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Understanding I-PEPs: A Framework for Steering Portfolio Decarbonisation and Supporting Real-Economy Transition

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Foreword by the Green Finance Alliance

In recent years, emissions-based metrics have enabled an increasing number of financial institutions to set decarbonisation targets for their portfolios and to monitor progress. As experience in this area has grown, a more nuanced understanding of the limitations of existing emissions-based metrics for steering portfolio decarbonisation has emerged, including their potentially limited connection to real-economy decarbonisation efforts.

The Indicators for Portfolio-related Emission Performance (I-PEPs) were developed to provide a metric that is resource-efficient to calculate and interpret, while reducing the influence of factors such as market value fluctuations of listed equities that may distort the decarbonisation performance and portfolio steering signals. While alternative approaches have emerged to address valuation-related effects (see for example the assessment of attribution analyses by Scientific Portfolio, an EDHEC Venture (Bouchet, 2025) or the recommended use of a fluctuation analysis in the third iteration of the Financed Emissions Standard of the Partnership for Carbon Accounting Financials (PCAF, 2025)), the Green Finance Alliance considers I-PEPs to be a particularly relevant option for organisations seeking a relatively simple and resource-light approach.

At its core, I-PEPs represent a shift from an accounting-based approach when using financed emissions (or metrics based on financed emissions) towards a performance-based approach to portfolio decarbonisation. Rather than focusing on absolute emission levels at a given point in time, the methodology focuses on year-on-year changes in emissions, thereby creating a clearer link to real-economy decarbonisation progress.

The I-PEPs Methodology Standard, developed under the Green Finance Alliance – an initiative convened by Austria's Federal Ministry for Climate and Environmental Protection – provides a detailed description of the methodology, including application requirements and recommendations.

The Green Finance Alliance acknowledges the contribution of researchers from EDHEC Business School to consultations on the draft methodology and welcomes the publication of the EDHEC Climate Institute note "Understanding I-PEPs", which reflects the core methodological principles set out in the I-PEPs Methodology Standard and supports interested organisations in becoming familiar with key concepts of I-PEPs and their application. For further information, readers are encouraged to consult the full methodology standard when applying I-PEPs in practice.

Introduction

In 2022, the Austrian federal ministry responsible for climate action launched the Green Finance Alliance (GFA) as a criteria-based initiative designed to integrate climate objectives into the core business of Austrian financial institutions (i.e., investment and lending portfolios and, for insurers, underwriting portfolio) (GFA, 2024, 2025, 2026a).

GFA members voluntarily but bindingly commit to achieving greenhouse gas (GHG) neutrality no later than 2050, consistent with the European Union's long-term goal of climate neutrality.

To support this objective, the GFA framework (GFA, 2026a) combines a pathway-based approach to the continuous reduction of GHG emissions attributable to portfolios and core business activities with the expansion of green activities through the mobilisation of capital towards climate-positive investments, the management of climate risks and the strengthening of resilience, and the integration of climate considerations into governance, risk management and business processes ("climate governance and mainstreaming").

This is operationalised through a detailed catalogue of mandatory criteria covering climate strategy, reporting, engagement, fossil fuel phase-out (coal, oil and natural gas), and annual monitoring under a "comply or explain" approach (GFA, 2024, 2026a).

With this end in mind, the GFA allows members to rely either on internationally recognised methodologies such as those of the Science Based Targets initiative (SBTi) or on its own portfolio steering and monitoring system, the Climate Navigation Cockpit (CNC). The CNC is structured around three higher-level steering modules – Portfolio Decarbonisation, Expansion of Green Activities, and Impact Engagement (GFA, 2026a) – and their related key performance indicators (KPIs).

The Portfolio Decarbonisation module is intended primarily to support the decarbonisation of assets and activities in transition, rather than to steer portfolios toward already "green" assets or activities fundamentally incompatible with long-term climate objectives.

