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GLIO/GRESB Global Listed Infrastructure ESG Index

'GLIO/GRESB ESG Index'

Construction & Maintenance Procedures

October 2020



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1 GLOSSARY

<i>Adjustment factor</i>	A multiplier to correct for changes in the share price not having return implications
<i>Base</i>	Initial value of the index
<i>Carve-out</i>	Situation in which a company disposes part of its portfolio to the public by creating a separate entity, which subsequently may be floated
<i>Compiler</i>	Responsible for the management and maintenance of the index
<i>Directors' holdings</i>	Shares held by the management and board of directors of the company
<i>EBITDA</i>	Earnings before interest, tax, depreciation and amortization
<i>Ex-dividend date</i>	First trading date at which the holder of the shares is no longer entitled to receive the subsequent dividend
<i>Free float</i>	The number of shares outstanding considered to be available for trading on the stock market as a percentage of the total shares outstanding
<i>Gross dividends</i>	Dividends before deduction of withholding taxes
<i>Infrastructure Activities</i>	Income generating activities from the development and ownership of economic Infrastructure assets defined by EDHEC TICCS®
<i>Market capitalization</i>	Number of shares outstanding times the share price



<i>Nominee account</i>	A joint share account held by a financial institution aggregating various separate shareholdings
<i>Primary stock listing</i>	Quotation of the share with the highest number of shares traded measured over a period of one year. In case no trading history over the past year is available the compiler will assign a primary stock listing
<i>Spin-off</i>	Situation in which a company disposes part of its portfolio to the existing shareholders by creating a separate entity, which subsequently may be floated
<i>Suspension of trading</i>	A temporary deferral of regulated trading
<i>Trading volume</i>	Shares traded on the primary stock listing



2 INDEX COMPOSITION

- 2.1 This document contains the rules for the construction and maintenance of the GLIO/GRESB ESG Index.
- 2.2 The GLIO/GRESB ESG Index is based on the GLIO Index 'the parent index'.¹
- 2.3 The GLIO/GRESB ESG Index is a free float market capitalization weighted index based on shares of the major companies in the world focusing on infrastructure activities.
- 2.4 The GLIO/GRESB ESG Index is representative for the movements in the global listed infrastructure asset class.
- 2.5 The GLIO/GRESB ESG Index is not restricted by a fixed number of companies. The number of companies in the index will expand and contract depending on the number of companies that fully meet the eligibility criteria outlined in this document.
- 2.6 The general principles of the GLIO/GRESB ESG Index are to capture companies engaged in activities that are 'mission critical' to the day-to-day functioning of society and the global economy. The companies should exhibit the following headline characteristics:
 - a. High barriers to entry to preserve market position which include natural monopolies, high capital requirements or regulation.
 - b. Predictability of cashflows through the presence of regulation, robust long-term contractual agreements and dominant market position.
 - c. Other considerations will include inflation linkage in contractual agreements, asset obsolescence and payout predictability and stability.
- 2.7 Companies are included if at least 75% of EBITDA is derived from infrastructure activities (as outlined in Rule 2.9 . EBITDA is determined using figures from the latest available annual financial statements of the company. If EBITDA cannot be derived from these financial statements, infrastructure assets will serve as the criterion to determine inclusion.
 - a. Inclusion: under the normal course of business², a company is included when it meets the minimum EBITDA criteria for two consecutive annual reports.
 - b. Exclusion: under the normal course of business, a company is excluded when it fails to meet the minimum EBITDA criteria for two consecutive annual reports.
- 2.8 Companies are included if the publication of audited annual reports on their website are all available in English. An annual report is defined as a current set of accounts consisting of a profit and loss statement, a balance sheet, a directors' review and full notes to the accounts.

¹ See: <https://www.glio.org/ground-rules>

² Company restructurings and long-term strategic asset sales and purchases will be taken into account at the next periodic review.

