ENERGY INFRASTRUCTURE PARTNERS

Powering through: Energy infrastructure across inflationary cycles

PAGE 4
Infrastructure and inflation
How the asset class stacks up against other equities

PAGE 5
Comparing sectors
Energy infrastructure demonstrates an advantage

PAGE 6
Inside the EIP portfolio
Three case studies of inflation protection at work

ENERGY
INFRASTRUCTURE
PARTNERS

Abstract

The latest episode of high inflation provided a stress test for different asset classes and sectors. Considering performance data through this period and over the last two decades, energy infrastructure has demonstrated in-built inflation protection beyond what other asset classes offer, according to original research from Energy Infrastructure Partners. This distinctive protection stems from the different business models at play in the energy infrastructure sector, many of which come with tangible income-generating tools that work in inflationary environments.

ENERGY INFRASTRUCTURE PARTNERS

Authors

Yann Masset
Head of Investment Controlling

Zeke Turner
Head of Marketing and Communication

Paul Hughes
Head of Data and Analytics

Thomas Mendelin
Data and Analytics

Research:
Teo Pollini

Table of contents

1. Inflation returns 4
2. Infrastructure powers through 4
3. Not all sectors are created equal 5
4. How it works 6
   4.1. Swissgrid: Electrical grid. 7
   4.2. Boralex France: Wind and solar power 8
   4.3. Fluxys: Gas transmission, storage and import terminals 9
5. End note 10
6. Note on methods 10

ENERGY INFRASTRUCTURE PARTNERS

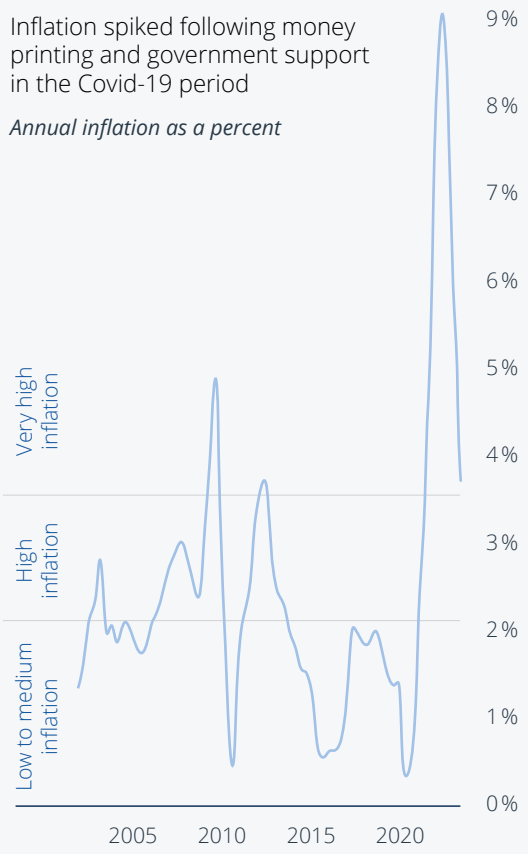
1. Inflation returns

The last years have brought one of the strongest episodes of inflation for decades. The cycle began with increases to the money supply through the Covid-19 era when governments and central banks tried to prop up their economies. Fears of blackouts in Europe following the onset of war in Ukraine added momentum. The years 2022 and 2023 brought back levels of inflation reminiscent of the 1970s.

Across cycles

Inflation spiked following money printing and government support in the Covid-19 period

Annual inflation as a percent



Source: EIP analysis of International Monetary Fund data.

Notes: Series is a geography-weighted composite to match asset performance data used across our study.

These developments naturally leave investors re-examining their portfolio construction and considering how to protect themselves. Over the last decades, many have turned to infrastructure investments – often real assets with monopolistic economics and an operational dimension – to increase diversification and add a defensive element in their portfolio.

According to research from Energy Infrastructure Partners, the infrastructure asset class appears to also provide a safe harbor during inflationary cycles. Energy infrastructure assets perform especially well when given time to adapt to price increases.

