

# EXPLORE ESG APP: CASE STUDY

October 2020

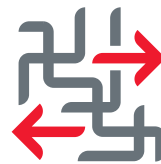
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## EXPLORE ESG APP: A NEW TOOL TO FACILITATE THE INTEGRATION OF ESG DATA INTO OUR DECISION-MAKING

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At Eastspring, we believe that we will make the best possible investment decisions on behalf of our clients by incorporating material Environmental, Social, Governance (ESG) factors into our investment processes. To support this, we appointed MSCI ESG Research as our firm-wide data provider across asset classes in December 2019. Our investment teams utilise these data points in their research and in the long-term integration of ESG factors into investment decisions, stewardship, engagement, and proxy voting.



## THE CHALLENGE: CONDUCTING GAP ANALYSIS

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In order to access ESG metrics for research and reporting, various stakeholders (such as portfolio managers and client portfolio managers) have to retrieve these data points on a daily basis. This previously meant that, whilst ESG data points were easily accessible, it often proved time-consuming to retrieve them for multiple securities and funds. Moreover, there was no option to outline data progression – a feature that would help investment teams to derive and articulate insights more efficiently.



## THE NEED: CREATING A TARGETED SOLUTION

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To address the challenge of retrieving consistent data that can be stored in a central location, Eastspring’s Quantitative Solutions and Analytics (QSA) team set out to create a tool that would streamline access to multiple ESG data points and could be accessed and exported anytime, anywhere. Summer Intern Valerie Koh and Senior Manager Rajnish Kumar set out to build a tool that would combine accessibility of data with efficiency of exporting requisite information to provide insights for our investment teams.



## THE SOLUTION: PRESENTING THE EXPLORE ESG APP

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Following an initial design and building phase, the Explore ESG App was launched in July 2020. The tool seeks to streamline access to ESG data for investment teams. The Explore ESG App extracts data from our SQL database using the programming language R, before displaying them on Shiny’s interactive User Interface (UI). In simple terms, this process involves the extraction of data from our database to display on the app so that a wide range of data can be processed and customised. Subsequently, robust data handling was used to handle outliers and missing data points, whilst HTML knowledge was applied to present the data in a visually attractive and user-friendly interface. The final product features two key components: ESG Securities and ESG Screener.

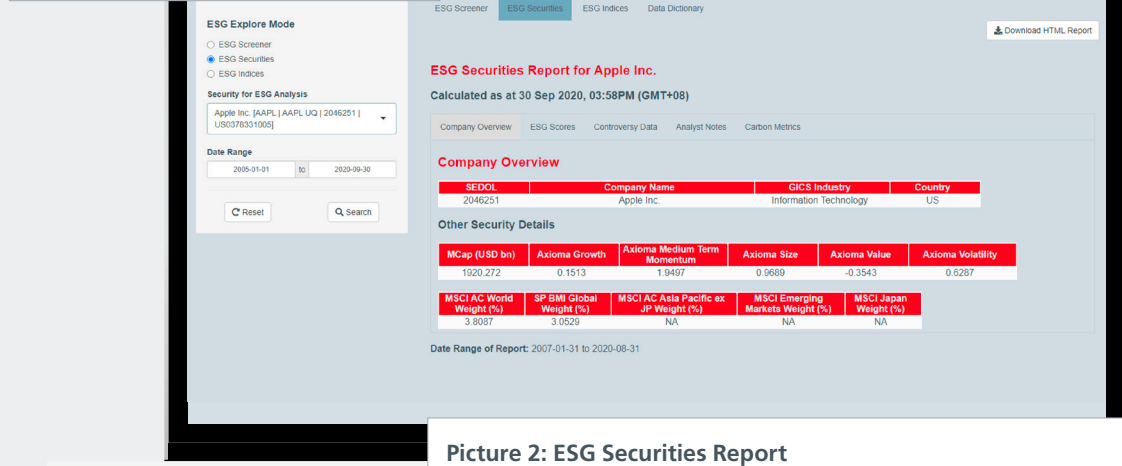
Picture 1: Security Screening Search Bar and Date Range

Security for ESG Analysis

Apple Inc. [AAPL | AAPL UQ | 2046251 | US0378331005]

Date Range

2005-01-01 to 2020-09-28



Picture 2: ESG Securities Report

**ESG Securities Report for Apple Inc.**

Calculated as at 28 Sep 2020, 12:18PM (GMT+08)

Company Overview ESG Scores Controversy Data Analyst Notes Carbon Metrics

**Company Overview**

SEDOL	Company Name	GICS Industry	Country
2046251	Apple Inc.	Information Technology	US