- 2.9 The GLIO/GRESB ESG Index includes companies from the following infrastructure groups³:

Group Description
Energy Transportation & Storage, including pipelines, processing and storage (ETS)
Communications Infrastructure, including data transmission (COM)
Transport, including airports, seaports, rail, road and urban commuter networks (TRN)
Renewable Generation, including wind, solar, hydroelectric, plus other methods & storage (RNW)
Regulated Network Utilities, including electric transmission & distribution, water and gas distribution (UTL)

- 2.10 Companies are included when they are constituents of the parent GLIO Index as at the review date cut off. The minimum free float must be at least 15%.
- 2.11 Free float is reduced to reflect (strategic) share holdings of more than 5% of the shares outstanding. Combinations of holdings below 5% never qualify, unless these smaller holdings belong to one fiscal entity. Directors' holdings never qualify as free float, even when these holdings fall below 5%. Nominee accounts are always considered to be part of free float market capitalization. In case shareholders have a lock-up on their shares, then these holdings will not be part of free float, even when these holdings fall below five percent.
- 2.12 GRESB public disclosure measures material sustainability disclosure by the listed infrastructure companies in the parent GLIO Index. The GRESB public disclosure score analyses:
- a. Disclosure of sustainability governance
 - b. Disclosure of sustainability implementation
 - c. Disclosure of operational performance data
 - d. Disclosure of stakeholder engagement practices
- 2.13 The first 'cut off' date for company data to be included in the GRESB public disclosure is February 1.

³ These groups are designed to be compatible with EDHECInfra - The Infrastructure Company Classification Standard (TICCS)™

- 2.14 The GRESB public disclosure feedback period for companies to review draft data is April 1 to July 1. New data can be taken into account during this period. The final 'cut off' date is July 1. No further data will be taken into consideration after July 1.
- 2.15 The GRESB public disclosure validation, scoring and benchmarking period is July 2 to the third Friday in October.
- 2.16 The GLIO/GRESB ESG Index uses the GRESB public disclosure scores for company individual weightings.
- 2.17 Country weights are the sum of weighting of individual constituents in every country.
- 2.18 If a company derives over 75% of the EBITDA from one country, not being the country of its primary stock listing thereby not crossing continental borders, the company is placed in the index of the country in which the assets are located.
- 2.19 The stocks included in the GLIO/GRESB ESG Index are assigned a weighting derived from their free float market capitalization and their ESG banding.
- 2.20 Only stock exchange quoted companies without restrictions on foreign ownership are eligible for inclusion in the GLIO/GRESB ESG Index.
- 2.21 The methodology of the GLIO/GRESB ESG Index conforms to the UCITS investment directives set by the EU.



3 INDEX CALCULATION

- 3.1 The value of the GLIO/GRESB ESG Index is based on total return calculations. The components of total return are price return and dividend return.
- 3.2 The inception date of the GLIO/GRESB ESG Index is 16 November 2018 and the base is 100.00.
- 3.3 Share prices are closing prices established during normal, regulated trading on the stock exchange of primary stock listing.
- 3.4 Share prices used are most recent closing trade prices.
- 3.5 Regular changes in free float will be implemented once a month, after close of trading on the third Friday of each month.
- 3.6 Changes in free float caused by a corporate event will be implemented immediately, after close of trading on the day the effects on the company are known.
- 3.7 Regular free float changes will be reported at least one (1) week before occurrence. Changes in free float caused by a corporate event will be reported at least three (3) business days before occurrence.
- 3.8 The GLIO/GRESB ESG Index uses GRESB infrastructure public disclosure⁴ scores to apply an 'ESG weight' to individual companies on an annual basis.
- 3.9 Final GRESB infrastructure public disclosure scores are delivered annually to GPR by the third Friday in October.
- 3.10 Individual company scores are rounded up in a banding system of increments 10%, from 10% to 100%:

GRESB Rating	GRESB Score	GLIO/GRESB ESG Index Band
A	90-100	100%
	80-89	90%
B	70-79	80%
	60-69	70%
C	50-59	60%
	40-49	50%
D	30-39	40%
	20-29	30%
E	10-19	20%
	0-10	10%

⁴ See: <https://gresb.com/infrastructure-public-disclosure/>



- 3.11 The GLIO/GRESB ESG Index reflects gross dividend payments.
- 3.12 Dividends are included in the GLIO/GRESB ESG Index at the ex-dividend date.
- 3.13 Dividends paid out by a company are immediately reinvested in the index at the first index calculation.
- 3.14 Foreign exchange rates are WM/Reuters London close rates.
- 3.15 If for any reason the stock price or a foreign exchange rate is not known or deemed to be unreliable the compiler will, after proper inquiries have been made with the relevant pricing source, calculate the GLIO/GRESB ESG Index on the basis of the most recent price for that share or foreign exchange rate which is known.



