

Bloomberg Euro Treasury 1-3 Year Carbon Tilted Index

The Bloomberg Euro Treasury 1-3 Year Carbon Tilted Index (the “**Index**”) tracks fixed-rate, investment-grade sovereign debt from member states of the European Union that also participate in the European Monetary Union. To be included in the index, securities must have at least 1 year and up to, but not including, 3 years to maturity. The Bloomberg Euro Treasury 1-3 Year Carbon Tilted Index is based on the flagship [Euro Treasury Index](#) and uses CO₂ Per Capita Scores by Bloomberg Sustainable Finance Solutions, derived from normalizing CO₂ per capita data from [EDGAR](#)¹, to tilt country allocations above or below their baseline market weights. The CO₂ Per Capita Scores range from 0-10, with 10 being the best. The index was created in July 2024, with history backfilled to January 2018.

This document is intended to be read in conjunction with the [Bloomberg Euro Treasury Index Methodology](#) these documents collectively constitute the index methodology for this Index.

The features specific to this Index are set out below.

Description of Index Constituents	Euro Treasury Bonds
Index Ticker	I38894EU Index: Total Return EUR Unhedged
Eligibility Requirements:	
Maturity	Securities must have at least 1 year and up to, but not including, 3 years to maturity
Minimum Liquidity Requirements	See above

Environment, Social and Governance (ESG) Rules

This section is not intended to be exhaustive and is being provided for information purposes only - detailed ESG disclosures set out in dedicated section below.

CO₂ Per Capita Score

Bloomberg's Government CO₂ Per Capita Scores were developed by Bloomberg Sustainable Finance Solutions ("SFS") and measure a country or region's CO₂ per capita efficiency, as sourced from EDGAR, using a log normal score model on a 0-10 scale, with 10 being best. The Index uses CO₂ Per Capita Scores to adjust the country weights in the Index as described in the 'Lower Carbon Tilts' section below. By adjusting market value weights according to the CO₂ Per Capita Score, the index methodology systematically increases allocation to countries that score higher, relative to their peers, with respect to their CO₂ per capita.

Index Construction

Section 1: Eligibility

The eligible securities for the Indices will be based upon the eligibility criteria of a Parent Index derived from the respective Index methodology, which provides the investable universe for a given Index. Methodologies for each of these Parent Indices can be found [here](#) and the methodologies for these indices should be read in conjunction with the [Bloomberg Fixed Income Index Methodology](#).

Countries without CO₂ Per Capita Scores are ineligible for the index. As of March 2024, 147 countries were scored by Bloomberg Sustainable Finance Solutions. Even though EDGAR publishes CO₂ per capita data for more than 147 countries, Bloomberg Sustainable Finance Solutions maintains a separate universe of countries for scoring purposes.

Section 2: Construction

The methodology begins with the baseline Parent Index market values and applies carbon tilts to ensure that country allocations are generally aligned with those of the Parent Index, in addition to limiting overexposure to small markets with limited liquidity.

The carbon tilts are constructed for each country/region, independent of any index universe, using a logistic function.

$$\left(\frac{1}{1+e^{-c}}\right)^{15}, \text{ where } c \text{ is the CO}_2 \text{ Per Capita Score.}$$

Index weights are constructed by renormalizing the adjusted market values based on the tilt factor.

$$w_i = \frac{\left(\frac{1}{1+e^{-c}}\right)^{15} \cdot \text{MarketValue}_i}{\sum \left(\frac{1}{1+e^{-c}}\right)^{15} \cdot \text{MarketValue}_n}$$

Section 3: Frequency of Score Updates and Index Rebalancing

To provide sufficient time to review the scores if an update occurs, the tilts are adjusted in the Projected Universe in February, May, August, or November. Subsequently, the tilts are adjusted in the Returns Universe in March, June, September, and December. For example, the CO₂ Per Capita Scores published in January 2024 as of December 2023 quarter-end were used to update the tilts in the Projected Universe in February 2024 and in the Returns Universe in March 2024. The scores are typically published between 3-6 weeks following each quarter-end.

Although the CO₂ Per Capita Scores are based on data released annually by EDGAR², which typically publishes emissions in the fourth quarter, the scores will update following any quarter EDGAR releases the latest CO₂ per capita figures or during the December quarter-end update when the model parameters are refreshed, which are computed in a separate process from scoring. Therefore, most tilt updates will occur in the Projected Universe in February and in the Returns Universe in March, based on the latest EDGAR data and scoring parameters, unless EDGAR releases data outside of the fourth quarter.

For each index, Bloomberg maintains two universes of securities: the Returns (Backward) and the Projected (Forward) Universes. The composition of the Returns Universe is rebalanced at each month-end and represents the fixed set of bonds on which index returns are calculated for the next month. The Projected Universe is a forward-looking projection that changes daily to reflect issues dropping out of and entering the index but is not used for return calculations. On the last business day of the month (the rebalancing date), the composition of the latest Projected Universe becomes the Returns Universe for the following month.