That module is built around a purpose-built set of KPIs, the Indicators for Portfolio-related Emission Performance (I-PEPs), which are intended to guide and assess the decarbonisation of investment, lending and insurance-related underwriting portfolios (GFA, 2026b). The other two steering modules within the CNC are primarily based on existing industry approaches.

The present note examines the first I-PEPs methodology standard (Version 1.0, hereafter "the Standard") with a view to clarifying its conceptual rationale. A separate note will assess its fitness for purpose as a portfolio steering instrument within the GFA framework and beyond.

Presentation of the Indicators

1.1 Scope and Role

The Indicators for Portfolio-related Emission Performance (I-PEPs) are presented as a "new generation" of KPIs intended to enable financial institutions, banks, insurance companies, asset managers, and pension funds, to steer the decarbonisation of their core business, i.e., as relevant, investments, lending, and insurance-related underwriting. In practice, this steering is meant to occur primarily through a set of finer-grained indicators computed for individual activities and relatively homogeneous sub-portfolios within each business line. More specifically, investment portfolios are broken down into equities and corporate bonds, and sovereign bonds, while lending portfolios are subdivided into corporate lending, mortgages, commercial real estate, and project finance: electricity production. In addition, corporate securities portfolios, lending portfolios, and underwriting portfolios may be further subdivided into sectoral portfolios corresponding to GHG-intensive sectors.

Within the GFA CNC, I-PEPs constitute the central KPI set underpinning the Portfolio Decarbonisation module. Other aspects of climate integration under the GFA framework are to be managed through separate metrics (GFA, 2024, 2026a).

I-PEPs are ex-post indicators measuring the year-on-year change in emissions performance of assets. Although constructed as an ex-post flow indicator, I-PEPs can also generate "important steering signals for the ex-ante evaluation of new business", including the assessment of related transition plans (GFA, 2026b), insofar as new assets shape future measured performance.

1.2 Construction

As a general rule, I-PEPs are computed by first measuring, for each portfolio position, the year-on-year relative change in the relevant emissions metric and then aggregating these position-level performance measures using the relevant weighting scheme (with a modified approach applied to project and real-estate portfolios):

$$\text{I-PEPs} = \sum_i w_{i,t+1} \left(\frac{Em_{i,t+1}}{Em_{i,t}} - 1 \right)$$

where w_i denotes the weight of asset i in the analysed sub-portfolio and $Em_{i,t}$ denotes the relevant emissions metric measured at time t (absolute emissions or emissions intensity, depending on the applicable methodology variant).

1.2.1 Weighting schemes

Weightings are determined jointly by (i) data availability and (ii) the degree of influence that the financial institution can exert on the climate alignment ambitions of the majority of the assets in the analysed sub-portfolio.

Where annually reported absolute emissions data are unavailable, emissions-based weighting cannot be applied and weights are determined solely by relative portfolio values. Where the availability of emissions data is sufficient, the weighting approach depends on the degree of influence: if influence is "rather possible", which the GFA expects will be rare, weights are determined by relative emissions under the "emissions-based approach" (EA); if influence is

"rather not possible", weights are determined solely by relative portfolio volumes under the "portfolio-centric approach" (PA); and if influence is partly possible, the weighting follows the "balanced approach" (BA), which applies a simple average of the emissions-based and portfolio-centric approaches.[1]

The notion of portfolio volume differs across activities. For investment and lending portfolios, the weights of portfolio positions are determined using their outstanding volumes at the end of the reporting year, with lending positions measured using drawn amounts only (undrawn credit lines are excluded). For underwriting portfolios, weights are determined using annual gross written premiums, i.e. each insured company's share of the total premiums received during the reporting year.

1.2.2 Emissions Performance Calculation

The computation of emissions performance may rely on different metrics (e.g., absolute emissions or emissions intensities), depending on data availability, sector characteristics, and the mechanisms through which decarbonisation is expected to occur.

For corporate portfolios, whether of an investment, lending, or underwriting nature, absolute emissions are the default calculation basis.[2] However, the Standard also provides for the use of physical emission intensities to track the performance of sub-portfolios in GHG-intensive sectors,[3] including construction and real estate, electricity production, steel and cement production, and transport (automotive, aviation, shipping).[4] Physical intensities may also be used where required for external reporting or disclosure purposes.