4 INDEX PUBLICATION

- 4.1 The current value of the GLIO/GRESB ESG INDEX will be published once a day.
- 4.2 Index values calculated will be published on the next trading day.
- 4.3 The compiler of the GLIO/GRESB ESG Index reserves the right to delay publication of values of the index or to suspend or cease publication, if circumstances prevail which prevent the proper calculation of the index.
- 4.4 The compiler of GLIO/GRESB ESG Index reserves the right to recalculate values of the index whenever errors or distortions occur that are deemed to be significant. Users of the GLIO/GRESB ESG Index are notified whenever such a recalculation occurs.



5 INDEX PERIODIC ADJUSTMENT

General Rules

- 5.1 The main periodic adjustment elements will establish that all eligible companies are constituents of the parent GLIO Index. The aim of the compiler of the GLIO/GRESB ESG Index when making a periodic adjustment is to ensure that the weighting and selection of the component countries and shares remains in accordance with the basic principles of the GLIO Index and the GLIO/GRESB ESG Index, as described in chapter 2.
- 5.2 Periodic adjustments to the selection of shares in the GLIO/GRESB ESG INDEX will occur annually after trading hours on the third Friday of November.
- 5.3 Changes in the selection of stocks will be announced on the first trading date of November. The compiler uses data as at the final trading day of October and GRESB infrastructure public disclosure scores which are delivered to the compiler by the third Friday of October.
- 5.4 Periodic adjustment to the selection of shares included in the GLIO/GRESB ESG Index may not change the historic value of the GLIO/GRESB ESG Index.
- 5.5 If a share has multiple stock exchange listings only the primary stock listing will be considered.
- 5.6 In cases, which are not explicitly defined in the rules for periodic adjustment, periodic adjustment will be carried out in spirit of the aims mentioned in chapter 2. All adjustments must meet the criteria mentioned in chapter 2.

Company Structure Changes

- 6.1 In case of a merger or acquisition in which all of the companies involved are in the GLIO/GRESB ESG Index, the 'surviving' company will continue to be part of the GLIO/GRESB ESG Index. The weight of this company is dependent on the free float market capitalization of the surviving company. Free float and shares will be adjusted based on public information following the offer. The final return of the 'target' company will reflect the offer price.
- 6.2 In case of a merger or acquisition in which one of the companies involved is in the GLIO/GRESB ESG Index and the other company does not meet the criteria as expressed in chapter 2, the 'surviving' company will have to comply with these criteria in order for the company to remain included in the GLIO/GRESB ESG Index. If the resulting company fails to meet these criteria, the company will be excluded. The final return of the 'target' company will reflect the offer price.
- 6.3 In case of a merger or acquisition, whereby the target company remains listed on the stock exchange with a free float percentage of at least 15%, this target company will continue to be part of the GLIO/GRESB ESG Index when the offer has been declared unconditional. This article will be superior to Rule 5.10 and Rule 5.11.
- 6.4 In case of a stock split, a stock dividend, a poison pill, a rights issue or a bonus issue the number of shares will be adjusted. Furthermore, an adjustment factor is implemented to ensure continuity of return calculations.
- 6.5 In the event of a rights issue, an adjustment factor is implemented to ensure continuity of return calculations. If the rights issue is fully underwritten, then the newly issued shares will be included in the GLIO/GRESB ESG Index at the closing price at the end of the ex-right date. If the rights issue is not fully underwritten, then the newly issued shares will be included in the index at the closing price at the end of the first day of trading. In case of doubt, the rights issue will be perceived as not fully underwritten.
- 6.6 In the occurrence of a spin-off of a company included in the GLIO/GRESB ESG Index, both the original and/or the newly created entities will be eligible for inclusion in the index provided that new entities meet the criteria of chapter 1.
- 6.7 After the occurrence of a carve-out of part of a company included in the GLIO/GRESB ESG Index, only the original company will remain part of the index. The carve-out will be treated as an initial public offering (IPO).
- 6.8 In case of a suspension of trading in a company, the price of the share will remain the price of the last trade in the companies' shares. In case the suspension eventually leads to a bankruptcy or the liquidation of the company, the loss of the investment will be taken on the filing date. Whenever the suspension continues for more than three (3) consecutive months, the share price will be set at zero, assuming a total loss of the investment.
- 6.9 The amount of shares outstanding will be changed to reflect seasoned offerings and share repurchases at the day of occurrence.



