since 2014, rising from USD58 billion in 2014 to USD87 billion in 2020 – mostly in the renewables sector although change is also being pursued in other sectors.

6. However, renewables private investment still needs to increase significantly from current levels to reach net-zero targets. Efforts to decarbonise infrastructure and reduce its significant climate footprint must also look beyond renewables and into other sectors – such as transport – where green private investment remains low.

7. Evidence on the relationship between ESG impact and financial performance is scarce. It is possible to use a renewable equities index as a proxy for equities incorporating environmental factors to show that it outperforms other infrastructure indexes. Preliminary evidence shows that investment in unlisted wind and solar equities have generated higher returns than in the overall infrastructure sector. However, more data is needed to investigate the link between ESG and financial performance for infrastructure.
Companies investing in infrastructure have incorporated ESG factors better than other companies.

Companies’ ESG scores\(^1\) by sector of investment

(3-year moving average)

Source: GI Hub based on Refinitiv and IJGlobal data.

Notes: 1. Refinitiv ESG scores measure a company's relative performance on ESG attributes, commitment, and effectiveness across Environmental (E), Social (S), and Governance (G) pillars. Based on publicly reported data, scores focus on a company’s operations and policies rather than its products and services, and generally reflect their management approach and transparency of performance rather than direct performance. The dataset covers over 10,800 companies. While not all companies record an ESG score in each year, the score for companies investing in all sectors is calculated as the simple average of all companies for which data is available in that year.

2. Companies investing in infrastructure includes those companies identified as primary infrastructure investors in the IJGlobal dataset. Refinitiv ESG data covers around 1,000 companies of the ~3,500 infrastructure private investors covered by IJGlobal, representing approximately 65% of the total transaction value.

3. The weighted average line weights infrastructure investors by the value of their investment in infrastructure in primary markets since 2010 (from which data is available).
Companies investing in infrastructure outperform other companies on all three ESG components, but particularly on environmental.

- Scores within the environmental and social factors have improved for all sectors over time, while there have been minimal improvements in the governance aspect.

- Companies investing in infrastructure outperform other companies on all three ESG components, but particularly in the environmental component, which has a sharper increase over time, with the environmental score for companies investing in infrastructure being almost twice as high as all other sectors in recent years.

- Although the environmental aspect (such as climate-related risks) is the biggest and most common ESG concern, within the companies investing in infrastructure, social is the aspect that scores better, and for all sectors, governance is the aspect that scores better.

![Environmental score by sector of investment](image1)

![Social score by sector of investment](image2)

![Governance score by sector of investment](image3)
Infrastructure assets have also gradually improved their ESG targeting and reporting.

ESG Performance Score for infrastructure assets

(0=worst and 100=best)

Source: GRESB Infrastructure Asset Assessment.

1. GRESB’s Asset Performance indicators generally reflect the extent to which assets report on their most material ESG issues and have current and future targets set. In this way, scores reflect the transparency of reporting ESG data and not actual performance. GRESB is working with the infrastructure industry towards reflecting performance in scores in future years.

2. The calculation of the GRESB Rating is based on the GRESB Score and its quintile position relative to the GRESB asset universe. If the participant is placed in the top quintile, it will have a GRESB 5★ star rating; if it ranks in the bottom quintile, it will have a GRESB 1★ star rating, etc.

3. While ESG Performance scores reflect some methodological changes and changing component weights throughout time, they are still comparable across years.
In less than a decade, green private investment in infrastructure projects has significantly grown and currently represents half of the private investment in infrastructure projects.

- In less than a decade, green private investment in infrastructure projects has grown significantly, and currently represents half of the private investment in infrastructure projects overall and 60% in high-income countries.
- Green private investment in infrastructure projects is dominated by renewables, particularly wind and solar projects.
- Financing through green bonds has been rising over recent years, particularly in high-income countries in Western Europe, North America, and Asia.