2. Infrastructure powers through

Analyzing monthly total return data up to the end of 2023, this research is among the first industry studies to take the most recent bout of inflation into account. According to our analysis, private infrastructure assets, and especially private energy

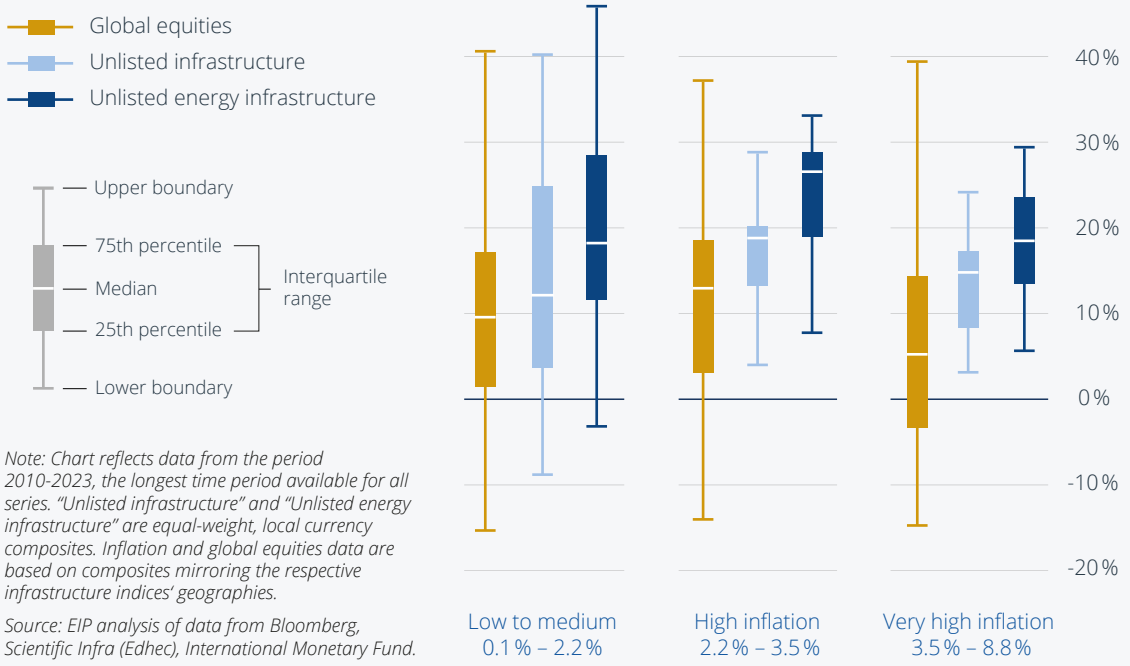
infrastructure assets, outperform listed stocks during episodes of inflation.

The worse inflation gets, the stronger the inflation protection offered by these assets becomes. During episodes of high inflation, infrastructure assets are not only able to increase their returns more than other equities but they also do so with less volatility.

Under pressure

When faced with inflation, infrastructure as an asset class – and especially energy infrastructure as a sector – offers better risk-adjusted returns than listed equities

Twelve-month total return shown as a percent



Note: Chart reflects data from the period 2010-2023, the longest time period available for all series. "Unlisted infrastructure" and "Unlisted energy infrastructure" are equal-weight, local currency composites. Inflation and global equities data are based on composites mirroring the respective infrastructure indices' geographies.

Source: EIP analysis of data from Bloomberg, Scientific Infra (Edhec), International Monetary Fund.

3. Not all sectors are created equal

The worse inflation gets, the stronger the inflation protection offered by these assets becomes

From airports to hospitals and data centers to power plants, the infrastructure asset class encompasses a large number of sectors. A range of different business models come into play when owners operationalize these infrastructure assets into companies, creating a truly diverse asset class in which not all sectors are created equal.