7 FINAL PROVISIONS OF THE INDEX

- 6.1 Global Property Research (GPR) acts as the compiler of the GLIO/GRESB ESG Index.
- 6.2 The rules of the GLIO/GRESB ESG Index are overseen by the GLIO Index Steering Committee.⁵ GLIO Index Steering Committee advises the compiler exclusively on the rules governing the GLIO/GRESB ESG INDEX.
- 6.3 The GLIO Index Steering Committee has no responsibility whatsoever for the calculation, maintenance or dissemination of the GLIO/GRESB ESG Index.
- 6.4 The GLIO Index Steering Committee does not advise or determine, in any way, individual company inclusions and exclusions.
- 6.5 The compiler of the GLIO/GRESB ESG Index is responsible for the daily administration of the index. The compiler of the GLIO/GRESB ESG Index is fully responsible for decisions regarding the interpretation of these rules.
- 6.6 In cases for which the rules make no provision, but which require immediate action, the compiler of the GLIO/GRESB ESG Index shall decide to the best of his ability and within the spirit of and in accordance with the aim of the rules.
- 6.7 These rules may be amended (upon the advice of the GLIO Index Steering Committee), which may also lead to changes in constituents in the GLIO/GRESB ESG INDEX.
- 6.8 All changes and adjustments to the rules of the GLIO/GRESB ESG Index are subject to a period of at least three (3) months between the date of publication of a proposed amendment and the date on which changes and adjustments come into effect.
- 6.9 No responsibility is accepted for damages arising from an amendment to the rules of the GLIO/GRESB ESG Index.
- 6.10 The compiler of the GLIO/GRESB ESG INDEX shall make every effort to safeguard the accuracy of the composition, publication and adjustment of the GLIO/GRESB ESG Index in accordance with the applicable rules. However, the compiler of the GLIO/GRESB ESG INDEX accepts no responsibility whatsoever for any inaccuracy in the share prices, the calculation and publication of the index, the information used to make adjustments neither in the GLIO/GRESB ESG Index nor in the adjustments themselves.
- 6.11 There might be circumstances pursuant to which the compiler can decide to terminate the GLIO/GRESB ESG Index. Before deciding to terminate the Index, the compiler shall consult with the client(s) using the GLIO/GRESB ESG Index. If the compiler, after the consultation, decides to terminate the GLIO/GRESB ESG Index the compiler shall give the client(s) using the GLIO/GRESB ESG Index at least two (2) years prior notice before the GLIO/GRESB ESG Index is terminated. Whenever possible, the compiler shall suggest alternative indices to the client(s) using the GLIO/GRESB ESG Index.

⁵ Members and Terms of Reference of the GLIO Index Steering Committee can be found here: www.glio.org / www.globalpropertyresearch.com



6.12 The latest version of the rules are freely available at:

6.12.1 www.glio.org

6.12.2 www.gresb.com

6.12.3 www.globalpropertyresearch.com



8 VERSION HISTORY



9 TECHNICAL APPENDIX

8.1 Calculating returns for individual companies

The returns for individual companies are calculated as follows:

$$r_{i,t} = \frac{P_{i,t} + D_{i,t} - P_{i,t-1}}{P_{i,t-1}}, \text{ where}$$

$r_{i,t}$	Return of company i in period t
t	Calculation date
$P_{i,t}$	Price of company i at time t
$D_{i,t}$	Dividend on company i at time t
$P_{i,t-1}$	Price of company i at time $t-1$
$t - 1$	Previous business day

8.2 Calculating weights of individual companies at annual rebalancing

The weight of companies in the index is derived as follows:

$$W_{i,t} = \frac{C_{i,t} * G_{i,t}}{\sum_{i=1}^{N_t} C_{i,t} * G_{i,t}}, \text{ where}$$

$W_{i,t}$	Weight of company i at time t
$C_{i,t-1}$	Free float market capitalization of company i at time $t-1$
$G_{i,t}$	GLIO/GRESB ESG Index Band of company i at time t
N_t	Number of companies that meet the inclusion criteria at time t

8.3 Calculating weights of individual companies after annual rebalancing

After the annual rebalancing company weights float on free float market cap on a daily basis:

$$W_{i,t} = \frac{W_{i,t-1} * C_{i,t} / C_{i,t-1}}{\sum_{i=1}^{N_t} W_{i,t-1} * C_{i,t} / C_{i,t-1}}$$

8.4 Calculating Indices

The index value is calculated by making a sum of all contributions of all companies in the index, multiplied by the index value of the previous trading day. The contribution of a company is calculated by multiplying its return by its respective weight.

