ESG analytics for the fixed income universe in a single integrated solution

Sustainable Investment principles in Fixed Income are rapidly being adopted by market participants as enhanced risk management, demand for positive impact, and increasing regulation drive uptake.

Despite the complexities of the asset class, ~40% of the ~$53trn AUM managed according to SI and ESG principles is within fixed income, with double digit growth over the last decade.¹

As a trusted source for in-depth fixed income risk analytics and complex portfolio analysis for over 30 years, Yield Book introduces our integrated analytics solution for assessing ESG impact across sub-asset classes of the fixed income universe. Combining Yield Book’s proprietary ESG Framework for securitized assets with Beyond Ratings’ and Refinitiv’s climate and ESG data on sovereigns and corporate bonds, Yield Book enables you to easily and flexibly incorporate sustainability into your decision-making.

Integrate MBS, corporate, and sovereign ESG fixed income metrics into your investment process

Yield Book’s solution offers an unprecedented level of customization and precision. Clients can leverage climate and ESG portfolio-level analytics to understand the driving underlying factors behind their position and enhance asset allocation in line with ESG principles.

Clients can access ESG metrics at the single security level and portfolio level, providing the unique ability to leverage Yield Book analytics to truly define a full picture of the impact of ESG on their portfolios. Yield Book’s analytical library spans over 2800 keywords allowing clients to conduct fixed income analysis such as yields, durations, spreads, and convexities alongside Sustainable Investment principles with ease.

Key use cases include:

- Conduct augmented credit risk analysis with systemic integration of 40+ ESG measures on MBS, 330+ ESG metrics on 170+ sovereigns, and 200+ metrics on 390,000 corporate bonds alongside traditional financial analytics
- Conduct ESG-adjusted portfolio analytics on-demand through the Yield Book Add-In and API, with transparency into underlying Environment, Social and Governance drivers
- Alignment of portfolios to climate objectives, including carbon footprint of your fixed income portfolios, current temperature trajectories and gap to 2-degree scenarios
- Automate customized reports for snapshotting climate and ESG performance and for fulfilment of numerous international disclosure standards such as TCFD, SFDR, GRI and SASB

¹ Sources: World Bank, Incorporating ESG Factors into Fixed Income Investment, Celent ESG in Portfolio Management, GSIA Global Sustainable
**Leverage unique and quantitative ESG analytics and data**

Leveraging our proprietary ESG analytics as the first ESG framework provider for securitized assets alongside Beyond Ratings and Refinitiv, Yield Book brings client industry-leading ESG data providers in one integrated solution.

<table>
<thead>
<tr>
<th></th>
<th>Yield Book</th>
<th>Beyond Ratings</th>
<th>Refinitiv</th>
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</thead>
<tbody>
<tr>
<td><strong>Coverage</strong></td>
<td>560,000 securities</td>
<td>~400,000 fixed income instruments, global spread of corporates</td>
<td>~130,000 securities across 170+ sovereign entities</td>
</tr>
<tr>
<td><strong>History</strong></td>
<td>2015</td>
<td>2002 (for 10,000 companies)</td>
<td>1999 (data model dependent)</td>
</tr>
<tr>
<td><strong>Data Points</strong></td>
<td>40+</td>
<td>200+</td>
<td>330+</td>
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**Yield Book**’s proprietary framework for ESG in securitized assets offers 20+ purely quantitative ESG metrics and scores across the thematic areas of Responsible Lending and Responsible Servicing, both key Governance themes for the securitized market. Using the latest techniques in data science and machine learning, we have derived purely quantitative insights into very large datasets to detect these and provide monthly ESG measures on 560,000+ US Agency RMBS and CMOs, augmenting a range of other socio-economic data, green and ESG flags.

**Beyond Ratings** provides 330+ ESG, climate metrics and KPIs on over 170 sovereigns across 130,000 securities, to facilitate incorporation of sustainability into investment decision-making, including projected gap to 2° scenario based on the proprietary Climate Liabilities Assessment Integrated Methodology (CLAIM) model, and credit risk scores that systematically incorporate ESG factors alongside standard financial considerations.

**Refinitiv** offers one of the most comprehensive ESG databases in the industry on corporate bonds, covering over >85% of the global market cap, with a history going back to 2002. Refinitiv has ESG data coverage for over 12,500 global companies, across 76 countries, spanning major global and regional indices. The Refinitiv corporate bond ESG dataset measures a company’s relative ESG performance, commitment and effectiveness across 10 main themes.
Access to four ESG and Climate models across sovereigns and corporates

CORPORATES

- **Environmental**
  - 65+ indicators and 3 themes: Resource Use, Emissions, Innovation

- **Social**
  - 60+ indicators and 4 themes: Workforce, Human rights, Community, Product responsibility

- **Governance**
  - 55+ indicators and 3 themes: Management, Shareholders, CSR strategy

**ESG Score**
- 185+ indicators across 10 themes with coverage of 390,000 bond securities on 12,500 issuers and a 20 year history

**Climate KPIs**
- 30+ Climate indicators and carbon footprint metrics on 3,000 issuers, such as:
  - CO2 and equivalent emissions relative to revenue
  - NOx and SOx emissions relative to revenue
  - Energy use and renewable energy production

**ESG Combined Score**
- < CONTROVERSIES OVERLAY >

**ESG Score**
- 220+ indicators across 31 themes chosen for their explicative capacity on GDP, with coverage of 175 countries and a 20 year history

**Climate KPIs**
- 25+ transition and physical climate indicators and carbon footprint metrics on 170 countries, for 130,000 bonds:
  - Scope 1, 2 and 3 equivalents
  - 2 degree alignment and portfolio temperature through the CLAIM model
  - Public-sector GHG consumption, GHG/GDP, green & brown proxies

SOVEREIGNS

- **Environmental**
  - 80+ indicators and 12 themes, such as: Climate Change, Pollution, Transport infrastructure

- **Social**
  - 110+ indicators across 12 themes, such as: Health infrastructure, Gender inequality, Education

- **Governance**
  - 20+ indicators across 12 themes, such as: Business Rights, Corruption, Political Stability

**ESG Score**
- 185+ indicators across 10 themes with coverage of 390,000 bond securities on 12,500 issuers and a 20 year history

**Climate KPIs**
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Integrated workflow processes with Yield Book API and Add-In

A core component of Yield Book’s capabilities is its inherent open architecture, whereby users can specify custom inputs and outputs for truly bespoke analytics. Clients can access ESG metrics interactively using the Yield Book API or Microsoft Excel® Add-in, with the ability to flexibly define and output portfolio analytics or reports.

Source: Yield Book. For illustrative purposes only.
Index analytics and historical back-testing

Assess the impact of ESG on portfolios, including tracking error and price. This graph shows relative performance of the World Broad Investment-Grade Bond Index (WorldBIG) and a rebased equivalent with a negative screen on the lowest decile of ESG scores, with coverage of ~75% by notional outstanding.

Source: Yield Book. For illustrative purposes only.