² EDGAR emissions data is published annually on a 1-year lag, with data currently available from 1970 to 2022 for CO₂ per capita.

Version History

Date	Update
August 2024	Index launch

Environment, Social and Governance (ESG) Factor Disclosures

Any country without a CO₂ Per Capita Score is excluded from the Index.

EXPLANATION OF HOW ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) FACTORS ARE REFLECTED IN THE KEY ELEMENTS OF THE BENCHMARK METHODOLOGY			
1. Name of the benchmark administrator.		Bloomberg Index Services Limited ("BISL")	
2. Type of benchmark		Sovereign Bonds	
3. Name of the benchmark or family benchmarks.		Bloomberg Euro Treasury 1-3 Year Carbon Tilted Index	
4. Does the benchmark methodology for the benchmark or family of benchmarks take into account ESG factors?		Yes	
<p>5. Where the response to Item 4 is positive, please list below, for each family of benchmarks, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to Delegated Regulation (EU) 2020/1816. Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets. The ESG factors shall be disclosed at an aggregated weighted average value at the level of the family of benchmarks.</p>			
a) List of combined ESG factors considered	N/A		
b) List of combined Environmental factors considered	CO2 Per Capita Score	Weighting	<p>The index uses quantitative Government CO₂ Per Capita Scores developed by Bloomberg Sustainable Finance Solutions to adjust the weights in Bloomberg Government Bond Indices. By adjusting market value weights according to the Government CO₂ Per Capita Scores, the index methodology systematically increases allocation to countries that score higher, relative to their peers, with respect to CO₂ per capita. The CO₂ per capita tilts are constructed for each country/region, using logistic function. Please see "Lower Carbon Tilts" section above for further details.</p> <p>CO₂ Per Capita Scores - Measures a country or region's CO₂ per capita on a relative basis.</p> <p>For further information on the CO₂ Per Capita Scores, please refer to the Government Climate Scoring Methodology or Terminal function BESG <GO> or GOVS <GO>, otherwise this can be made available upon request.</p>
c) List of social factors considered:	N/A		
c) List of governance factors considered:	N/A		
<p>6. Where the response to Item 4 is positive, please list below, for each benchmark, those ESG factors that are taken into account in the benchmark methodology, taking into account the ESG factors listed in Annex II to Delegated Regulation (EU) 2020/1816, depending on the relevant underlying asset concerned. Please explain how those ESG factors are used for the selection, weighting or exclusion of underlying assets. The ESG factors shall not be disclosed for each constituent of the benchmark, but shall be disclosed at an aggregated weighted average value of the benchmark. Alternatively, all of this information may be provided in the form of a hyPerlink to a website of the benchmark administrator included in this explanation. The information on the website shall be easily available and accessible. Benchmark administrators shall ensure that information published on their website remains available for five years</p>			
a) List of environmental factors considered:	As above		
b) List of social factors considered:	As above		
c) List of governance factors considered:	As above		

7. Data and standards used.	
<p>a) Data input.</p> <p>(i) Describe whether the data are reported, modelled or, sourced internally or externally.</p> <p>(ii) Where the data are reported, modelled or sourced externally, please name the third party data provider.</p>	<p>All ESG data for the benchmarks is sourced externally from:</p> <p>Bloomberg Finance L.P. ("Bloomberg SFS Group") – reported and modelled data. Government Climate Scores uses the following input data sources to produce the scores:</p> <p style="text-align: center;">CO₂ Emissions Source: EDGAR Joint Research Centre</p> <p>Contact details are available here. For further information on the CO₂ Per Capita Scores, please refer to the Government Climate Scoring Methodology or Terminal function BESG <GO> or GOVS <GO>, otherwise this can be made available upon request.</p>
<p>b) Verification of data and guaranteeing the quality of those data. Describe how data are verified and how the quality of those data is ensured.</p>	<p>The Indices use the following external data provider, which has a robust governance and processes in place to validate the quality and reliability of the data.</p> <p>CO₂ Per Capita Score:</p> <ul style="list-style-type: none"> Bloomberg LP, has a specialized Global Climate Data team who is responsible for the data consolidation, validation, enrichment, data modelling, and who sets very string data collection rules to guarantee the data used for scoring has the highest quality standards. <p>CO₂ Per Capita Score:</p> <ul style="list-style-type: none"> Gather relevant data with precision, coverage, and history through topic-specific datasets. Provide an organizing structure and taxonomy to clarify hierarchies and material issues. Leverage fundamental research to provide context and practical insights. Incorporate quantitative guidelines and principles to combine data for analytical use
<p>c) Reference standards Describe the international standards used in the benchmark methodology.</p>	<p>CO₂ Per Capita Score Scoring model is based on CO₂ per capita data from EDGAR, developed by the Joint Research Center of the European Commission. EDGAR stands for Emissions Database for General Atmospheric Research. EDGAR was developed by the Joint Research Center of the European Commission</p>
<p>Date on which information has been last updated and reason for the update:</p>	<p>August 2024, Index Launch</p>

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