# 1 ESG SECURITIES

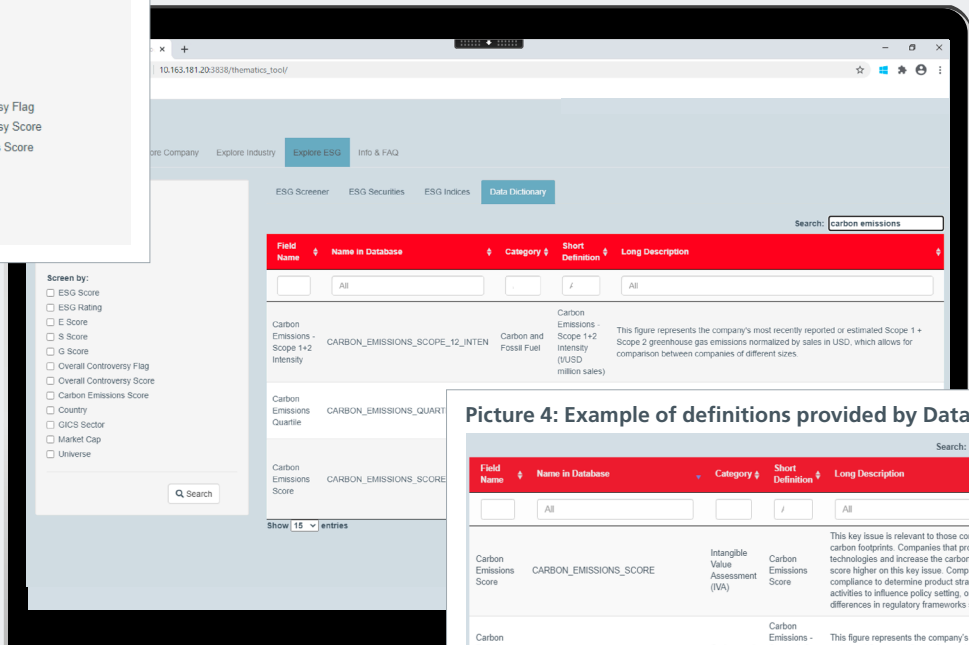
This feature serves as the centrepiece of the Explore ESG App. With a plethora of data points available, our portfolio managers and analysts can customise information based on what they require. Data can also be presented in a time-series format, which captures a selected security's complete history. Data is presented in a time series to provide a track record of how a security

has performed over time. Moreover, the graph generated can be used for trend analysis and presentation decks when required.

To further compound the understanding of certain ESG ratings, a complete history of analyst sentiments can also be accessed to provide context to selected ratings. This allows users to easily access a combination of both quantitative and qualitative research within the tool.

**Picture 3: ESG Screener options**

- Screen by:
- ESG Score
  - ESG Rating
  - E Score
  - S Score
  - G Score
  - Overall Controversy Flag
  - Overall Controversy Score
  - Carbon Emissions Score
  - Country
  - GICS Sector
  - Market Cap
  - Universe



**Picture 4: Example of definitions provided by Data Dictionary**

Search: carbon emissions

Field Name	Name in Database	Category	Short Definition	Long Description
Carbon Emissions - Scope 1+2 Intensity	CARBON_EMISSIONS_SCOPE_12_INTEN	Carbon and Fossil Fuel	Carbon Emissions - Scope 1+2 Intensity (USD million sales)	This figure represents the company's most recently reported or estimated Scope 1+ Scope 2 greenhouse gas emissions normalized by sales in USD, which allows for comparison between companies of different sizes.
Carbon Emissions Score	CARBON_EMISSIONS_SCORE	Intangible Value Assessment (IVA)	Carbon Emissions Score	This key issue is relevant to those companies with significant carbon footprints. Companies that proactively invest in low-carbon technologies and increase the carbon efficiency of their facilities or score higher on this key issue. Companies that allow legal compliance to determine product strategy, focus exclusively on activities to influence policy setting, or rely heavily on exploiting differences in regulatory frameworks score lower. (Score: 0-10)
Carbon Emissions Score Quartile	CARBON_EMISSIONS_QUARTILE	ESG Ratings	Carbon Emissions Score Quartile	Company's Carbon Emissions Score Quartile relative to companies in the relevant ESG Ratings Industry that are constituents of the MSCI All Country World Index (ACWI). A value of 1 represents the top quartile and 4 represent the bottom quartile.

Show 15 entries

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## 2 ESG SCREENER

On top of the ESG Securities functionality, our investment teams have the option to screen for securities based on specific characteristics such as ESG scores, carbon emission scores, market capitalisation, amongst other metrics. Characteristics can also be combined so that our portfolio managers and analysts can better identify and match securities to their research requirements.

The data fields of this application are much broader than the BlackRock Solutions' Aladdin Explore tool, which we currently have access to, and so can serve as an extension by providing complete security/universe-level detail to our investment teams.

In enhancing the utility of the ESG Explore Tool, the QSA team has also supplemented a Data Dictionary that is available within the tool. With numerous data

metrics available to investors, the data dictionary provides quick access to definitions of these metrics. Once the user is satisfied, the identified securities and corresponding data metrics can be exported for local storage.