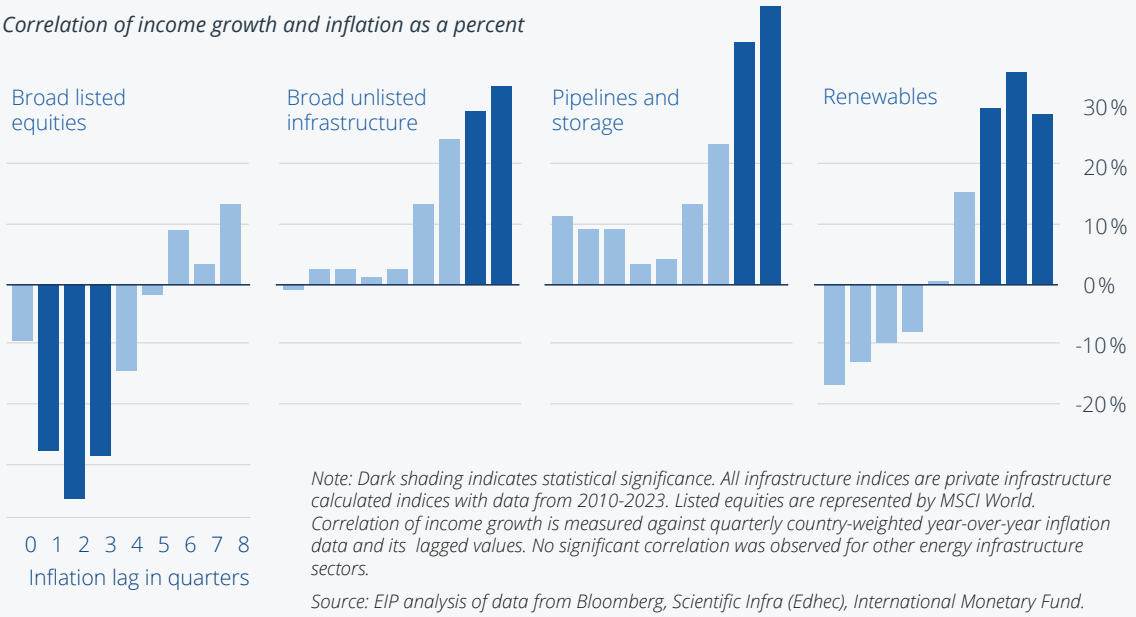
The difference between underlying business models explains the ability of the respective sectors to protect themselves when costs increase and other secondary threats from inflation like weakening demand set in.

According to our research, energy infrastructure, like renewable generation assets and pipeline and storage infrastructure for molecules, can metabolize the effects of inflation better than other sectors. This effect becomes more pronounced when viewed with a time lag.

The test of time

Most energy infrastructure sectors show high income correlation to inflation, while some other infrastructure sectors disappoint

Correlation of income growth and inflation as a percent



Note: Dark shading indicates statistical significance. All infrastructure indices are private infrastructure calculated indices with data from 2010-2023. Listed equities are represented by MSCI World. Correlation of income growth is measured against quarterly country-weighted year-over-year inflation data and its lagged values. No significant correlation was observed for other energy infrastructure sectors.

Source: EIP analysis of data from Bloomberg, Scientific Infra (Edhec), International Monetary Fund.