![Graph showing green and non-green private investment in infrastructure projects](chart1.png)

![Graph showing share of green private investment by income group](chart2.png)

Source: GI Hub based on IJGlobal data.
Note: Green investment in infrastructure means investment in environmentally sustainable projects that support the transition to net-zero emissions of carbon dioxide. Other green includes EV charging infrastructure, Carbon Capture and Storage (CCUS), green buildings, and urban transit systems such as light rail and bus networks, and other green investment in infrastructure financed by green bonds/loans.
This increasing trend is also observed in secondary markets, where green private investments in infrastructure projects now account for around a quarter of total private investment in infrastructure projects.

Source: GI Hub based on IJGlobal data.
Note: Green investment in infrastructure means investment in environmentally sustainable projects that support the transition to net-zero emissions of carbon dioxide. Other green includes EV charging infrastructure, Carbon Capture and Storage (CCUS), green buildings, and urban transit systems such as light rail and bus networks and other green investment in infrastructure financed by green bonds/loans.
Renewables dominate private investment in infrastructure projects, but there is still a long road ahead. Wind and solar capacity additions must quadruple by 2030 to reach net-zero targets. Carbon emissions reduction in other sectors needs to increase substantially...

- Globally, renewables represented almost half the total value of private investment in infrastructure projects in 2020 (47%) – a share that has more than doubled since 2010 (21%). The strength in renewables is evident in both high-income, and middle- and low-income markets (with smaller deal sizes for the latter) and is mostly driven by wind and solar projects (over 90% of total private renewables investment).
- While this focus on renewables is encouraging, its current levels are not sufficient to reach net-zero targets. According to the IEA (2021), wind and solar capacity additions must quadruple by 2030 to reach global net-zero emissions by mid-century.
- According to GRESB (2021), few infrastructure assets currently have net-zero targets – however, fund managers representing 40% of reporting assets recently committed to including assets with net-zero targets in their portfolios.
- Currently green private investment is reflected the most in the renewables sector, while other sectors need to make changes to increase their green investment.
... particularly as the infrastructure climate footprint is much more substantial than other sectors.

### Climate footprint of global equities vs listed infrastructure equities

<table>
<thead>
<tr>
<th></th>
<th>Global equities (MSCI ACWI Index)</th>
<th>Listed infrastructure equities (MSCI ACWI Infrastructure Capped Index)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon emissions (t CO2e/$M invested)</td>
<td>90</td>
<td>380</td>
</tr>
<tr>
<td>Carbon intensity (weighted average, t CO2e/$M sales)</td>
<td>152</td>
<td>786</td>
</tr>
<tr>
<td>Exposure to carbon-related assets (%)</td>
<td>5.8</td>
<td>48.8</td>
</tr>
<tr>
<td>Asset stranding (%)</td>
<td>0.4</td>
<td>2.2</td>
</tr>
</tbody>
</table>


Note: Data of climate footprint of unlisted infrastructure equities is unavailable.
Preliminary evidence shows superior performance for sustainable investments.

- Although companies investing in infrastructure are incorporating ESG factors in their investment and management decisions faster than other companies, particularly regarding the environmental aspect, there is still a long road ahead.

- Sustainable infrastructure investment is constrained by limited data on how ESG factors impact financial performance.

- Analysing EDHEC’s index of unlisted wind and solar equities (InfraGreen) as a proxy for equities incorporating environmental factors, we can see that it outperforms EDHEC’s unlisted infrastructure equities index (infra300®) and the listed infrastructure index (MSCI). In the last 10 years, wind and solar equities have generated a compound annual return of 16%, higher than the compound annual return of listed (6%) and unlisted (12%) infrastructure equities.

- These findings are in line with other studies that have found evidence of superior performance for sustainable investments. For example, Moody’s (2020) found that project finance bank loans for green projects exhibit a lower default risk than non-green projects, and the IEA (2020) found that listed renewable portfolios in select advanced economies offered higher total returns than fossil fuel portfolios, and similar or lower annualised volatility.