### Reinforcing our commitment to ESG integration

As a signatory to the United Nations-supported Principles of Responsible Investment (PRI), having accessible data allows us to more easily report on our Responsible Investment activity progress and produce in-depth case studies that highlight the integration of ESG factors into our investment decisions. With this new tool, our stakeholders will be empowered to integrate ESG data into their day-to-day responsibilities more seamlessly and access information efficiently anytime, anywhere. Our dedication to capacity building within Eastspring reiterates our commitment to upholding the six principles of the PRI in our business.



## SHORT Q&A WITH RAJNISH KUMAR AND VALERIE KOH

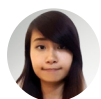
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### What was the approach taken, through from conceptualising to coding the Explore ESG App?



Currently, there are over 11,000 securities in S&P BMI and getting individual information is tedious. We wanted to build a tool that provides complete information for different stocks and allows extraction of information in real time. We also wanted to develop something that is easy for our Portfolio Managers to use and something that can be accessed anytime, anywhere.

To conceptualise, we conducted a background study looking at the data and factors that Eastspring Portfolio Managers and analysts frequently use. After determining what data and factors are useful, we came up with a simple sketch of what the report would look like before proceeding with the HTML chart, plugging in the information, and launching the Explore ESG App in real time.



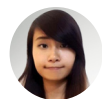
This is where we introduced functionality to allow users to control and customise what they want to see on their screens. This enables users to access all relevant information at a glance, empowering them in their research and decision-making processes.



Finally, we also considered how the user would think and feel, the User Experience (UX), as this is critical when it comes to data delivery. This includes simple things, such as having a

function to filter securities by market cap or region. It is important to have a good design for the intended user rather than just coding for the back-end.

### What is your favourite feature and how will this help the users of the tool?



My personal favourite is the screener because a user can screen for any security they want based on a specific characteristic, such as the Market Cap or ESG Rating of the security. The screener is a dynamic tool and users even have the option to download the full dataset at the end after screening for specific securities. I had a lot of fun creating this feature.



There are two features that I really like. The first one is the scroll over time feature, which allows users to access data from the last ten years. This feature also applies to controversies reporting, which gives the user much more insight into a company

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### RAJNISH KUMAR

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and supports fundamental research. For example, in the case of the jointly-owned BHP Billiton's Samarco dam in Brazil, an increasing number of controversies reported locally had preceded the bursting of the dam, which had led to fatalities, a major environmental impact, and multiple lawsuits. As a result, the company's stock price declined by over 30% in a month. This shows how the

feature, which highlights controversies over time, can provide insight on any potential ongoing crisis that may require further attention.

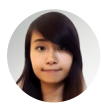
This enables users to access all relevant information at a glance, empowering them in their research and decision-making processes.

**VALERIE KOH**

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The second feature I really like is analyst sentiments, which is a form of unstructured data. With analyst sentiments, users can consider in-depth information of the company, that might not be reflected in the structured, numerical scores, to inform their own understanding and analysis of a specific security.

**What are some of the highlights of collaborating on this tool?**



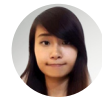
Before joining Eastspring, I had very little knowledge of R and had never touched Shiny before. This made the learning curve quite steep for me. When I joined, Rajnish provided me with guidance and tutorials in the first week. Over time, it gets easier and I currently feel more comfortable coding in R than in Python, which was the programming language I was previously most comfortable in. I really picked up a valuable skill and it was very satisfying to see the results.



Even with the challenges of working remotely, Valerie did an amazing job. She is curious, has a very positive attitude, and is a quick learner. Programming languages are secondary; it is the attitude of the person and the problem-solving skills that are truly important, and Valerie has done a

fantastic job in tackling a problem like this. We had a lot of interactions at the start and, over time, she became quite independent working on the project.

**What was a challenge faced or lesson learned from this entire project?**



One thing I learned from this was to do the due diligence when running code on different locations. When I was coding locally, the app ran well. However, certain aspects did not render well once I moved it to the main platform on PST Central. It is important to consider the discrepancies as they will add up and make a huge difference.

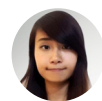


When it comes to creating an app that is useful, it is essential to have a confluence of clean data and unique insights. The app should also have a modular design pattern. This makes it easier to add or remove functionalities to provide a customised solution to end users.

**What do think the future of ESG data integration looks like and what aspects of it are you excited about?**



There is a great future for ESG data and, at Eastspring, there is a supportive team for ideas and integration. The future includes having more people use ESG data in their day-to-day jobs. This will generate more feedback that we could use to develop user customisation for the app. The whole purpose of having data integration is to reduce the time taken to get the best possible information for the user's needs. We are working with MSCI to build longer-form reports and provide greater accessibility to portfolio-level data in the app.



For me, I think the reports could be made more extensive. There are more data fields that we can add that would provide a greater depth of information that the user could then download all at once.