For project and real-estate portfolios, the GFA assumes that decarbonisation is driven less by year-on-year changes in the emission intensity of individual assets, which it considers difficult to capture consistently in practice given current data limitations, than by changes in overall portfolio composition, e.g., due to loan repayments and extension of new financing. The standard approach therefore tracks changes in portfolio-level weighted average emission intensity (EI), computed as:

$$\text{Portfolio I-PEPs} = \frac{Em_{P,t+1}}{Em_{P,t}} - 1 \; with \; Em_{P,t} = \sum_i w_{i,t} \, EI_{i,t}$$

where $EI_{i,t}$ denotes the physical emission intensity of asset *i* at time *t*.

This portfolio-level intensity comparison may also, by exception, be used for sectoral corporate sub-portfolios.

The GFA nevertheless recognises that decarbonisation can also occur at the level of individual assets, for example, in built infrastructure through renovation or energy-efficiency measures. In such cases, and subject to data availability, it allows the use of the standard I-PEPs formula with performance measured through changes in asset-level physical emission intensities, as in GHG-intensive sectoral portfolios.

1 - The GFA notes that sub-portfolios may be sub-divided to track performance at the level of homogeneous portfolios in terms of influence and emission data availability. The GFA considers this adds complexity and thus does not recommend such subdivision.
2 - Sovereign bond portfolios similarly rely on production-based emissions metrics. For discussion of production-based emissions accounting in relation to environmentally extended input–output (EEIO) approaches and consumption-based accounting frameworks, see Ducoulombier (2025).
3 - This is subject to data availability and to such sub-portfolios having appropriate depth (i.e., number of positions) and volume.
4 - Recommended units are $kgCO_2e/m^2$ for construction and real estate, tCO_2e/MWh for electricity production, tCO_2e/tonne of output for steel and cement production, gCO_2e/v.km for passenger vehicles, gCO_2e/RPK (Revenue Passenger Kilometres) or gCO_2e/RTK (Revenue Tonne Kilometres) for aviation, and gCO_2e/TKM (Tonne-Kilometres) for shipping.

1.3 Indicator Variants and Aggregation

Table 1 presents the I-PEPs variants defined in the Standard, indicating for each the relevant emissions-performance calculation basis and the general weighting approach applied.

Table 1: I-PEPs variants with their emissions performance calculation basis and weighting approach

	I-PEPs name	Availability of annual absolute emissions data	Emissions performance calculation basis	Degree of influence on climate alignment ambitions	General weighting approach
Investment portfolio					
Equity and corporate bonds	CPEP	✔	Corporate absolute emissions (Scope 1+2)[5]	Limited	PA
				Partial	BA
				Substantial	EA
Segregated sub-portfolios for GHG-intensive sectors	CPEPsector	✔	Physical emission intensities (Scope 1+2)	Limited	PA
				Partial	BA
				Substantial	EA
Sovereign bonds	SPEP	✔	Production-based emissions	Limited	PA
Lending portfolio					
Corporate lending	LPEP	✔	Corporate absolute emissions (Scope 1+2)	Partial	BA
Segregated sub-portfolios for GHG-intensive sectors	LPEPsector	✔	Physical emission intensities (Scope 1+2)		
Mortgages	MPEP	✘	Physical emission intensities	N/A[6]	PA[7]
Commercial real estate	CREPEP				
Project finance: electricity production	EPEP				
Underwriting portfolio					
Commercial customer insurance	UPEP	✔	Corporate absolute emissions (Scope 1+2)	Rather not possible	PA
Segregated sub-portfolios for GHG-intensive sectors	UPEPsector				

For the investment and lending portfolio, the GFA provides for the aggregation of sub-portfolio I-PEPs into higher-level summary metrics. Variants based on absolute emissions and physical emission intensities are aggregated into separate metrics (denoted APEPabs and APEPint, respectively). In both cases, aggregation is performed on a portfolio-volume basis (i.e. what the GFA terms the *Portfolio-centric Approach*), irrespective of the weighting approach applied at sub-portfolio level.