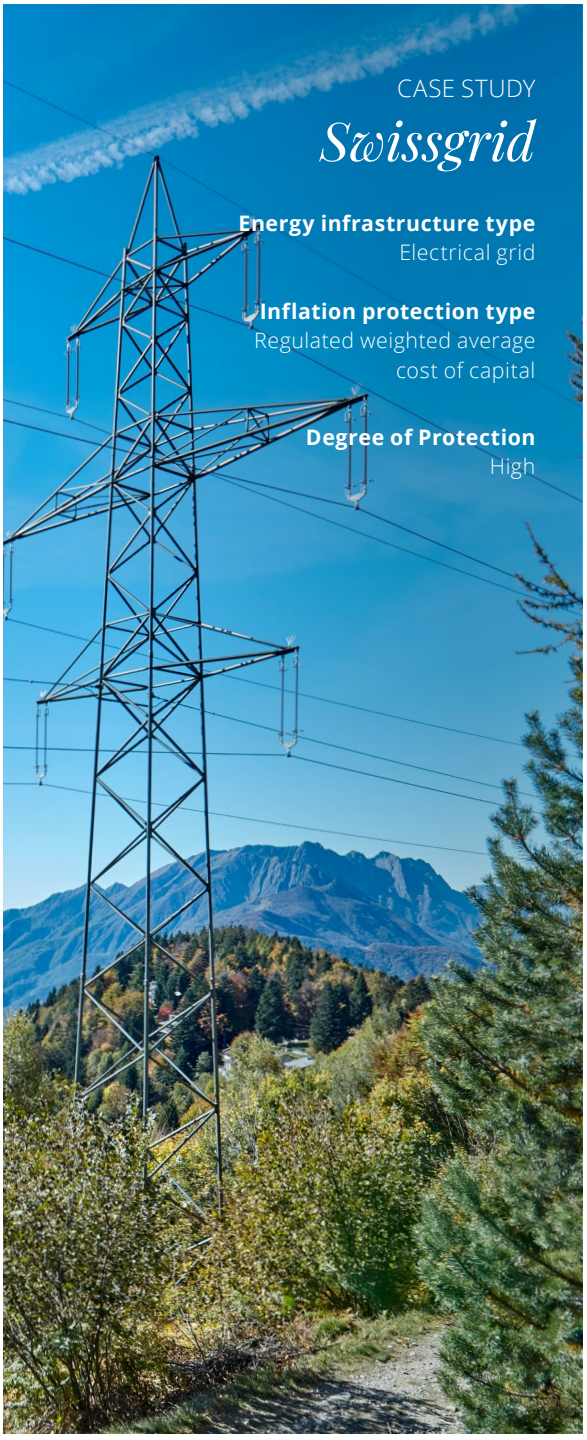
4. How it works

Energy infrastructure assets use a range of business models from regulated returns and feed-in tariffs to long-term offtake agreements and market-based business models, each with a different way of adapting to inflationary environments.

These business models create tangible income-generating tools that work in inflationary environments

Unlike an asset type like gold, whose scarcity creates inflation protection that is largely disconnected from its real world utility and therefore mainly psychological in nature, these business models offer tangible income-generating tools that work in inflationary environments.

To better understand energy infrastructure's strong ability to pass through inflation, we present three examples from the Energy Infrastructure Partners portfolio: Swissgrid, the Swiss electrical grid and transmission system operator; Boralex France, an onshore wind and solar platform; and Fluxys, an operator of liquefied natural gas terminals, gas pipelines and gas storage.



4.1. Electricity transmission grid

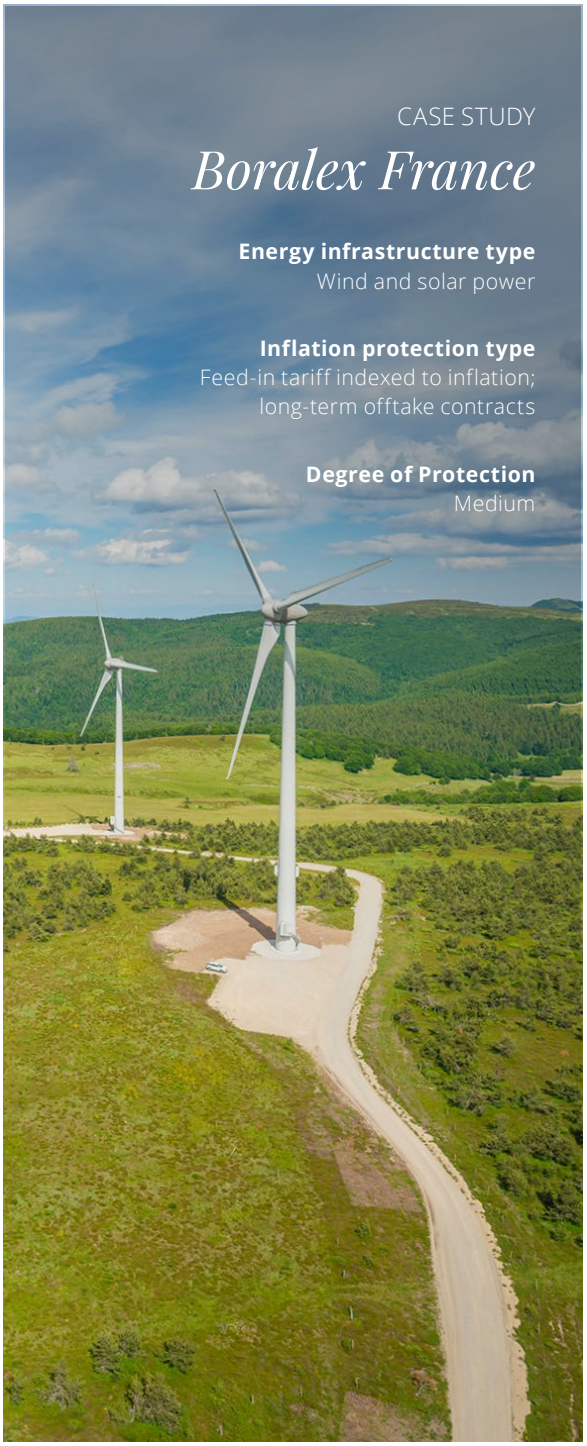
Swissgrid owns and operates Switzerland's high-voltage transmission grid. It is a highly regulated asset and benefits from stable regulated earnings and cash flows. As a transmission system operator, Swissgrid is responsible for the non-discriminatory, reliable and efficient operation of the national grid as well as its sustainable and efficient maintenance. It operates in a natural monopoly, regulated under Swiss law.