The weight of companies in the index is derived as follows:

$$I_t = I_{t-1} * \left(1 + \sum_{i=1}^{N_t} (W_{i,t} * r_{i,t})\right), \text{ where}$$

I_t Index value at time t



10 LIST OF HEADLINE INDICES REGIONS, GROUPS & SECTORS

Region	Sector	Developed Market Indices	Emerging Market Indices
Global, Americas, Asia-Pacific, EMEA	Communications Infrastructure, Energy Transportation & Storage, Renewable Generation, Transport, Regulated Network Utilities	Global Developed	Global Emerging

11 LIST OF STOCK EXCHANGES + MARKET IDENTIFIER CODES

Africa

Botswana	Botswana Stock Exchange	XBOT
Namibia	Namibian Stock Exchange	XNAM
South Africa	Johannesburg Stock Exchange	XJSE

Americas

Argentina	Bolsa de Comercio de Buenos Aires	XBUE
Brazil	Bovespa (Sao Paulo SE)	BVMF
Canada	Toronto Stock Exchange	XTSE; XTSX
Chile	Santiago Stock Exchange	XSGO
Colombia	Bolsa De Valores De Colombia	XBOG
Mexico	Bolsa Mexicana de Valores	XMEX
United States	New York Stock Exchange	XASE; XGNS; XNAS; XNCM; XNMS; XNYS

Asia

China

Hong Kong	Hong Kong Stock Exchange	XHKG
India	The Bombay Stock Exchange	XBOM
Indonesia	Indonesia Stock Exchange	XIDX
Japan	Tokyo Stock Exchange	XJAS; XTKS
Korea	Korea Exchange	XKOS; XKRX
Malaysia	Bursa Malaysia	XKLS
Pakistan	Pakistan Stock Exchange Limited	XKAR
Philippines	Philippine Stock Exchange	XPHS
Singapore	Singapore Exchange	XSES
Taiwan	Taiwan Stock Exchange	ROCO; XTAI
Thailand	The Stock Exchange Of Thailand	XBKF; XBKK
Vietnam	Ho Chi Minh Stock Exchange	XSTC

Europe

Austria	Vienna Stock Exchange	XWBO
Belgium	Euronext Brussels	XBRU
Croatia	Zagreb Stock Exchange	XZAG
Denmark	Nasdaq Copenhagen A/S	XCSE
Finland	Nasdaq Helsinki	FNFI; XHEL
France	Euronext Paris	ALXP; XPAR
Germany	Deutsche Börse	XBER; XDUS; XETR; XFRA; XHAM; XMUN; XSTU
Greece	Athens Stock Exchange	XATH
Hungary	Budapest Stock Exchange	XBUD
Ireland	Euronext Dublin	XDUB
Israel	Tel Aviv Stock Exchange	XTAE

Italy	Italian Stock Exchange	XMIL
Malta	Malta Stock Exchange	XMAL
Netherlands	Euronext Amsterdam	XAMS
Norway	Oslo Stock Exchange	XOSL
Poland	Warsaw Stock Exchange	XWAR
Portugal	Euronext - Euronext Lisbon	XLIS
Romania	Spot Regulated Market - BVB	XBSE
Russian Federation	Moscow Exchange - All Markets	MISX
Slovenia	Ljubljana Stock Exchange (Official Market)	XLJU
Spain	Bolsas y Mercados Españoles	MABX; XMAD
Sweden	Nasdaq Stockholm	FNSE; SSME; XNGM; XSAT; XSTO
Switzerland	SIX Swiss Exchange	XSWX; XVTX
Turkey	Istanbul Stock Exchange	XIST
United Kingdom	London Stock Exchange	XLON

Oceania

Australia	Australian Stock Exchange	XASX
New Zealand	New Zealand Exchange	XNZE



P.O. Box 75666
1070 AR Amsterdam
The Netherlands

Phone: +31 20 3488 451/452
Fax: +31 20 3488 962

E-mail: info@gpr.nl
Website: www.globalpropertyresearch.com