5 - The Standard also recognises the relevance of Scope 3 emissions where value-chain emissions materially shape sectoral emissions profiles and are reported on a sufficiently consistent and comparable basis. Given current data limitations, however, the practical focus remains on Scope 1 and 2 emissions. For discussion of Scope 3 reporting and modelling challenges, see Ducoulombier (2021 and 2024).
6 - Financial institutions should consider physical intensities in loan decisions and support renovation and efficiency projects.
7 - Here, the "portfolio-centric approach" does not average changes in asset-level intensities but instead tracks year-on-year changes in portfolio-level weighted average intensity.

1.4 Target Setting

Target setting in the Standard is anchored at the level of the relevant I-PEPs variants, consistent with its steering ambitions, rather than at the level of aggregated metrics, which may be computed for communication purposes.

For each I-PEPs, target setting starts from the selection of a sectorally relevant pathway consistent with the climate ambitions of the institution applying the framework.[8] Such pathways are typically anchored in climate scenarios, national or international climate targets, or long-term commitments made under voluntary initiatives, and therefore usually extend over several decades.[9]

The target periods used for steering, however, are shorter. Financial institutions are expected to define I-PEPs targets over a short- to medium-term horizon, typically ranging from three to fifteen years, in a manner consistent with their financial planning cycles and environmental commitments.

Reference levels for the base year and the target year are extracted from the selected net-zero pathway. For indicators based on absolute emissions, the cumulative reduction implied by these levels is translated into a constant annual compression rate using a geometric average. This rate defines the annual target value for the relevant I-PEPs indicator.

For indicators based on physical emission intensities, the Standard distinguishes two situations. If the institution considers its underlying portfolio broadly representative of the pathway, the same geometric-average approach is applied. If, however, the portfolio is judged to over-represent leaders or laggards relative to the pathway, the methodology instead applies a convergence approach, implying faster decarbonisation for laggard portfolios and slower compression for leader portfolios relative to the pathway average.

These target-setting approaches broadly reflect established practices already used in sectoral alignment methodologies, including those underpinning SBTi target setting.

8 - While the Standard does not explicitly state a required level of ambition, members of the GFA are required to use a pathway that is aligned with net-zero by 2050 (GFA, 2026b).
9 - Relevant pathways may imply net-zero dates ranging roughly from 2040 to 2060 depending on sectoral and geographic transition dynamics. Where heterogeneous sub-portfolios require the use of multiple climate scenarios, the Standard calls for the greatest possible consistency in the underlying assumptions, notably with respect to macroeconomic parameters, carbon dioxide removal, and the assumed residual emissions budget.

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EDHEC Business School has been recognised for over 20 years for its expertise in finance. Its approach to climate finance is founded on a commitment to equipping finance professionals and decision-makers with the insights, tools, and solutions necessary to navigate the challenges and opportunities presented by climate change. EDHEC has developed a significant research capacity on the financial measurement of climate risk, which relies on the best researchers in climate finance, and brings together experts in climate risks as well as in quantitative analysis.

The EDHEC Climate Institute (ECI) focuses on helping private and public decision-makers manage climate-related financial risks and make the most of financial tools to support the transition to a low-emission economy that is more resilient to climate change. It has a long track record as an independent and critical reference centre in helping long-term investors to understand and manage the financial implications of climate change on asset prices and the management of investments and climate action policies. The institute has also developed an expertise in physical risks, developing proprietary research frameworks and innovative approaches. ECI is also conducting advanced research on climate transition risks, with a focus on supply chain emissions (Scope 3), consumer choices, and emerging technologies.

As part of its mission, ECI collaborates with academic partners, businesses, and financial players to establish targeted research partnerships. This includes making research outputs, publications, and data available in open source to maximise impact and accessibility.

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