Inflation protection mechanism

Swissgrid's earnings are based on a weighted average cost of capital mechanism, or WACC. Determined by Swiss lawmakers and the national regulator, the WACC provides a stable return on capital irrespective of any business performance. This model enables Swissgrid to operate and maintain the country's electricity grid and facilitate cross-border electricity flows.

Swissgrid may pass on all the costs related to regulated activities to customers, which are chiefly electricity suppliers and distribution grid operators. Cost forecasts are made on an annual basis to determine the grid tariffs charged to customers in the following year.

If changes in cost are not accurately forecast in a single year because of unexpected inflation, Swissgrid can compensate for these deviations by reflecting them in the tariff levels in the following years. Swissgrid's revenues are thus completely shielded from the effects of inflation in the long run.



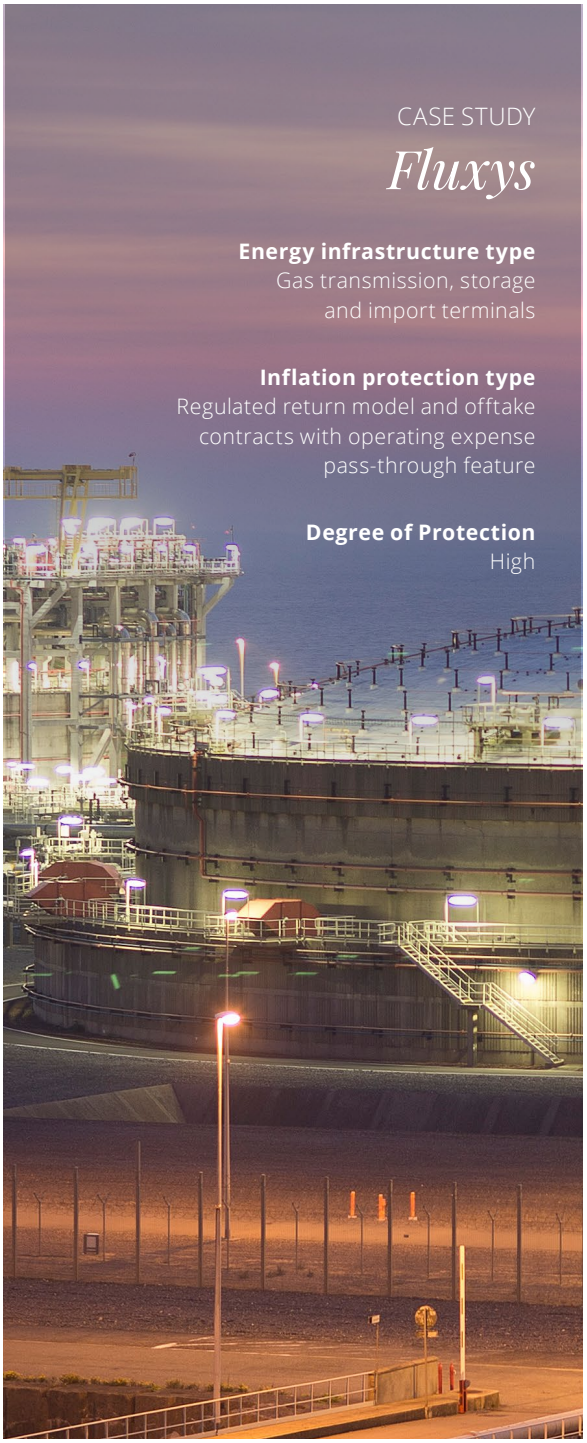
4.2. Wind and solar power platform

The largest private player in the French onshore wind power industry, Boralex France owns and operates around 70 wind farms in France with roughly 1.3 gigawatts of installed capacity and a strong development pipeline. This generation base also includes a small number of solar power plants in southern France.

Inflation protection mechanism

Boralex France benefits from a variety of mechanisms, encompassing both existing projects and a development pipeline. The majority of its generation sites operate under France's feed-in tariff, a fixed price guaranteed for 20 years after a site is built, 30% of which is linked directly to inflation. After the feed-in tariff contract expires, the business model changes to a market-based model, which allows revenues to fluctuate naturally with inflation.

In the context of Boralex France's development pipeline, the company can bid for a feed-in tariff based on its construction costs, including the return on capital it needs to make any given project profitable with a margin of safety.



4.3. Fluxys: Gas transmission and storage

Fluxys is one of the leading European gas transmission and storage operators, with a pipeline network spanning 24,000 kilometers. The company also operates four liquefied natural gas, or LNG, terminals with a total annual regasification capacity of 380 terawatt hours. Fluxys operates across these different technologies but also in different jurisdictions with different business models. Diverse types of inflation protection mechanisms are therefore at work and ultimately mitigate risk at the group level.

Inflation protection mechanism

Shippers using capacity at Fluxys's LNG import terminal at Dunkirk sign contracts that include a direct link to inflation. Capacity offtakers are responsible for the terminals' operating expenses, which Fluxys is able to fully pass through. These two features provide optimal inflation protection.

In Belgium and Germany, where Fluxys operates gas transport pipelines, the company earns a regulated return. In Belgium, the authorities determine the rate of return through an average of the forward government bond yield curve, thereby immediately passing through any signs of inflation. In Germany, regulators use a trailing average, so inflation passes through with a time lag.

5. End note

As an emerging asset class that has only been studied for about two decades, infrastructure passed one of its first real stress tests during the most recent inflation episode. Given that inflation almost always comes in waves, what resilience can we expect during aftershocks or future episodes?

Energy infrastructure assets are positioned to continue this trend, even in the era of decarbonization

Looking back at 100 years of performance information from traditional asset classes, commodities like oil and gas – in other words, classic energy sources – have shown the best inflation protection. As the only infrastructure sector with a direct relationship to commodities, energy infrastructure assets are positioned to continue this trend, even in the era of decarbonization. The price of gas, for example, still shapes electricity markets in many places, given its role as a dispatchable power source.

Leveraging the different business models at work in the sector, infrastructure stands to provide high-quality and long-lasting protection in waves of inflation to come.

6. Note on methods

To have comparable asset class indices and isolate the effect of inflation, the analysis in the second chart, "Under pressure," was performed on calculated composite indices. We calculated the global equity composite using monthly regional allocations from the Scientific Infra (Edhec) broad unlisted infrastructure and the energy unlisted infrastructure index respectively (calculated, equal weight, local currency indices). The same aggregation method was applied to create an inflation composite based on monthly year-over-year inflation. With this approach, we aim to remove extraneous variables such as regional bias from the results.

Empirical quintiles group inflation regimes from low to high. We merged the first three quintiles into a single group, low to medium, because they showed comparable results. We labeled the remaining upper quintiles high and very high.

In our income growth correlation analysis for the third chart, "The test of time," we used a quarterly year-over-year inflation composite and derived income growth from quarterly year-over-year income and price returns. For each infrastructure sector, a corresponding inflation composite has been calculated. Correlations refer to the Pearson correlation coefficient.

ENERGY
INFRASTRUCTURE
PARTNERS

IMPORTANT INFORMATION

This material has been created by Energy Infrastructure Partners AG with the utmost care and to the best of its knowledge and belief. It is neither advice nor a recommendation to buy or sell shares. Investments in financial instruments can be highly complex and risky and subject to fluctuations on financial markets due to various factors such as the operational and financial conditions of the issuers, growth prospects, interest rate developments, economic and political situation or changes in market conditions.

The timeliness of information is limited to the time of the publication; thereafter, EIP is not obligated to keep the information up-to-date. EIP disclaims any guarantee or liability for the timeliness and accuracy of the information. This material and its content may not be reproduced or distributed in whole or in part without the express written permission of Energy Infrastructure Partners AG.

Copyright © 2024 Energy Infrastructure Partners AG.
All rights reserved.

Zurich

Energy Infrastructure Partners AG
Paradeplatz 5, 8001 Zurich
Switzerland

Luxembourg

Energy Infrastructure Partners
6 Boulevard des Lumières, 4369 Belvaux
Luxembourg

Phone

+41 58 330 61 61

Email

contact@energy-infrastructure-partners.com